Scientific and Yogic Aspects of Human Habits

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| Received: 06 June 2023  
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Accepted: 18 Nov 2023 | This article investigates how human habits are formed from Yogic and scientific angles. It explains in a simple way how our routines become habits for our brains and minds. According to the essay, the strength of these routines determines whether someone develops good or negative habits. According to science, when we frequently do something, "neurological pathways" are formed in the brain. It is simpler to carry out the task using these paths. Therefore, your brain strengthens the habit if you do something and it makes you pleased. Conversely, if you do something reluctantly, the habit will likely form more slowly or not at all. The article also mentions elements like practicing, learning, concentrating, exercising, resting, and more that aid in the development of neural pathways. According to Yogic theory, our senses and minds are the source of all of our experiences. When we encounter something repeatedly, it creates powerful mental "Samskaras" in our minds that eventually become habits. These behaviors could be mental ideas or bodily acts. According to the text, habits can be created through deeds, words, or feelings. When our habits are solid, we act instinctively and occasionally without even realizing it. The article offers advice on how to create or break habits, including awareness, clear aims, repetition, mindfulness, and patience. It also suggests making a space that is encouraging and taking stock of your development. |

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1. Introduction

The habits of an individual have the greatest impact on their lives. On one side, these habits can lead a person to great prominence, but on the other hand, they can also result in being associated with honor and dishonor, as well as success and failure. An individual's entire character is essentially a collection of these positive or negative habits. Once habits become deeply ingrained, individuals may find themselves performing them automatically, even without conscious intent. In some cases, these habits can have such a profound influence that individuals may not even be aware of their presence, yet continue to engage in the such behaviors.

Considering the analysis mentioned above, the following questions become pertinent -

1. What are these habits?
2. What are the main determinants of their construction?
3. What are their scientific and yogic aspects?

This research study aims to address the aforementioned questions on human habits.

2. Materials And Methods

The methodology followed to find answers to the questions noted above, involved examining the scientific and yogic aspects of human habits and the factors contributing to their formation. The following key steps were undertaken:
Literature review: A comprehensive review of relevant literature was conducted, including scientific and yogic sources. Credible web sources, academic databases, journals, and books were consulted to gather information on neural circuits, samskaras (impressions), and related concepts in yogic philosophy.

Data collection: Data on the scientific aspects of human habits, such as the development and reinforcement of neural circuits, was collected and organized. Similarly, information on yogic concepts like samskaras, chitta, and vritti was gathered. Relevant citations from yoga books, scientific theories, and research studies were included.

Data analysis: The collected data was thoroughly analyzed to identify similarities and differences between the scientific and yogic perspectives on human habits. The focus was on understanding the key factors influencing the formation of strong neurological pathways in the brain and the persistence of samskaras in the mind.

Framework development: Based on the discussion and analysis in this study, a framework was developed to present the critical elements that influence the formation of robust neurological pathways in the brain.

Integration of perspectives: The review paper integrated the yogic and scientific viewpoints, highlighting the similarities and discrepancies in their understanding of human behavior. The scientific concept of neural pathways was related to the yogic concept of samskaras. This methodology allowed us to carry out a comprehensive exploration of the scientific and yogic dimensions of human habits, providing insights into their formation and significance.

3. Results and Discussion
Scientific aspects of human habits:
From the scientific point of view, the brain is the basis of all physical or mental activities of a human being. When any human being starts the implementation of any kind of work, the neurons responsible for that work become active and due to the repetition of that action again and again, due to the repetition of mutual cooperation in the related neurons, there is mutual co-operation among them. A group begins to form. As this group becomes firmer, the behavior becomes easier for that person. In this way, gradually the mutual coordination of the neurons related to the task becomes stronger and the coordination of the neurons becomes easier. (See for example, references 1-3)

