

Influence of Human Biology on Individual Behavior as a Potential Tool to Achieve Desired Behavior of an Individual at Workplace

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Abstract

Behavior of an individual is fairly well described in the literature in development approach. Influence of human hormone system on individual behavior have been experimented and explained with limited scope such as long term basis medical treatments for undesired behavior. Evidence from extreme events such as delivery of a baby and puberty of a girl suggests that behavior of an individual can be stimulated in short-term basis using hormones. Hormone stimulation using five senses is proposed as probable model for stimulating towards a desired behavior of an individual. A model is proposed in the present concept paper as attempt to develop a framework for interdisciplinary approach to experiment and exploit potential to achieve desired behavior from an individual at workplace using human hormone stimulation methods.

Keywords: Human hormones, individual behavior, brain stimulation, motivation

1. Introduction

Studies on individual behavior widely explain the influence from heredity & environment factors that shape personality of an individual. According to development approach personality of a person can vary from time to time (Schermerhorn, 2005). One of the key personality dynamics is self-concept. Different persons may show different personalities. Big five personality traits, social traits and personal conception traits are well known and documented traits that contribute to differences in personality. In addition, how value systems and attitudes shape differences in individual behavior are described in the literature. Though some of these concepts describe dynamic nature of individual behavior over time, they do not encompass nature of rapid dynamism in individual behavior for which human biology takes controls.

It was noted that very little systematic studies were done on influence of hormones or human biology that can predict individual behavior. By using evidence from the nature, I wish to argue that hormones can shape the behavior of individuals. To support my argument, I wish to use few empirical evidences from the context of common social domain.

1.1 Evidence One – Delivery of a Baby

It is a well known fact that while carrying a baby in the womb, the hormone system within the body of the mother facilitates the growth of the baby until it is ready for the delivery. As soon as the baby is delivered, the entire biology of the mother's body undergoes certain changes. Blood can be converted into milk. Hormones produced to support the foetus while it is inside the body will no longer be required and hence, terminate. All such changes influence the brain functions of the mother. The supporting environment needs to have facilitating nature to keep things going at the best of the mother. Love and care from all segments makes the mother to feel a conducive environment.

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A disturbing environment may result in confusion or irritation. The mother's brain may not be able to accommodate or tolerate such a disturbing environment in the light of sudden biological change resulted from the new hormone system. Consequences of such extreme cases may cost a life. Such instances are not uncommon in any part of the world though the intensity is different from one community group to another.

In common, soon after a mother gives birth to a child; she experiences a change in their pattern of thinking and way of responding to outside signals. All senses of the mother center around the new borne physically and mentally leaving very little room for the rest of the world to interact with her. Similar behavior can be observed even in some of the animals. Isn't this happening due to changes in biology of her body?

1.2 Evidence Two – Event of Puberty

Even in the case of puberty, the character of a girl becomes different after the attainment. Of course there can be some culturally soaked behavioral pattern expected out of the girls. Though such event is not spontaneous but develop over a time, the biological changes take place within a short time frame. Such changes in the biological functions of the human body in turn influence the functions of the brain and the behavior of an individual. Once again, if not managed properly, the situation may go wild disturbing the individual and social values of the culture.

1.3 More Common Evidences

This phenomenon of influence of biological system on individual behavior can be seen in day to day environment too. Some of the can be clearly seen while many such influences might go unnoticed. When a person who feels tired, lazy or dizzy after a long spell of routine activities at work place he/she may get excited suddenly once his/her hormones react to external signals. The five senses of the human body can capture the signals and activate hormone producing glands to change the state of the body. The signals can be a picture, voice, touch, smell or taste. Any form of contents falls under these five senses can generate a signal to the biological system to change the state of the body. For example, an unexpected call from a boy friend inviting a exhausted girl for a coffee may stimulate biological system of her body and dissolve all tiring feelings created by the long spell of routine work.

