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The Neuroscience of Effective Leadership; Cultivation of a Healthy Corporate Culture through Neurochemicals

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Abstract

Leadership and corporate culture are highly influential to each other in the corporate world. Effective leadership has developed organizations into new heights such as increased productivity, better quality workforce, higher profitability and so on. In relation to an effective leadership, neuroscience is an effective tool for leaders to manage their organization through the discovery of the human brain and how neurochemicals in the human body drives human behavior. The procurement of such knowledge could aid leaders to cultivate a healthy corporate culture. This paper mainly talks about how neurochemicals in the human body helps leaders to cultivate a healthy corporate culture.

Keywords: Leadership, corporate culture, neuroscience, neurochemical

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Introduction

In the seventeenth and eighteenth century, where scientific development was not that drastic compared to the scientific discoveries we had today, management theories are mere ideals and usually are considered as impractical to be applied in organizations. Classical management theory is strongly embedded in most of the organizations where leaders are usually autocratic, high up above the hierarchy, shows little concern over the

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well-being of the employees and highly task oriented (Ehiobuche & Tu, 2012). Leaders or chief executives in organizations back then were also very profit driven where anything that is not monetarily profitable to the organization was not given any emphasis. Employees that are not performing the way they should or not making money for the organization was fired due to the money driven mentality of the organization's leaders. This kind of autocratic and task oriented leadership has very little emphasis and consideration on the humanity aspect of the employees (Qi, 2010). Under these circumstances and working environment, employees are unhappy of their job and feel insecure in the workplace. From a biological perspective, these unpleasant feelings are caused by the production of harmful neurochemicals in the body which furthermore affects the job performance and focus on the job of the employees. The good news is that leaders do have the ability to change the working culture in the organization and stimulate beneficial neurochemicals within the organization.

Organizational culture is often described as the personality of a company, not the personality of a single employee but the personality of a group of people working in the company (Tirtan, 2011). However, organizational culture is way more than this. It is basically how things work in an organization. How employees communicate with their managers, how employers treat their employees, how does employees interact and work with each other and so much more. An organization's productivity and effectiveness is closely related to its working culture. Culture can either be instilled by the top management or self-generated among the employees. (Diddon, 1999) But one thing is for sure, an organization's culture is something that can be manipulated. The manipulation of an organization's culture is mainly catalyzed by leaders. Hence, the role and actions of leaders in the organization is highly contributive to the cultivation of an organization's culture.

Fundamentals of neuroscience and neurochemicals

Neuroscience is the scientific study of the nervous system in the human body. The nervous system affects the human body in significant ways as it has effects on how we think, feel and behave (Stuart, 2014). Neuroscience has many major interdisciplinary branches such as affective neuroscience, cognitive neuroscience, behavioral neuroscience and so on. Neuroscience helps us to understand human behavior and human cognition in a deeper sense on a scientific basis (Becker, Volk & Ward, 2015). Through understanding the mechanics of how neurochemicals are produced in the body and how these neurochemicals affect our actions and thinking, individually, employees could utilize this knowledge to boost productivity. Employees could try to hedge the production of harmful neurochemicals and encourage beneficial neurochemicals to cultivate a better working mood within employees, hence, increased productivity. Furthermore, on an organizational level, leaders could utilize these biological knowledge to create a healthy culture by implementing good organizational policies and lead the organization in a manner where employees are happy with what they do and furthermore, motivated to work the extra mile.

Neurochemicals are organic compounds found in the human body that mainly function and participate in the nervous system. Different types of neurochemical have different implications to the body which will also result in a different outcome in our

behavior. Neurochemicals generally comprise of neurotransmitters and other neurotic drugs that play their specific roles in the nervous system. The prominent types of neurotic drugs in the human body would be oxytocin, serotonin, dopamine, cortisol, endorphins and so on (Previc, 2004). Each of these neurochemicals plays a specific role in the human body which causes us to react in certain ways when there is an external stimulus. The production of neurochemicals drive human behavior effectively as the nervous system is directly connected to the human brain. For an example, when a person is facing danger or an imminent threat, the human body would produce high levels of cortisol, a type of neurotic hormone where the hormone increases the person's heart rate, blood pressure and sugar level which makes the person highly attentive and alert to his surrounding environment. In other words, the person is under stress when he is faced by a threat, an external stimulus. The production of cortisol provides the body with an extra boost of energy, lowers the body's immune system and lets the body to have a high tolerance for pain. Cortisol prepares a person to enter the fight or flight mode (Previc, 2004). Same goes to other neurochemicals, each neurochemical has its own effects on the human body and the production of these neurochemicals or hormones will be stimulated by various stimulus on a situational basis.

