

Sexual Excitement as a Function of Stimulus Novelty Level and its Repetitions in a Male Pig-Tail Macaque (*Macaca Nemestrina*) Model (A Medical Hypothesis)

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Abstract

Aims: The decline in sexual excitement and even sexual disturbance becomes a serious psychiatric problem that accompanies depression. This article would like to demonstrate a principle of behavior that can ultimately become a solution by controlling the number of stimulus repetitions then this is an effective way to maintain the novelty of stimulation that can regain the excitement of behavior in terms of reaction time and duration.

Method: An eight years old male pigtail macaque named "John" who lives in an individual cage (5 x 5 x 5m). The researcher walked closer to the subject enclosure while carrying the video camera on the 'on' position, then calling the subject-name with short voice: "Hello John!" (when arrived in front of the cage). The researcher recorded the subject response at a distance of 0.2 meters from the cage. The researcher did this stimulation as much as 1 time a day at 07.00 am (morning) and did the repetitions for 4 days in a row. Based on video recordings, then reaction times into scratching behavior toward his sexual organs such as penis and anus by his hands and their behavior-durations analysed by using real time player in seconds.

Result and Conclusion: If the number of repetitions of the stimulus increased (thus lowering the stimulus novelty level slowly) then the time into the sexual response will be longer (or slower) as the addition of the number of repetitions of the stimulus. If the number of repetitions of the stimulus were increased (thus decreasing the stimulus novelty level slowly) then the duration of the sexual response will be shorter as the number of repetitions of the stimulus increases.

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Introduction

For human, Freud portrayed little Hans ("A Phobia in a Five Year Old Boy"), who was fascinated by his penis (his "widdler"), and whose immediate impulse when meeting any person or object was to examine it to see if it too had a widdler. Sexual curiosity starts, according to this first formulation, by the child discovering and taking pleasure in the sensations of his sexual organ (Joel Aronoff 1962). That is why the decline in sexual excitement may become into a serious psychiatric problem that accompanies depression.

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Here we try to propose the solution by decreasing the number repetitions of sexual-stimulation to keep its novelty based on findings that repetition-related reductions in neural activity (Spector, *et al.* 2006) and the stimulus novelty was thought to increase and maintain the level of response of the excitement of a behavior due to it could triggers the amygdala activities (Pedersen, *et al.* 2017), regardless that stimulus repetition in identification tasks leads to improved behavioral performance (Gotts, *et al.* 2012).

It rises to the hypothesis that the level of stimulus novelty will decrease if the number of repetitions was increased. If the level of novelty decreases then the response level of the sexual enthusiasm will also decrease in terms of reaction time and duration.

Here we modeled it by using the subject of a male pig-tail macaque (*Macaca nemestrina*) who showing sexual excitement when responding to stimulus novelty but decline by its repetition in a repeated-analyses method.

Materials and Methods

The subject of the study was an eight years old male pigtail macaque named “John” who lives in an individual cage (5 x 5 x 5m). The research place was Animal Rescue Center in Tabanan Bali Indonesia. The study time was 4 days. The operational definition of dependent variable here were the reaction times into scratching behavior toward his sexual organs such as penis and anus by his hands and their behavior-durations. The operational definition of independent variable (stimulation) here were the researcher existence (visually in front of the cage plus the short voice calling the subject-name) and its repetitions during 4 days.

Procedures

The researcher walked closer to the subject enclosure while carrying the video camera on the ‘on’ position, then calling the subject-name with short voice: “Hello John!” (when arrived in front of the cage). The researcher recorded the subject response at a distance of 0.2 meters from the cage. The researcher did this stimulation as much as 1 time a day at 07.00 am (morning) and did the repetitions for 4 days in a row. Based on video recordings, then response times into scratching behavior and their duration analysed by using real time player in seconds.

Result and Discussion

Response times

The response time to the 1st stimulation was about 1 second (Please see video 1). The response time to the 2nd stimulation was about 2 seconds (Please see video 2). The response time to the 3rd stimulation was slower than the response time to the 1st and 2nd stimulation, it was about 4 seconds (Please see video 3). At the 4th stimulation, it became a stage of boredom so that the sexual response did not appear at all but turns into a ‘wondering’ response (Please see video 4). If the number of repetitions of the stimulus increased (thus lowering the stimulus novelty level slowly) then the time into the sexual response will be longer (or slower) as the addition of the number of repetitions of the stimulus (Please see Table1 and Figure 1).

