

# The intervention of mindfulness on behavioral change for achieving goals

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DOI: 10.29322/IJSRP.10.10.2020.p10631

<http://dx.doi.org/10.29322/IJSRP.10.10.2020.p10631>

**Abstract-** With different methods and theoretical models, numerous researchers have explored the approaches to achieving life goals. On the other hand, mindfulness is increasingly being used as a method for achieving personal growth development as well as organizational progress. And while mindfulness was based on spiritual origin, it has also become a business practice nowadays. A conceptual model was constructed for goal achievement through mindfulness by using the secondary data available, such as journals, books, and scientific articles, and research papers. In this theoretical framework, it is explained through the default network and direct network of the human brain contribute our thoughts and daily functions and how mindfulness co-related on both system positively for habit formation process which has been explained through the habit loop. It is observed that mindfulness helps to reduce the stress, pain, and fear which come as negative consequences of default network usage and how mindfulness can improve the positive outcome such as relaxation, concentration, and awareness which come from the direct network. The conceptual framework shows the positive relationship between goal achievement and habit loop via breaking existing bad habits and growing new good habits. Hence it can be perceived the certain track of goal setting through the intervention of the mindfulness process.

**Index Terms-** Mindfulness, Goal achievement, Default and Direct network, Habit loop, Neuroscience

## I. INTRODUCTION

People always attempt to follow goals and dreams in their life by expecting a better outcome. In the 21st century in our busy schedule and the complexity of need and want, we naturally create many goals to achieve instantly. Hence, they bend to follow many diverse techniques to accomplish objectives without having proper awareness of it. For example, a businessman may hard work too much with dedicating his or her private life, but who gets the same results and no improvement as expected. There, it is necessary to identify the actual reason for not gaining the advanced result even we strive for success. The real cause is about changing our habits. Changing habits is not just changing our activity in a short time, it relies on a combination of a certain mental and physical process. (Ajzen, 1987) says that in the behavioral change theories clearly show that physical changes happen due to the mental transformation and in other words, our actions are controlled by our thoughts (p1, p67). So that we need to address a technique or

tool or strategy to differ our thoughts or attitudes to change our habits for getting the desired outcome. Mindfulness comes as a certain practice in modern society a few decades ago, but it has mainly been established in the eastern region especially in Buddhism as life-long practice for experiencing success and happiness in a spiritual framework. Hence, this study investigates how mindfulness acts a vital role in growing new habits and scientifically weaken our bad habits. There, the close relationship between our brain functions and the role of mindfulness to have a positive relationship with goal setting will be evaluated in neuroscientifically.

## II. MINDFULNESS:

In the last two decades, mindfulness has become a powerful tool in large communities such as clinicians, a lesser extent, and empirical psychology (Bishop *et al.*, 2004). Recently, the psychological and business construct mindfulness has received a great deal of attention, present awareness, and non-judgmental thinking. Mindfulness has its roots in Eastern contemplative traditions and is most often associated with the formal practice of mindfulness meditation. However, mindfulness has been called the “heart” of Buddhist meditation Mindfulness, however, is more than meditation and which is “inherently a state of consciousness (Grabovac and Brandilyn, 2015). According to Buddhism, there are mainly three levels of mindfulness. Momentary mindfulness (Informal meditation) is used during the day when we are active mode. When we talk to someone, we should be mindful of what we say and when we are about to cross the street, we should be aware of the traffic (Fronsdal, 1998). Access concentration (Informal meditation) is more focused. While reading an exciting book, one gets absorbed in it. One cannot be thinking about other things while reading (Pemaratanana, 2012). Absorption in mindfulness (formal meditation) can be achieved with the practice. Here one needs to find a quiet place and need to close one’s eyes (Dhammadharo, 1992). In the modern organizational context, people attempt to practice all levels of mindfulness for achieving their goals by using different strategies such as MBSR programs (Chiesa and Malinowski, 2011).

### 1.1 MINDFULNESS AND TWO NETWORKS OF THE BRAIN:

The default network of the brain consists of the medial [prefrontal cortex](#), posterior [cingulate cortex](#), and the [inferior parietal lobule](#) that are important for our

survival(Spreng *et al.*, 2010). A 2007 research called at the University of Toronto, "[Mindfulness meditation reveals distinct neural modes of self-reference](#)" by Norman Farb, which was in the [understanding](#) of mindfulness from a neuroscience perspective. There, Scientists have figured out a way to investigate how human beings experience their research, and they discovered that people have two distinct ways of interacting with the world, using two different sets of networks. They found that humans had two distinct ways to communicate with the environment, using two separate network sets. (Rock, 2009).