Physiologically, this group of neurons is called the neurological pathway. As the repetition of action increases, the associated neurological pathway becomes more solidified, and as the neurological pathway becomes more solidified, the associated action becomes simpler and more natural to become part of the behavior. For example, as a child is repeatedly asked by his mother to touch the feet of the elders, and encourages him to do this work by giving different types of rewards, then gradually the neurons related to this action will become active. If the child receives something in return for performing this action, which makes him extremely happy, the activation of the neurons associated with the secretion of happy hormones becomes stronger, resulting in a stronger neurological pathway. With this natural neurological pathway, the behavior of touching the feet of elders will come in the children and even when they grow up, they will not have any kind of hesitation in this behavior. Similarly, another example is seen that when a child starts walking, the neurons of the cerebellum responsible for that start becoming active. Due to repeated repetition of this task, bundles of some neurons are formed to perform that task, which simplifies the process of walking. In this way, the practice of walking again and again strengthens the mutual coordination of neurons, that is, the neurological pathway makes the process of walking simple and natural.

If the doer enjoys this type of action, he is happy, then the pleasure-giving hormones are heard in that action, as a result of which the neurological pathways of such actions become firm in a short time. On the contrary, when a person does any work reluctantly or under someone's pressure, the process of formation of neurological pathways is very slow and they do not get firm, as a result of which this type of work naturally becomes a habit. Or do not become part of the behavior.

Thus, if we talk about the scientific side of human habits, then any person's behavior or habits are related to the neurological pathways of his brain. The firmer it is, the more natural the person's behavior or the firmer his habit. He will be equally compelled by that behavior or habit. Whether this behavior is good or bad. Self, family, society, nation, etc. may be taken forward or destroyed, but the doer is bound by that habits or behavior and it becomes a part of his personality. On this basis, a person develops firmness in the conduct of human values, while in a person firmness in evil conduct.

Key factors that underpin human habits or neurological pathways:
On the basis of scientific research, the factors which have been considered responsible for strong neurological pathways, are the same factors that will be responsible for strengthening any habit, the main factors among them are as follows:

![Figure 1: Showing the Strong and Weak Neurological Pathways.](image)

There are several major factors that contribute to the development of strong neurological pathways in the brain. These factors include:

1. **Repetition and Practice**: Repeatedly engaging in an activity or practicing a skill helps reinforce neural connections and strengthens the associated pathways in the brain. The more you practice or repeat an action, the stronger the pathway becomes (Willis, 2007).

2. **Learning and Education**: Engaging in learning activities, such as acquiring new knowledge or skills, stimulates the formation of new neural pathways. Continuous learning and intellectual stimulation can promote the development of strong neural connections (Kandel & Hawkins, 1992), (Fields, 2008).

3. **Focus and Attention**: Paying attention and maintaining focus on a particular task or activity enhances the activation of specific neural pathways. Concentrated attention helps consolidate information and strengthens the corresponding neural connections (LANG, 1997).

4. **Physical Exercise**: Regular physical exercise has been shown to have positive effects on brain health and the development of strong neural pathways. Exercise increases blood flow to the brain, stimulates the release of growth factors, and supports the growth of new neurons and synaptic connections (Damiano, 2006).

5. **Sleep and Rest**: Sufficient sleep and rest are essential for the consolidation of memories and the strengthening of neural pathways. During sleep, the brain processes and integrates information, reinforcing important connections and discarding irrelevant ones (Mednick et al., 2011).

6. **Mental Stimulation**: Engaging in mentally challenging activities, such as puzzles, reading, or problem-solving, stimulates various regions of the brain. These activities promote the formation of new neural connections and help maintain cognitive function (Tranter & Koutstaal, 2008).

7. **Nutrition and Brain Health**: A balanced diet rich in essential nutrients, such as omega-3 fatty acids, antioxidants, and vitamins, supports brain health and the development of strong neural pathways. Proper nutrition provides the necessary building blocks for neuronal growth and repair (Parletta et al., 2013).

8. **Stress Management**: Chronic stress can negatively impact brain health and impair the formation of strong neural pathways. Implementing stress management techniques, such as relaxation exercises, mindfulness, and social support, can promote a healthy brain environment for the development of robust neural connections (Irving et al., 2009).

9. **Emotional Well-being**: Positive emotions and emotional well-being contribute to the formation of strong neural pathways. Experiencing joy, happiness, and fulfillment can enhance cognitive function and support the growth of resilient neural connections (Sale et al., 2014).

