Journal of Psychiatry and Cognitive Behaviour
Nakayasu N. J Psychiatry Cogn Behav 9: 192.
www.doi.org/10.29011/2574-7762.000092
www.gavinpublishers.com

OPEN ACCESS

GAVIN PUBLISHERS

Short Communication

Catatonic Stupor in Schizophrenia is a Mis-activated Death-Feigning

Nobuo Nakayasu*

Department of Psychiatry, Hara Hospital, Gunma, Japan.

***Corresponding author:** Nobuo Nakayasu, Department of Psychiatry, Hara Hospital 898-1, Sakaikamitakeshi, Isesaki, Gunma, 370-0127 Japan.

Citation: Nakayasu N (2025) Catatonic Stupor in Schizophrenia is a Mis-activated Death-Feigning. J Psychiatry Cogn Behav 9: 192. DOI: https://doi.org/10.29011/2574-7762.000092

Received Date: 08 January, 2025; **Accepted Date:** 21 January, 2025; **Published Date:** 23 January, 2025

Keywords: Catatonia; Schizophrenia; Catatonic stupor; Death-feigning; Self-crisis reaction.

Introduction

Several researchers have pointed out that the nature of catatonic stupor and death-feigning are quite similar [1-3]. By considering not only their nature but etiology as well, I once argued that these two were not just look-alikes but equivalents [4-6].

However, the grounds supporting my argument then was just that motionlessness was common between the two. But since then there have been significant developments in the study of death-feigning in animals [7-9], and the findings increasingly support my hypothesis that death-feigning and catatonic stupor are one and the same.

Phenomenal similarities between catatonic stupor and death-feigning

Nishino [4,5] a leading researcher on death-feigning of crickets, has presented a more in-depth description of death-feigning as follows [7]. (underlines and italicized notes within parentheses by Nakayasu):

> During death-feigning, crickets are immobilized and maintain the posture induced by restraint. Some lie on their backs with their legs strongly flexed, while others have their legs extended straight (*i.e., tonic immobility*). These are unnatural postures that are clearly different from the norm. How does this happen? Normally, when external forces are applied, body muscles will automatically put up resistance and counteract this force. This is called resistance reflex and is an important reflex which enables animals to maintain its posture. . . . However, resistance reflex wanes rapidly when exposed to continuous restraint which in turn will induce death-feigning, resulting in the forced posture being maintained (*i.e. catalepsy*). Rapid attenuation of resistance reflex is also observed during death-feigning. Pinching the tibia and forcibly stretching the joint will trigger resistance reflex in the flexor muscles, causing a palpable resistance in the joint movement (*i.e., waxy flexibility*), which will quickly diminish in the newly stretched position, resulting in the position being maintained during death-feigning.

In the above excerpt, restraint triggered death-feigning. Other stimuli such as sound and vibration indicative of an approaching predator, can also trigger death-feigning [7]. Taken together, these findings indicate that death-feigning is an inherent self-crisis reaction serving the purpose of self-preservation in actual life-threatening emergencies. As was portrayed above, death-feigning is primarily characterized by tonic immobility accompanied by catalepsy and waxy flexibility, and (though not mentioned above) cessation of breathing for several tens of seconds as well [7,8]. Same cessation of breathing may also occur during catatonic stupor in schizophrenia [10]. In short, catatonic stupor could be described simply by replacing "crickets" with "patients" in the above citation.

Etiological identity between catatonic stupor and death-feigning

The similarities between catatonic stupor and death-feigning also extend to their etiology. As mentioned above, death-feigning in animals is an inherent self-crisis reaction serving the purpose of self-preservation in actual life-threatening emergencies. Now, could catatonic stupor in schizophrenia also be a self-crisis reaction to a life-threatening emergency, just like death-feigning? I raise this question because schizophrenia is not necessarily

accompanied by life-threatening emergencies. However, it can reasonably be inferred that even in the face of actual life-threatening emergencies, the real trigger that sets off death-feigning is no other than the awareness of the emergency that is evoked in the subject's mind. And if this is true, it would be possible to say that death-feigning would occur even in the absence of an actual emergency, so long as a sense of imminent danger is evoked in the individual. And this illusory feeling of imminent emergency is just what arises as a result of situational-meaning agnosia/endogenous-reaction hypothesis [5,6] which I have previously proposed as the pathogenesis underlying schizophrenia.

I will now outline this situational-meaning agnosia. Two preliminary discussions are needed to understand this theory. The first discussion concerns 'what situational meaning is'. If cognition is, after all, the recognition of meaning, then there are two main kinds of meaning: inherent meaning and situational meaning. The definitions, principles of cognition, and examples of these two meanings are shown in Table 1. Here, the definition of situational meaning is 'what the object means in the particular situation'. The second discussion concerns 'where the cognition of situational meaning takes place'. As is evident from our everyday experience, our cognitive mechanism consists of two steps that are organically and rationally linked by the workings of attention, namely, subconscious automatic cognitive mechanism and conscious voluntary cognitive mechanism. According to this two-step cognitive mechanism theory, the situational meaning of the perceptual input that do not have attention directed at it at the time is first automatically processed by the former mechanism, and if it cannot be recognized there, it is transferred to the latter, which in turn will perform conscious voluntary cognitive processing.