In the region of the medial prefrontal cortex of our brain, along with our memory region like the hippocampus which is networked with our experience which is called the "default network" or "narrative network"(Fransson and Marrelec, 2008; Rock, 2009). When not much else is happening, and when we think about ourselves self then this network becomes active. Especially this will be helpful for goal setting, planning, and strategizing(Spreng *et al.*, 2010). We also able to experience the world more straightly, which allows more sensory information to be perceived. In the process of default networking, our brain holds huge stores of information about our self, other people's history, and the future of all the people we know, including ourselves. For example when thinking about what to cook for dinner tonight, or whether we will be embarrassed by making a mess of the meal. It is meant the default network is active when we are in planning, daydreaming, and also ruminating. When we experience the world by utilizing a narrative network we take information from the outside environment and then process it via a filter of what everything means and also we add our interpretations (Andrews-Hanna, Smallwood and Spreng, 2014).

Even though default network has a positive impact on goal setting or future planning, it also has a negative influence to our self as a negative consequence of highly activating our default networks, such as stress, fear, and pain with a high level of activation of the default network (Camerer, Loewenstein and Prelec, 2005). At the present, research shows that people think most of their past or future with a doubtful or stressful mental condition based on a quarter of a million queries posed of about 5000 people from 83 different countries in the world. But, fortunately, another study says that after practicing mindfulness, then the grey matter in our brain's amygdala can become smaller –which the region is known for its role in stress (McGilchrist,2019). Another study says that mindfulness can have an impact on producing chemicals that change our mood. Other research states that when we are mindful, then connections between different regions of the brain change cause for creating happiness (Kringelbach and Berridge,2010). One study showed that experts in mindfulness experienced less pain than those who did not practice mindfulness (Taylor *et al.*, 2011). Interestingly, the regions of the brain associated with pain did not diminish in those individuals. The brain areas linked with emotion and memory were less involved, instead. Mindfulness may have minimized the connection between these two brain regions (Brewer *et al.*, 2011a).

There is also another way of experiencing experience which is through "*direct experience network*". When this network is operating several different brain regions become more active. One is the insula, a region that refers to perceiving bodily sensations(Brewer *et al.*, 2011b). Another brain region is the

anterior cingulate cortex which is a region central to switching our attention. In the process of direct networking, it allows us to get closer to the present moment which is the reality of any event, and able to perceive more accurate and real-time information about events occurring around us(Smallwood and Schooler, 2015). It is meant when this is active we are less banded with past, future, our habits, expectation, or assumption. We are indeed experiencing data coming into our five senses in real-time such as a cold drink in our hand, the warmth of the sun on our skin, or the cool breeze in our hair. Concerning mindfulness, our direct experience network is more active when we are thinking in mindfully(Rock, 2009). Moving on to further explanation, mindfulness experience such as meditation help to get rid of distractions like mind-wandering and self-referential thinking through minimizing the brain activities in the default mode network(DMN)(Garrison *et al.*, 2015).

It is important to observe how both networks work in different situations.Researchers have found that two circuits are inversely correlated. Lets' explain that from two examples. First, when we think about an upcoming meeting while washing dishes, we are more likely to fail to detect a broken glass and cut our hand, because the visual perception brain map is less efficient when the story map is turned on. We don't see as much (or hear as much, or see too much, or see something like that) while we are lost in thought. Sadly we don't taste even a cold (Rock, 2009; Verhaeghen, 2017). In terms of the second example, it reduces the activation of the narrative circuitry when we concentrate our attention on incoming data, such as feeling the water on our hands as you wash up. This explains why it helps to take a deep breath and reflect on the present moment if, for example, your narrative circuitry is going nuts thinking about an upcoming stressful event. At that moment all the senses "come alive"(Arden, 2010). Furthermore, mindfulness can effectively be functioning the creativity for problem-solving, and controlling our emotions via the pre-frontal cortex is the area of our brain (Berkovich-Ohana *et al.*, 2017).