Knowingly or unknowingly, many managers use this phenomenon to improve productivity of the workforce, either as a fashion or in a more general term. Things such as playing music or radio in a operational area is a more common tool applied in many related organizations to keep human resource active during the working hours. Some HR managers who are more sensitive and observe individual behavior more closely may use different techniques to rectify and turn negative behavior into expected behavior. Such approach will definitely falls in the hands of the HR manager whose reputation and image among the workforce is partly derive from his/her talent to handle such cases.

2. Implications

The evidences imply that hypothetically a more innovative HR manager can use this phenomenon of human biology influencing individual behavior at work place and use to improve human contribution to the work place by motivating the workers towards a desired behavior. Many printed and online material are available on how to shape desired behavior in children. Limited resource material on desired behavior at workplace such as Guy Harris (2010), heavily concentrates on positive reinforcement within well defined performance management system.

The question arise is how such hypothesis can be developed into a conceptual framework and a more workable model.

Any attempts to develop a workable model needs take the following issues into consideration. Many of these hypotheses will require scientific experiments and related evidences for any validation.

3. Experiments Required

The human body contains eight different types of glands that produce different hormones for different effects. These glands have specific functions to do. For example, Pituitary gland & Thyroid gland produce secreted hormones that give specific stimulatory effects and pituitary gland seems to take control of the most stimulatory effects.

Literature on effects of hormones on behavior pattern mainly emphasizes work conducted on lower animals. Rollman (2008) reports that work done at Northumbria University in UK extensively describes how hormones affect human behavior in a long term-basis. Whether the findings are valid for short-term implications is not clear. Further, in an earlier study on effect of hormones on behavior Berman (1993) has found that positive relationship exist between physical aggression and endogenous testosterone levels in men. MacRae (2008) confirms existence of positive relationships between anti-social behavior and stress hormone cortisol in teenagers. Many of these experimentation are directed at looking for treatment for undesired behavior. Experiments done using rats (Galea, L.A.M. etal, 2008) at Canadian Laboratories during past decade have demonstrated that effect of gonadal and stress hormones on neuro-plasticity and behavior are different from male to female. Further, based on the evidence from studies on first time motherhood and subsequent maternal experiences, it seems that the relationship between hormones and behavior de-intensify from initial event to subsequent experiences (Galea, L.A.M., 2008).

Looking at the complexity of the issues, it is evident that inter-disciplinary experimentations to investigate the details of stimulation of glands using external signals through five senses may be required.

4. The Model

The model proposed in the present concept is given in the figure one. The literature though limited gives the researchers a fair amount of understanding on the relationships between hormonal influences and the behavior. This component of the proposed model is indicated as “Process C” in figure 1. Some of these literature focus on treatments to undesired behavior. Differentiation of influences in terms of age, gender, duration of influence, first time or repetition of influences is attempted in most experiments. However, literature of a major portion of the present concept is very scare.

Accordingly, it is evident that scientific experiments should be designed to address the following three basic questions.

- How an experiment can be designed to measure increased /decreased level of hormones according to different types of stimulations and senses?
- How to measure the change in behavior before and after stimulation?
- Whether repeat stimulations provide similar results in desired behavior or not?
- Whether repeats need less effort to stimulate?