10. **Environmental Enrichment**: A stimulating and enriched environment with diverse sensory experiences, social interactions, and learning opportunities fosters the development of strong...
neural connections. Exposure to new experiences and challenging environments can promote neuroplasticity and the formation of robust pathways (Vázquez et al., 2009).14

11. It’s important to note that the development of strong neural pathways is a complex process influenced by various factors, and individual differences exist in how neural pathways are established and strengthened (Sale et al., 2014).15

Yogic aspects of human habits:

According to the Yogic concept, all kinds of experiences or knowledge that occur in any human being are obtained from the sense organs only. These sense organs receive their designated object only, such as smell through the nose, taste through the tongue, seeing through the eyes, touching through the skin, hearing through the ears, etc. One of these senses cannot perceive the object of another. The senses give their respective objects to the mind, the mind gives to the ahankara and the ahankara gives it to the intellect for analysis. In this way, any subject perceived by the senses, being analyzed by the intellect through the mind, and the ego respectively reaches a conclusion and the knower or the soul or the soul experiences it in the same form.16 According to the yogic concept, the combined form of mind, ahankara, and intellectual is called Chitta and the experience or knowledge is called vritti. All the self-experiences generated by the five sense organs are stored in the form of knowledge and continue to appear after receiving the instrument. In this way, the auspicious deeds done at present become the basis of man’s nature i.e., nature in the future through the rituals.17

When any experience or knowledge accumulated in the past appears again and again after getting any reason, then their impressions also become stronger. Just like a student memorizes a lesson, then revises it, the more times he revises, the more times the memorized knowledge or experience or memory will become stronger. According to Patanjali, this memory is just an instinct.

According to the Yogic concept, when any physical or mental action is repeated again and again, the impressions arising from it gradually become stronger and their impressions become firm in the mind.18 Due to this firmness of sanskars in the mind, the symptoms related to sanskars start to develop naturally in a person. Such physical or mental activities are called habits.

Therefore, getting used to any kind of behavior or habit means the formation and accumulation of rituals related to it and the dominance of any behavior or habits means the dominance of rituals.

When any memory keeps on manifesting again and again after getting a reason, then its sanskars also become stronger gradually and as the strength of sanskars increases, in the same way, the related behavior in human behavior changes into natural i.e., habit. Goes, no effort has to be made for that. This is called habit or natural behavior.

Habit or nature also has the same meaning in common colloquial language. While doing the work, you don't have to make any kind of special effort. Sometimes the doer is not even aware of it, and due to the persistence of the sacraments, that physical or mental work continues.

These habits or behaviors can be formed through actions as well as through thinking. The basic principle of Karma Yoga is to collect and strengthen the sanskars that lead to the attainment of yoga through actions,19 while the basic principle of gyan yoga is to strengthen the sanskars for the attainment of yoga in the mind only on the basis of contemplation. The principle of Bhakti Yoga is to strengthen the sanskars that lead to yoga on the basis of emotions.

When the sanskars are strengthened by constant practice, the Karmayogi is naturally able to keep the mind engaged in actions prescribed in the scriptures, the Jnana Yogi is naturally able to keep the mind united only in yogic thoughts. In this state, if any work is done by the doer, then he does not even have the knowledge of it and due to not coming in the experience of karma, neither his sanskar will be formed nor will he have any relation with the doer.

In this way, from the yogic point of view, the basis of the formation of any habit or behavior is the impressions stored in the mind. These habits or behavior may be physical or mental.

When any work is repeated again and again, then the firmness in its rituals in the mind increases. When this persistence becomes so strong that the doer starts doing that work in a natural way, then it becomes a habit or human behavior.20 It can also lead a person towards yoga or towards enjoyment. It can lead to success and it can also lead to failure.

It can be a relationship maker as well as a relationship breaker. It can be helpful in nation building as well as can be harmful to the nation. The initial effort is the key to the formation of human behavior or
When a behavior or habit becomes firm in the form of rituals, then no special effort is required to do it, it automatically starts being edited due to the dominance of rituals in the doer.