Repetitions	Time schedules (please see the videos) in the seconds		Reaction times (in seconds)
	Stimulation-> (I said: “Hello John!”)	Response-> Scratching behavior	
1	00.00.14	00.00.15	1 seconds
2	00.00.09	00.00.11	2 seconds
3	00.00.11	00.00.15	4 seconds
4	00.00.14	00.00.00	0 seconds

Table 1: The function of stimulus repetitions on reaction times into scratching behavior (sexual excitement).



Figure 1: *Scratching Behavior*

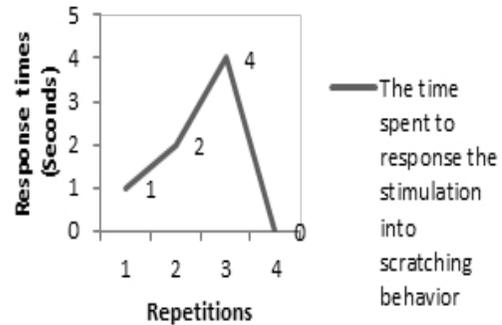


Figure 2: *Response Time*

Figure 1: “John” standing and scratching his penis with the right hand and his anus with the left hand.

Figure 2: The function of stimulus repetitions on response times into scratching behavior (sexual excitement).

Duration

The duration of response to 1st stimulation was longer than the duration of response to the 2nd stimulation as long as 6 seconds (Please see video 1). The duration of response to the 2nd stimulation was shorter when compared to the duration of response to the 1st stimulation as long as 5 seconds (Please see video 2). The duration of response to the 3rd stimulation was shorter when compared to the response time to the 1st and 2nd stimulation about 4 seconds (Please see video 3). As mention above, the 4th stimulation became a stage of boredom so that the sexual response did not appear at all but turns into a ‘wondering’ response (Please see video 4). If the number of repetitions of the stimulus were increased (thus decreasing the stimulus novelty level slowly) then the duration of the sexual response will be shorter as the number of repetitions of the stimulus increases (see Table 2 and Figure 2).

Repetition	Time schedules (please see the videos) in the seconds		Durations (in seconds)
	Response-> Scratching behavior		
	Start	Finish	
1	00.00.15	00.00.21	6 seconds
2	00.00.11	00.00.16	5 seconds
3	00.00.15	00.00.18	4 seconds
4	00.00.00	00.00.00	0 seconds

Table 2: *The function of stimulus repetitions on duration of scratching behavior (sexual excitement).*

These result could support the idea that although repetition under incidental-learning conditions could declined the memory of repeated items (English & Visser 2014) so could kept its effect on excitement but prior item repetition reduces attention to subsequent presentations of the item, decreasing the likelihood that critical item–source associations will be encoded (Kim., *et al.* 2012).

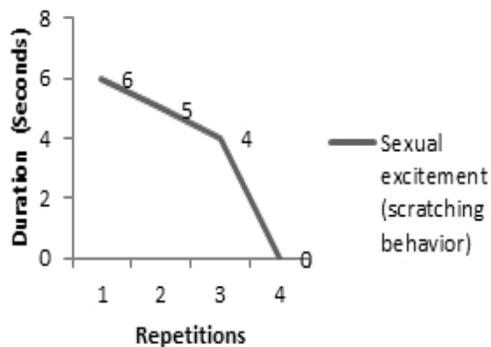


Figure 3: Duration of Scratching



Figure 4: Stereotypic Behavior

Figure 3: The function of stimulus repetitions on duration of scratching behavior (sexual excitement).

Figure 4: The boredom stage of the 4th stimulation (no scratching but wondering or did stereotypic behavior only).

Conclusion

If the number of repetitions of the stimulus increased (thus lowering the stimulus novelty level slowly) then the time into the sexual response will be longer (or slower) as the addition of the number of repetitions of the stimulus. If the number of repetitions of the stimulus were increased (thus decreasing the stimulus novelty level slowly) then the duration of the sexual response will be shorter as the number of repetitions of the stimulus increases.

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