	Inherent meaning	**Situational meaning**
Definition	What the object is	What the object means in the particular situation
Principles of cognition	Conclusive judgment ("Clearly it is…")	Judges probability or likelihood ("Probably it is…")
	Independent cognition (Possible with the object itself)	Integral cognition (Possible in relation to other objects)
Example	There is a certain object X on the street.	
	"X is a wallet."	"Someone may have dropped X."

Table 1: Inherent meaning vs. Situational meaning.

Based on the above two preliminary discussions, situational-meaning agnosia is defined as the inability to identify the situational meaning of individual things due to impairment of the subconscious automatic cognitive mechanism itself (Figure 1). And furthermore I have demonstrated that situational-meaning agnosia is the primary disorder of schizophrenia since various endogenous reactions that are inevitably induced by this disorder can explain the formation of the early symptoms of schizophrenia, as well as their later development to its full-blown psychopathological symptoms.

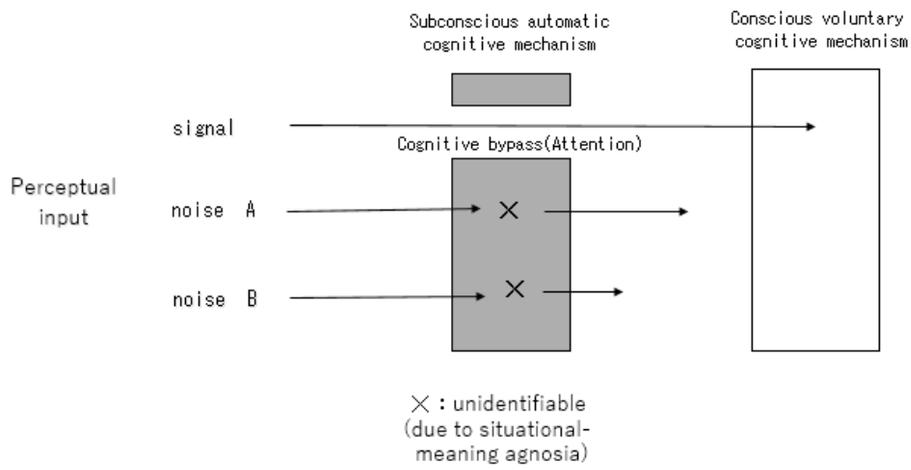

Figure 1: Explanation of situational-meaning agnosia based on two-step information processing for perceptual inputs.

According to the two-step cognitive mechanism theory, perceptual input to which attention is initially directed (signal) is processed by conscious voluntary cognitive mechanism from the beginning, while perceptual input to which attention is not directed (noise) is first processed by subconscious automatic cognitive mechanism, and only when it is not identified there, it is transferred to conscious voluntary cognitive mechanism where it is processed again. When the subconscious automatic cognitive mechanism falls into situational-meaning agnosia, it leads a subconscious awareness of 'crisis of self-preservation', and heightened awareness, one of the early symptoms of schizophrenia, resulting from the transfer of unidentifiable inputs to conscious voluntary cognitive mechanisms

Now then, I will explain how death-feigning, which has been called catatonic stupor in psychiatry, occurs in schizophrenia (Figure 2). As mentioned above, situational-meaning agnosia leads to an inability to subconsciously identify the situational meaning of things in one's environment. Given that the ultimate role of cognitive function is self-preservation, this inability firstly brings about a subconscious awareness of "crisis of self-preservation" ("crisis of self-preservation" is in quotations because the crisis is only illusory). Secondly, the awareness of "crisis of self-preservation" will trigger the inherent self-crisis reaction which Kretschmer calls primitive Reaktion [1], thereby inducing catatonic stupor which is identical to death-feigning. However, since life-threatening emergencies in schizophrenia are only illusory, it would be more appropriate to call catatonic stupor a mis-activated death-feigning.