Effective Leadership and Healthy Organizational Culture

Leadership is generally referred as the appointment of a person to lead in a group or an organization to a certain direction and accomplishment of certain tasks (Nolan, 2013). There are many leadership styles and each of those styles has their own pros and cons. For an example, autocratic leadership style has the benefits of fast decision making but has the disadvantages of neglecting the humanistic approach in the workforce. According to the contingency theory of leadership, there is indeed no best way or perfect formula to lead a group of people or an organization (Kriger & Seng, 2005). As human beings are highly complex in nature, the contingency theory of leadership shows to be even more appropriate that there is simply no one best way to lead. However, there are still several fundamental characteristics that a leader must possess in order to lead effectively.

Leaders are competent and ambitious. They are the highly competitive in the market where they strive to be at the top of their game and to be above their competitors. When leaders are competitive, it creates a sense of motivation in the organization as it energizes the workforce to perform and work towards a common goal. Leaders play the role of energizing the workforce through competition. When there is no competition in the marketplace, the organization tends to be complacent in where they are and as a result, job performance may be low. Thus, leaders must constantly set new goals for the organization to keep growing and to ensure that the working momentum of the workforce is not dampened (Baden-Fuller, 2005). Besides, leaders are ambitious. They think and plan strategically on how to grow and expand the organization and convert that plan into a long term vision. Visions are highly important in an organization as it is the common goal that was mentioned above. Vision is something visible; it is imagery and serves to give purpose to what the organization is working for. An organization without a vision tends to produce ineffective employees. As employees fail to find purpose in what they do, job performance would be poor.

An effective leader is a good communicator where he communicates and engages his employees or team in a rational manner. Communication is highly crucial in an organization as the leader has the responsibility to communicate and instill the organization's vision and missions to the employees in order to create a common goal within the workforce. Effective leaders are open to opinions and broad minded. They are attentive listeners that listen to what their employees are trying to convey. Furthermore, effective leaders cherish and appreciate employee's ideas and feedbacks. This will provide the workforce a sense of belonging in the organization and tends to promote respect for the employees' self-esteem, creativity and ability in the workplace (Rosenbusch, 2013). Communication on a personal basis is equally important too as an effective leader is someone who can connect to his employees on a personal level. Theory X is the approach that treats employees like machines and assumes that the workforce is lazy in general (Nord, 1978). The only way to motivate and make them work hard is through penalizing and being harsh to the employees. This approach is no longer practical in the organization as humans are emotional beings and being mistreated may affect their working attitude. Effective leaders are those who care for the well-being of their employees. They are highly attentive to how their employees are feeling and connect with them by providing assistance and motivation. Relationship oriented leaders are effective leaders and communicators as there is a trust between employees and their leaders.

With the practice of what an effective leadership fundamentally is, the organization will start to develop a healthy working culture. A healthy corporate culture makes employees comfortable in their workplace and transforms the workplace into a conducive working environment. Inversely, a toxic corporate culture that has a low humanistic approach and tends to disregard the well-being of its employees in the workplace. This tends to discourage the employee's urge to work and eventually resulting in an unsatisfactory working output. Whereas, a healthy corporate culture tends to produce happy and satisfied employees that are motivated to perform and commits themselves into the achievement of the long and short term organizational goals. As human capital is one of the most prominent aspects in an organization, the physical and psychological welfare of each employee is crucial and should not be taken on lightly (Nixon, 1994).

Functions of neurochemicals in the body

As mentioned above, there are many types of neurochemicals and neurotic hormones in the human body and each of these chemicals and hormones serves a different purpose and function. Prominently, there are four neurochemicals that plays a big part in the human body and each of them relates to how and why employees react the way they react in the workplace. For an example, when an employee is praised by his leader and is given a high expectancy in his performance, he tends to have a better working outcome. This is also commonly described as the Pygmalion effect where as an individual is placed under an expectation from a superior, the given expectation tends to improve that individual's performance (Loftus, 1995). However, from a biological perspective, that individual's body is actually reacting to the given expectation and the production of neurochemicals in his body is assisting him to achieve his targets and thus, increased job performance.