### III. HABIT LOOP:

Habit is a behavioral pattern that is constantly replicated and appears to occur unconsciously. From the psychologists' point of view, habit is known as "a more or less fixed way of thinking, ability or feeling acquired via repeated repetition of mental experience"(Andrews,1903, p.121). Creating a good habit is a fundamental problem for human life as our conduct is primarily influenced by our customs. Good study habits are good assets for learners because they help students gain mastery in the areas of specialization and ultimately excellent results, while the opposite is a restriction on learning and achievement that leads to failure. The learning habit influences not only the academic successes of the students but also their potential success (Chen *et al.*, 2020a). According to Duhigg, there is a loop that entails a cue, routine, and reward for every habit. This habit loop consists of three components, namely: *cutting* (arrangement the environment such as place, time, incidents, or people), *routine* (a repetitive pattern of activities), and *reward* (the result of activating the habit) (Duhigg, 2012). In terms of routing, it acts as a habit trigger for automatic behavior (Clear, 2018). Habits are built once actions are tied to a trigger by consistent repetition. When a habit is activated,

individuals have an unconscious urge to take the action; people do it without conscious mind or present awareness. For an instant, go to the bathroom once we wake up is a habit, we do it without asking ourselves whether they want to do so in that morning. Psychologists show that habits are cued by context (Wood and Neal, 2007) and there are two types of contextual 'cues', namely; direct and motivated cues. When the routine and environment are associated repeatedly, it refers directly to cue. It is meant that habits can be developed by serving a constant environment. Then the brain to go into automatic mode. There a cue could be visual, thought sequences, or an emotion something like a particular time of day. For illustration, reading a book in the same room at the same time. When we have a successful experience that may become a stored motive to do the same thing or having a rewarding experience, it is called a motivated cue (Daw, Niv, and Dayan, 2005). 'Routing' is the next level and it is generally considered as behavioral patterns that we repeat usually, literally etched into our neural pathways and the routine could be simple or complex. For an example of simple routing; putting toothpaste on our toothbrush, brushing our teeth, and rinsing. On the other hand, going to our car will be more complex; getting in, adjusting things like the seat and mirrors, starting the car, getting out of the parking place, looking on the road for the correct track, observing traffic signals and road signals, and watching out for other drivers and pedestrians (Hill Jr, 2018).

Goal-driven acts are learned rapidly and are controlled by their outcome. Habitual behaviors are reflexive, elicited rather than their effects by previous stimuli. They can become repetitive when people participate in goal-directed activities daily. A habit can initially be activated by a target, but it becomes less important over time and the habit becomes more automatic. The third component of the habit loop is called 'reward': the result of habit activation. The rewards can be physical or emotional reinforcement — "clean teeth" and "safely reaching our destination". Via routine behavior, people may feel that their needs and wants to get accomplished, and they receive inner rewards (Phillips *et al.*, 2016). This rewards cause us to continue the habit as a psychological outcome. It is proposed that one should first set up a challenging life goal, and then, try to fix or resolve it. We gain a coherent psychological experience during the processes of achieving life objectively. As a result, this psychological experience in the new habit may increase positive feedback that will help to replicate the new behavior in the future (Chen *et al.*, 2020b).

Our brain equips with a lot of work so it uses habits because it wants to minimize some of its efforts. Therefore, our brain seeks to create any routine into a habit. But here is a trouble, the habit can be good or bad, and the brain does not judge this and it only wants to minimize its thinking attempts. We can also generate new habits as we wish by finding the right cue and routine that brings the desired reward. The thing is more we do a routine the very strong is designed and it never goes away, but it can be changed or modified by changing the routine. But, some habits are really hard to change and it is needed for hard work such as refrain from smoking and lose weight from overweight(Hill Jr, 2018).

## 2.1 MINDFULNESS AND HABIT LOOP

A signal that triggers the brain to pick a routine from its stored routine database, for an instant as we arrive home from that