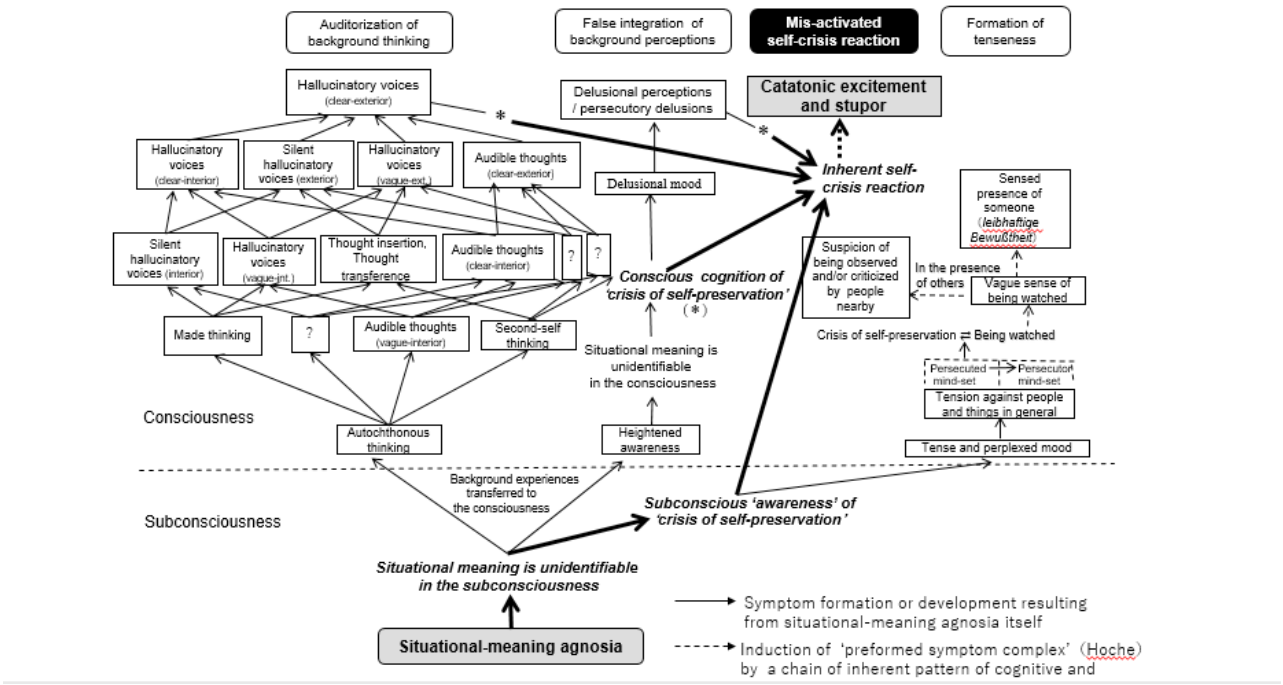

Figure 2: Formation of catatonic symptoms through mis-activated self-crisis reaction.

The formation process is shown in bold lines and bold italicized letters on the genealogical tree of schizophrenic symptoms based on the situational-meaning agnosia/endogenous-reaction hypothesis.

Conclusion

Through the above argument, I believe I have shown that catatonic stupor in schizophrenia is a mis-activated death-feigning. In addition, it would be presumed that catatonic excitement is also a mis-activated self-crisis reaction, or more precisely, a mis-activated outburst of movement [4-6].

Finally, here are two clinical implications derived from the above conclusion. Firstly, unlike death-feigning which has an adaptive merit of evading actual life-threatening emergencies, this mis-activated death-feigning, or catatonic stupor is not just meritless but on the contrary, quite harmful for the person afflicted with the condition. Secondly, since catatonic stupor is caused by anxiety brought about by situational-meaning agnosia, it stands to reason that anxiolytics are effective against this condition [3].

Acknowledgments

I wish to thank Taro Amaya, MD for his numerous and invaluable suggestions for this study.

Funding statement

No financial support was received.

Conflict of interest disclosure

The author declares no conflict of interest.

References

1. Kretschmer E Histerie, Reflex und Instinkt.（5 Aufl.） Georg Thieme Verlag, Stuttgart, 1948.
2. Gallup GG, Rager DR (1977) Tonic immobility : evolutionary underpinnings of human catalepsy and catatonia. In: Maser J.D. & Seligman M.E.P. (ed.) : Psychopathology : Experimental Models. 334-357, W.H. Freeman and Company, San Francisco, 1977.

3. Fink M, Taylor MA (2003) Catatonia : A Clinician's Guide to Diagnosis and Treatment. Cambridge University Press, Cambridge, 2003.

4. Nakayasu N (1991) Causal definition of catatonic syndrome as pseudogenous primitive reaction. In Nakai, H (ed.): Psychopathology and Treatment of Schizophrenia 3，pp.1−28, Seiwa Shoten Publishers, Tokyo,1991(in Japanese)

5. Nakayasu N (2013) Pathopsychology of Schizophrenia: Synopsis of the Situational Meaning Agnosia / Endogenous Reaction Hypothesis. Seiwa Shoten Publishers, Tokyo, 2013.(in Japanese)

6. Nakayasu N (2019) Proposal of situational-meaning agnosia/ endogenous-reaction hypothesis for schizophrenia. Psychiatry Clin Neurosci 73: 599-601. https://doi.org/10.1111/pcn.12908

7. Nishino H (2009) Death-feigning-Quitting useless resistance In: The Japanese Society of Comparative Physiology and Biochemistry: Animal Strategies for Survival : Mechanism of Animal Behavior. Kyoritsu publisher, Tokyo, 2009.(in Japanese)

8. Nishino H, Sakai M (2021) Tonic immobility in a cricket: Behavioral characteristics, neural substrate, and functional significance. In: Sakai,M. (ed.) : Death-Feigning in Insects-Mechanism and Function of Tonic Immobility. 93-108, Springer.

9. Nishino H (2021) Tonic immobility in a cricket: Neuronal underpinnings of global motor inhibition. In: Sakai,M.(ed).: Death Feigning in Insects Mechanism and Function of Tonic Immobility. 109-133, Springer.