The first prominent neurochemical that is found in the human body is dopamine. Dopamine is a neurotic hormone and organic neurotransmitter which is under the family of catecholamine. Dopamine mainly regulates memory, mood, motivation, sexual arousal, orgasm, fear and learning (Alexander, Mathie & Peters, 2006). It is mainly synthesized from the brain and produced in small doses in other parts of the body. The effect of dopamine can be briefly described with the consumption of a person's favorite food. When the person experiences a pleasant taste from the food he eats, he gets a shot of dopamine and results in the continuation of his eating. Dopamine is produced whenever the brain experiences a new or favorable activity. As the person continues to be involved in the favorable activity, dopamine level may arise. As there is more dopamine in the system, more attention is given to that particular activity which motivates the person to keep on doing it. Thus, dopamine is also referred as a major contributor to the reward perception in the brain. It gives the individual a sense of accomplishment whenever an expectation is met (Wise, 2004). For an example, a person writes down a to-do list for the day, and goes on to do whatever he has to. Whenever he slashes off one agenda on his to-do list when he has accomplished what he had to do, he gets a shot of dopamine and the feeling is great. Dopamine makes us happy as it gives attention to what we value and motivates us to accomplish it. Furthermore, the sense of accomplishment we get after the completion of a task is provided by dopamine. However, dopamine is also the main contributor to addiction. As we feel good about something we newly experienced, we would tend to keep doing it until we are satisfied. Excessive amount of dopamine in the body leads us to addiction where the brain is programmed in a way to make us keep doing a certain task that we favor (Wise & Rompre, 1989).

The following prominent neurotic hormone that is commonly found in the body is cortisol. Cortisol as mentioned above is released from the adrenal cortex whenever the person is under stress or experiencing a deficit in blood sugar level (Rosmalen, 2008). When cortisol is synthesized in the body, the immune system is temporarily disabled or suppressed and the level of metabolism for fat, protein and carbohydrate is significantly increased. Cortisol is normally known as the stress hormone as it sets the body into hyper alertness where senses and reflexes are enhanced to face imminent danger (Muller & Wrangham, 2004). As a person is under stress, cortisol stimulates adrenaline in the body to provide the body with extra energy. Simultaneously, unnecessary processes are shut down temporarily during moments of distress as those processes are less significant at that moment. However, cortisol also is released in the body when a person is facing stress in the workplace. The similar effects apply to the person except if the person is under stress for a prolonged period of time, the body may be prone to diseases as the immune system is suppressed. Thus, cortisol is the hormone that helps us to survive under dangerous situations, but it could also harm the body when it does not leave the body for a period of time.

Serotonin on the other hand is the neurotic hormone the gives the feeling of happiness and a sense of well-being. Serotonin causes the body to be focused and regulates a person's sleep, memory, appetite, learning, moods, body temperature and so on. Serotonin is naturally inhibited in the human body in a small amount and 90 percent of this chemical is located in the stomach and intestines (Hariri & Brown, 2006). Serotonin is produced whenever there is a sense of significance or pride. A low level in

serotonin causes anxiety, fear, self-pity, stress, insomnia and in extreme cases, depression. In the contrary, too much serotonin in the system may be fatal to the body as the body will experience high fever, irregular heartbeats or even cardiac arrest. However, a balanced amount of serotonin sets the body into a position state where self-efficacy and self confidence is high which as a result helps us to achieve the things we want in life (Hockaday, 1969). Serotonin is also involved in social ranking. When a monkey is injected with serotonin, it tends to behave as if it was an alpha in its group. This is simply because serotonin inhibits the fight-or-flight response and increase the monkey's assertiveness to fight for the things it desires (Hariri & Brown, 2006). Because of this scenario, serotonin is also referred as the 'leadership chemical' where leaders normally possess.