hard day at work we switch the TV on (Foster, Gore, and West, 2006). There, mindfulness will assist us to discover and dig deep the real cue behind our habit. It brings our awareness and consciousness to something that remains the same each time we have the urge to begin that habit which is the cue(Orbell and Verplanken, 2010). When it comes to routing then mindfulness helps to identify another routing for the observed cue. There, we can change our bad habits via route changing through mindful way with giving rewards(Carden and Wood, 2018). Let's discuss an example of that. We attempt to work out what craving our habit is satisfying. If it is a smoking break, substitute it mindfully for something else i.e. taking a walk. If the craving is satisfied, yes, then the craving was for a break. If our craving is still there? Then we can experiment with rewards, try a coffee or fruit juice instead and see if that works. Often we have to dig around for a while with the rewards before we can effectively shorten our old habits with something different that will fulfill the urge. Generally, mindful people determine and observe their behavior consciously and decide whether it is worthy of repetition. As an example, when we get home after a hard-working day then we turn the TV on and put our feet up. At that time our brain comes to a decision it feels good to rest(Brewer, 2017). This is the positive reinforcement delivered by our brain. When we are going to rest for too long then we link with more kinds of habits such as bite our nails(Williams, Rose, and Chisholm, 2007). Being mindful would be a great asset to break down all unnecessary and ineffective habits that the default network of the brain do not realize(Burrell, 2016). Hence, once we have successfully identified the cue and the reward then it is easy to work on designing a new routine(Chen *et al.*, 2020a). There, researches have shown that the quickest way to change our habit is to have a proper plan with a conscious mind(Ayobi *et al.*, 2018).

## IV. HABIT CHANGING AND GOAL ACHIEVEMENT:

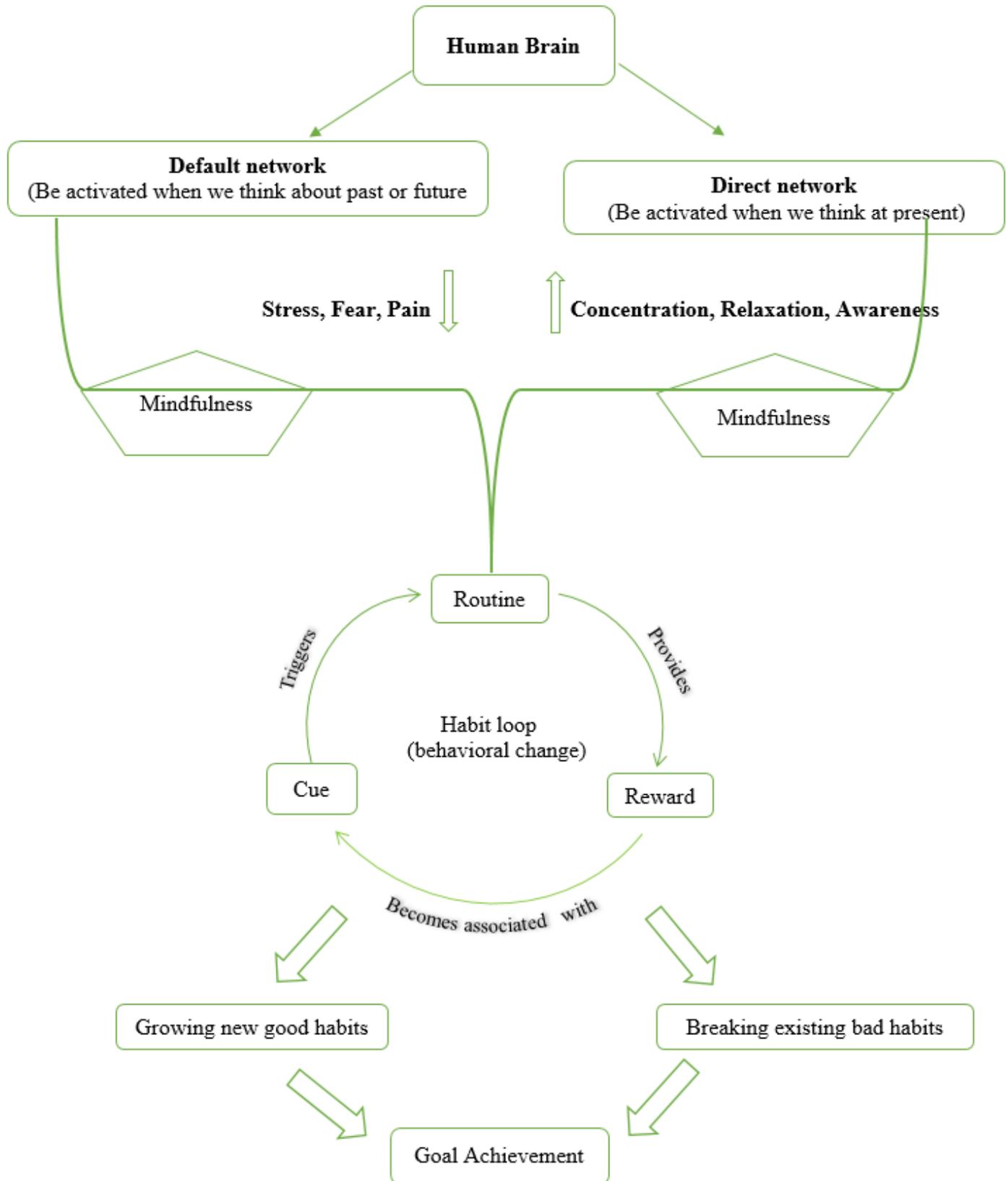
It is well acknowledged that goal achievement is a cognitive concept. The goal is what the person wants to accomplish, the object or intent of an action. In the context, it is close to the concepts of purpose and intent (Locke *et al.*, 1981). Goal achievement is commonly elaborated via the SMART framework in which a goal is included five main components, namely; specific, measurable, achievable, realistic, and time-based and it is more associated in business and management contexts (Day and Tosey, 2011). Moreover, it is explained that goal setting has two major main attributes which are content and intensity; the content of a goal consists of the results which are being sought, and the main angle of goal content which is clarity. When it comes to behavioral approaches regarding the goal achievement, the linkage theory of intention has declared that "intention, will and need " are the foundation for achieving the desired goal and which model suggests that intentions affect people's behaviors in the same way as need do since need can be satisfied by several types of behaviors(Gollwitzer, 1993). In the behavioristic tradition, habit and habit formation have been core elements too. (Verplanken and Aarts, 1999). With regard, to habit changing towards goal achieving, there are mainly two functions namely, establishing new good habits and breaking existing bad habits(Verplanken and Wood, 2006). Which kind of techniques for breaking bad repetitive habits and developing 'wanted' habits will be successful? First is changing the situation, because it is well-known that habits