**Determinants of persistence of human behavior:**

It has become clear from the above analysis that the firmness of any human habit or behavior depends on the firmness of the sanskaras in the mind. That is, firmness in behavior or habit comes only from the firmness of the sacraments in the mind. To what extent any person is violent or non-violent, practicing truth or falsehood, following human values or devoid of them. How much youth is imbued with nationalist ideology or is only personal interest the center of his actions. All of these have only one basis in Yogic vision and that is the level of firmness in the mind of the associated behavioral or habit sanskaras.

**Maharishi Patanjali explains three grounds for the firmness of this Chittabhumi:**

1. Longevity
2. Regularity
3. Shraddha

When the practice of any work by the doer is done regularly and with full devotion for a long time, then its sanskars become firm in the mind. Here the meaning of longevity can be understood in two ways:

Longevity of oneness of mind's relation to action during practice. The longer any practice goes on, the more times the practice's rituals will be repeated and the repetition of that knowledge is the most important process for the firmness of any knowledge.

For the firmness of any knowledge from both the Yogic and Scientific point of view, it is necessary to repeat it again and again.

The second reason and important part of firmness of mind is regularity. Here, regularity is the certainty of the interval between the exercises, that is, the repetition of knowledge at a fixed interval. The Sutrakar says that when any experience or knowledge is repeated at a certain interval, the firmness of its impressions in the mind is intensified.

The third part of the firmness of the mind is faith. In my point of view, faith is the most effective among the above three grounds mentioned by the Sutrakar, because while doing any deed, the longer the unity of the mind with the deed, the stronger will be the sanskars related to the deed in the mind. That is, longevity, regularity, repetition etc. depend on faith. The stronger the faith of the doer towards any work, the longer the duration of the work, the continuity, the less the intervals of repetition, the unity of the mind in the work will automatically happen.

**4. Conclusion**

It is clear from the above analysis that the scientific basis of human habits is the neurological pathway and the Yogic basis is the strength of the sanskars stored in the mind, that is, the persistence in the related instincts of the mind. Good or bad habits of any human depend on these. Many of the basic facts of building up the neurological pathway or the firmness of sanskars in the mind, many of them go on knowingly or unknowingly in the life of every human being.

The knowledge presented here about the formation of human habits from both scientific and yogic perspectives provides valuable insights into understanding the factors that contribute to the development and persistence of habits. Such knowledge also has clear clinical relevance (See for example, 22-27). The scientific aspect emphasizes the role of neural pathways and the influence of repetition, practice, focus, and other factors in shaping habits. On the other hand, the yogic aspect highlights the significance of sanskaras, chitta, and vritti in the formation of habits. To link this knowledge to action, it is essential to recognize the power of habits in shaping our lives and understand that habits can be consciously cultivated or changed. By incorporating the following steps, individuals can work towards developing positive habits:

1. Awareness: Become aware of existing habits and their impact on daily life. Reflect on whether these habits align with personal values and goals.
2. Intention: Set clear intentions for the habits you want to cultivate or change. Define the desired behavior and its purpose.
3. Repetition and Practice: Consistently engage in the desired behavior or practice to reinforce neural pathways and strengthen the associated habit. Create a routine and commit to regular practice.

4. Mindfulness: Cultivate mindfulness and pay attention to the present moment. Be fully present when engaging in the desired behavior, focusing on the sensations, thoughts, and emotions associated with it.

5. Patience and Persistence: Changing habits takes time and effort. Be patient with yourself and persist in practicing the desired behavior, even when faced with challenges or setbacks.

6. Environmental Support: Create an environment that supports the desired habit. Remove or minimize triggers and distractions that may hinder progress. Surround yourself with people who encourage and inspire the desired behavior.

7. Self-reflection and Adjustment: Regularly assess your progress and reflect on the effectiveness of the habit. Adjust and refine as needed to ensure alignment with personal values and goals.

By applying these principles and integrating the scientific and yogic perspectives on habit formation, individuals can consciously shape their habits and ultimately lead a more fulfilling and purposeful life.

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18. Dirghkalasevavito nirantarasevito, tapasa, brahmacaryena, vidaya, rādhuśv ca sampaditār satkārabhrabhabhūmibhavati. Vyasabhāṣāyā 1.14
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