The fourth prominent neurotic hormone found in the human body is oxytocin. Oxytocin is a powerful hormone which is widely found in mammals, which also includes human beings. It plays an imperative role in sexual reproduction and particularly during pregnancy and childbirth (Harari-Dahan & Bernstein, 2014). Oxytocin is the 'love hormone' as it leads to mutual trust, empathy, cordiality and intimacy. It is also the fundamentals of parental bond where a mother or a father has for their children. Oxytocin is stimulated whenever a person is being cared of and inversely, cares for others generously. A lack of oxytocin in the body may lead to fear and anxiety, whereas the existence of oxytocin enhances social bonding, faster rate of healing on wounds and increased generosity. Oxytocin is also further stimulated through touch (Carter, 2003). For an example, two companies come together to strike a deal for a joint venture. When the contracts are all set and ready to be sign, both representatives from the respective companies would shake each other's hand and proceed to the signing of the contract. This simple handshake stimulates a shot of oxytocin in both of their systems and a sense of trust is established. The amazing thing about oxytocin is, it is affective and contagious. People that does simple acts of generosity gets a dose of oxytocin and the receiving end gets a dose of oxytocin too (Weisman & Feldman, 2013). Even more, the people that are witnessing the act that was being carried out gets a dose of oxytocin too.

Harmful neurotic hormones in the workplace

Similarly to the workplace, humans react the way they do because of the stimulation of these neurochemicals in the body. However, not every neurochemical is beneficial to the body, in this case, the organization. Leaders play an important role in the organization as they are the main stimulator in the organization. One of the neurochemical that is bad for both leaders and the organization is dopamine. It is true that dopamine helps leaders to achieve things and provides them with the motivation they need in the workplace. However, the wrong usage of dopamine may cause harm to the organization, which is also a common phenomenon in organizations nowadays. Organization leaders that are result-oriented and money driven is basically poisoned by dopamine. As mentioned, dopamine directly causes addiction and like any other addiction, it is difficult to curb or dampen the side effects of dopamine (Schultz, 2013). Profit driven leaders values profit above other aspects in the organization. Whenever the organization hits a target, the leader gets a dose of dopamine and the feeling is great. In order to continuously feel great, the leader would push his employees harder, regardless

of their well-being. Similarly to a drug addict, when the drug addict is hungry for drugs, he would do anything in his power to get those drugs even if it requires him to spoil relationships with family and friends. Leaders must be aware of what is truly valuable in the organization and keep themselves checked whether they are addicted to profit.

Besides, another negative neurotic hormone that may cause harm in the organization is cortisol. The existence of cortisol in the organization creates a toxic corporate culture as everyone in the workforce are emotionally unstable. Desk rage normally occurs whenever the organization has a bad working environment or the organization is practicing politics in an unhealthy manner. The increase of cortisol in the workforce keeps them in a hyper alertness state as if their very lives are in danger during office hours. This may cause a decrease in health quality in the workforce as the results of prolonged existence of cortisol in the human body leads to diseases. As an employee is under stress and felt threatened by its colleagues on a daily basis, this means that cortisol is present in his system on a daily basis which may lead to suppression of the immune system in the body. In extreme case, cortisol may lead to burnouts or even depression.

Beneficial neurotic hormones in the workplace

In the contrary to dopamine and cortisol, serotonin is beneficial to organizations in many ways. Serotonin is the leadership chemical as leaders possess twice the amount of serotonin compared to his subordinates. Serotonin is also the chemical behind pride and happiness. In order to cultivate a healthy corporate culture, the relationship between leaders and their followers is the key. Effective leaders are those who lead in a manner where his followers are submissive to his leadership and furthermore, trust in his decisions and actions. Similarly to a football team, the players in a team played diligently not because of the prize behind it or the golden trophy. They play a great game diligently to win the trophy for the coach. When the team wins the trophy, they get dose of serotonin and when the coach witnesses their victory; he gets another dose of serotonin. This is an example of a good system where everyone works in a common goal and trust is established. Furthermore, happiness is existent in the process and the outcome. Inversely, when a leader does not meets the expectation of his followers, serotonin is not being stimulate as there is no relationship between the leader and his followers. Besides, similarly to dopamine, serotonin also increases a person's job performance as serotonin sparks innovation, increases ability to solve complex problems and most importantly it does not leads to any addiction.