are called situational target-driven behaviors and therefore behavioral responses are automatically created when the situation occurs(Gollwitzer, 1993; Verplanken and Wood, 2006) and when the situation is changed then new situation facilitates alternative responses too. For example, the very same person who has a habit of instead of recycling it throwing his old paperwork in a regular dustbin by using a special recycling box. Then, it can breakdown existing bad habit and initiate new good habit(Zimbardo and Leippe, 1991)

Another strategy is well planning of our objectives with visualizing. Gollwitzer says it is important to specify, where, when, and how these goals are acted upon and it is better to write down and visualize the objective and then it is hugely influenced do the necessary changes in our habits(Gollwitzer, 1993).In the neuroscience, it is explained via neuroplasticity. Neuroplasticity is

the brain's ability to alter its physical structure and function based on input from our experiences, behaviors, emotions, and maybe even thoughts(Schwartz and Begley, 2009). Our brain develops neuronal links based on what we do in our lives repeatedly-both good and bad(Møller, 2008). For establishing a strong new habit, it is needed to start our actions or thoughts with small steps, which is meant gradually increasing the time that we involve with the new habit. Neuroscientists show when we start to think differently then what happens is the current which produces from our thoughts are flown in different neuron paths and then a new path is become stronger and bigger since flowing more current(Fukushima, 1975). It takes some time and time is depended on the power and conscious level of our thoughts (Wood, Quinn and Kashy, 2002). Based on the above argument a conceptual model is presented below:

## V. .CONCEPTUAL FRAMEWORK:



## VI. DISCUSSION:

Even different approaches to achieving goals in modern society have been tested, people face many obstacles when implementing those strategies in a practical scenario. This paper explores simple actions we have implemented on our own to reach the desired destination, which is an approach to mindfulness. Even mindfulness is considered a spiritual tool, to understand the reality of the practical aspect of this conceptual framework is explained to the reader via modern scientific evidence. Here is shown that achieving a goal is not just a sudden action or miracle it is a progressively increasing process that can be achieved effectively via mindfulness intervention.

## VII. CONCLUSION:

This conceptual paper finds the possible solution by using the interference in mindfulness to achieve our life goals by stimulating them. It is shown that through the intervention of mindfulness our habit loop can have a profound effect and that as an outcome it is possible to change our actions to achieve goals. In that process of breaking existing bad habits and growing new habits are observed as challenging tasks, but with the interference of mindfulness, it is proven that it becomes more easier and reliable activity.

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