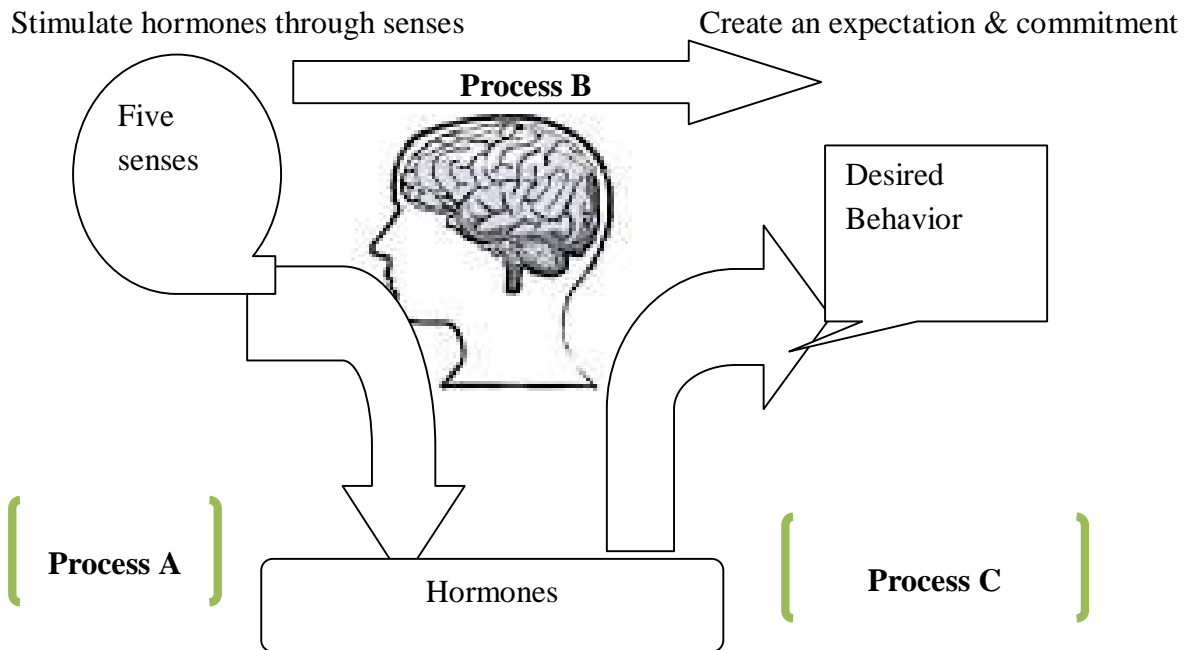


Figure One: The Model for Influencing Individual Behavior by Stimulating Hormones through Senses

The experimentations on process A and process B are inadequately explored. Assuming that a systematic methodology is established to answer the above questions, the need for quantification and categorization of related parameters comes into the picture. It will provide an answer to questions such as “What kind of stimulation techniques is appropriate for what type of hormones”? The secondary level of question is which stimulation technique is more appropriate for what kind of workers.

Several brain stimulation techniques are described in the internet. For example, Borchard (2009) reports four brain stimulation techniques which are mainly designed for treatment purposes. The “Rapid Transcranial Magnetic Stimulation Technique” which is one of the techniques described for changing behavior of an individual attempts to change the way brain cells functions.

Workplace physical environment may also contribute to stimulate brain functions and produce better outcome. Studies on work place environment have recommended several (ten) design considerations as strategies for improving performance, health & wellness of workforce. Among those design considerations noise control, crowding, indoor air quality, .etc will definitely control the wellness of the employee and hence, the biological system of the worker (Leigh Stringer, 2013).

The brain has the nature of keeping memories of positive as well as negative experiences. This implies that the second time stimulations may not be same as the first time experience. Any little signal capture by one of the senses may produce the stimulation of expected hormones. Hence, a detailed study that will deliver a reliable set of information should be brought up from behavioral experimentations. However, in the process of experimentation key ethical considerations such as whether any stimulation of hormones badly affects natural biological system of human body in short term & long term have to be addressed. If such a system is established perfectly, what kind of controls, monitoring and limitations required should also be addressed.

5. Conclusion

The present concept paper opens up discussion and directions for experimentation on study of influence of biological system on individual behavior. It will generate new insight to theories on individual behavior and more practical ways of influencing workforce towards a desired behavior. Outcome from studies on theoretical framework for investigation and experimentation on these phenomena can provide a useful input for HR managers to use stimulation techniques at work place for better cohesive desired behavior.

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