On the other hand, oxytocin helps the organization to cultivate a healthy working culture. As mentioned above, oxytocin is the feeling of trust. Trust is highly crucial in any organization as without it, the organization will be at war. Without trust, employees would have to protect themselves from possible threats from other colleagues, leaders may not be able to execute any actions effectively, leaders may not be able to empower his employees to execute simple task and so on. Whenever there is a trust issue, the organizational vision and goals are immediately blurred as everyone is busy looking over their back. This is indeed the very cause of a toxic corporate culture. However, if leaders in the organization realizes the importance of a healthy workforce and cares for the employee's well-being, the leader would be emphatic towards mistakes and failures.

A relationship-oriented leader will be more concerned over the employee's troubles and difficulties rather than the task on hand. Through the caring and building of relationship in the organization, there will certainly be an increase in the level of oxytocin in the workforce (Harari-Dahan & Bernstein, 2014). Employees would have a sense of belonging and safety when they are in work as they believe that their leaders got their back even when things go wrong. A simple act of generosity like connecting and engaging employees on a personal level and be concerned over their troubles stimulates oxytocin within both the leader and the employee. This chain reaction will eventually create a healthy corporate culture and everyone would be more focused on their jobs and strive to work towards the organization's common goal.

Discussion

The findings above show that, in order for organizations to cultivate a healthy corporate culture, leaders in the organization must strive to stimulate beneficial neurochemicals in the workplace. Although the effects of neurochemicals are entirely personal, the collective stimulation of oxytocin and serotonin in each and every employee will gradually help the organization to cultivate a good corporate culture. The existence of oxytocin in the organization is crucial as it avoids bad politics and sets the whole organization into the right direction. Besides, an effective organization is one that promotes the flow of information among colleagues and between departments. Without trust, departments will build walls around them and the flow of information will be made difficult. On the other hand, serotonin builds leaders and employees and takes initiative to do more than they are supposed to do. Serotonin also enhances the human body to work creatively and made the person to be more focus on his job. The mixture of both oxytocin and serotonin creates a phenomenon where leaders delegates and empowers their employees to execute certain task. With good relationship between the leader and the employee, the employee will diligently and innovatively execute the given task as there is an expectancy factor on the employee. The employee would not be working under too much stress as he knows that his leader has a high acceptance of mistakes and failures. With proper mindset and attitude, the employee is able to carry out his task more efficiently.

Inversely, the mixture of dopamine and cortisol is exactly what we would expect from Wall Street. In a typical stock broker firm in Wall Street, the working environment is highly stressful. Brokers are all fighting for survival and in the process of winning customers; employees may harm or sabotage other employees to stay in the organization. This is a typical example of a toxic corporate culture. This phenomenon is mainly cause by the expectation set by the leaders in the firm. As they are entirely profit and money driven, their addiction to numbers and figures drive by dopamine causes them to react in a way where they push their employees to an extreme extend. Furthermore, no relationship is established in the workforce as everyone is only concerned over their personal interest. These kinds of firms are highly unsustainable as the turnover of employees is high and there is no sustainable organizational commitment in the organization.

Conclusion

The cultivation of a healthy corporate culture certainly helps the organization to boost its performance as the human capital is rich and the quality of the workforce is at a good condition. An organization may possess a substantial amount of capital, but without the man power or in other words employees to perform the way they should, the organization would probably obtain a poor performance due to the lack of motivation within the employees and commitment towards the organization. Thus, as the employees are the main movers of an organization's operation and also one of the key determinants of the organization's success, it is very essential for the management team to satisfy their social needs and well-being in the work place. However, a certain amount of dopamine and cortisol has its benefits to the organization too as it could be a tool for leaders to push the employees. Same thing that goes to the other neurochemicals that were mentioned above, excessive amount of any of these chemicals will also contribute to the cultivation of a toxic culture. It is best to view these neurochemicals as management tools where leaders can use them to improve the employee's work quality. For organizations that have a toxic corporate culture, leaders could utilize the knowledge of neuroscience and try to stimulate oxytocin and serotonin within the workforce. As for organizations that lack vision and motivation, leaders could stimulate a little dopamine by inserting vision and goals. Furthermore, cortisol can be used to push the workforce and make the employees more attentive. Ultimately, it comes back to how organization leaders manage and approach the workforce. An effective leader would know what is best for the organization and balances employee's well-being, at the same time place sufficient emphasis on the organization's profitability.

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