CONSCIOUSNESS AND INNER SPEECH:
THE ROLE OF INNER SPEECH IN SELF-AWARENESS
AND MINDFULNESS

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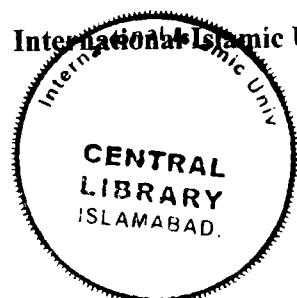
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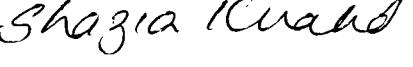
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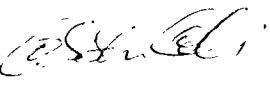
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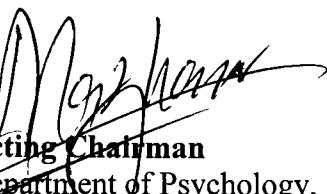
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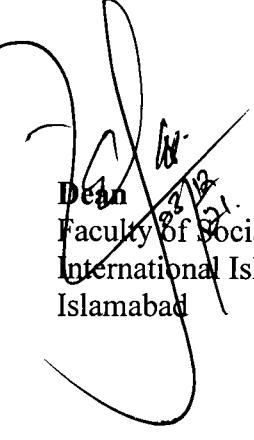International Islamic University,
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Abstract

The purpose of present study was to investigate the relationship of inner speech with two kinds of consciousness i.e. self-awareness and mindfulness and their relationship to each other. Inner speech was measured by Self-Talk Scale. Self-awareness and mindfulness were measured by Self-Reflection and Insight Scale, and Mindful Attention and Awareness Scale, respectively. The sample was taken from the University of Peshawar and International Islamic University, Islamabad (Pakistan). The sample consisted of four hundred (N=400) subjects, comprised of both male and female adults, ranging in age from 20 to 40, with the educational background of intermediate and above. It was predicted that self-awareness and the frequency of inner speech would be positively related to each other, and that there would be negative relationship between mindfulness and the frequency of inner speech. It was also expected that self-awareness and mindfulness would be inversely related to each other. One way ANOVA, t-test, correlation and linear regression analysis were applied to the data. The findings of the study showed that self-awareness and the frequency of inner speech were positively related to each other, whereas, mindfulness and the frequency of inner speech were negatively related as expected. The hypothesis about the relationship between mindfulness and self-awareness was not confirmed as they were positively related to each other. The two aspects of self-awareness i.e. self-reflection and insight were found to have orthogonal relationship with each other. Both self-reflection and insight were positively related to mindfulness. Self-reflection and insight were also found to have different relationship with various forms of inner speech. Age, gender and educational level have no moderating effects on the relationship between self-awareness and inner

speech as well as on the relationship between inner speech and mindfulness. The findings about the relationship of demographics to self-awareness, mindfulness and inner speech were also discussed.

It is concluded from the present study that inner speech plays an important role in self-awareness and mindfulness in opposite ways. However, the opposing relationship of inner speech to these two constructs has no effect on their relationship to each other in the same direction as they were found to be positively related.

INTRODUCTION

INTRODUCTION

How it is that anything as remarkable as a state of consciousness comes about as a result of irritating nervous tissue, is just as unaccountable as the appearance of the Djin, when Aladdin rubbed his lamp. Thomas Huxley, 1866.

Somehow, we feel, the water of the physical brain is turned into the wine of consciousness, but we draw a total blank on the nature of this conversion. Colin Mcginn , 1989.

Consciousness evolved some 200 million years ago with the origin of mammals as suggested by John Eccles (1992). According to Eccles, the cerebral cortex of reptiles was underdeveloped and it had to evolve to primitive mammalian cortex to give rise to consciousness. He views consciousness as an evolutionary advantage as it gave mammals' global experience of the world which helped them to guide their behaviour in more sophisticated ways, compared to previously unconscious operations.

Julian Jaynes (1976) considers consciousness to be a very recent development. He believes that the Iliad, an epic poem written by homer, has nothing to suggest about the existence of consciousness as he wrote "There is in general no consciousness in the Iliad....no words for consciousness or mental acts" (p. 69).According to Jaynes those who participated in the Trojan war were not conscious "The Trojan War was directed by hallucinations. And the soldiers who were so directed were not at all like us. They were noble automatons who

knew not what they did" (p.75). Consciousness, in this view, happened after the era of Homer.

The view that consciousness emerged some 200 million years ago and the view that people became conscious after Homeric era seem to be contradictory but it makes sense when consciousness is viewed to exist on a continuum. Primary consciousness may have arisen millions of years ago but reflective consciousness i.e. self-awareness may rise more recently. However, Julian Jaynes's (1976) suggestion still seems to be off the mark about the emergence of self-awareness.

The debate on the concept of consciousness started with Rene Descartes (1996/1941) in renaissance. He suggested that everything can be doubted including his body but what cannot be doubted, is the doubter as he asserted that "I think therefore I am". In other words it is consciousness or conscious thought which certainly exist for Descartes, in contrast to everything else.

Descartes (1644/1911) divided the stuff of the world into two substances i.e. mental and physical. The mental and physical interact with each other but they are fundamentally different substances. His position on the mind/body problem was termed as substance dualism. For Descartes everything mental was conscious and there is nothing in the mind that would be unconscious (Chalmers, 1996).

Helmholtz (1894/1968) argued that perceptions are based on unconscious inference. He introduced the concept of unconscious into science. Freud (1933, 1940) assumed that most of our behaviour is unconscious. Beliefs

and desires can exist unconsciously. The contribution of Helmholtz and Freud showed that a large part of mind is constituted by unconscious rather than consciousness as assumed by Descartes.

Phenomenology is a philosophical approach to understand subjective experience by withholding presuppositions. It was developed in Europe. Husserl (1913/1963) emphasized the role of lived experience in understanding mind. Maurice Merleau-Ponty (1945/1962), Martin Heidegger (1927/1962) and Sartre (1943/1962) contributed to the phenomenological understanding of subjectivity following Husserl.

Wilhelm Wundt is considered to be the founder of scientific psychology. He established the first psychology laboratory in 1879. His method of investigating consciousness was introspection. Titchener (1902) also followed Wundt by adopting introspection for studying the inner mental states. However, introspection as a tool for the investigation of mind was not successful.

Behaviourism at the start of twentieth century replaced mind for behaviour as subject matter of Psychology. Watson (1913) suggested that the domain of psychology should be the study of observable behaviour. He believed that the exclusion of consciousness would remove the gulf between psychology and other physical sciences. Watson asserted that introspection is not required for the science of psychology as it is not needed in physics and chemistry. According to Watson (1924) psychology would become as objective as the game of baseball, when fictional entities like soul and consciousness are eliminated from its domain. Skinner (1969) believed that consciousness

accompanies behaviour but it has no causal role in behaviour. Therefore, he did not eliminate consciousness from his account of behaviourism rather viewed consciousness as epiphenomenal.

After the decline of behaviourism, cognitive psychology returned to the study of mind by assuming inner mental states but it did not account for the phenomenon of consciousness. With the work on altered states of consciousness and mental imagery, consciousness was restored but it was only in 1990s that the interest in consciousness suddenly exploded (Blackmore, 2011).

What is Consciousness?

According to John Searle (1997) " 'Consciousness' refers to those states of sentience or awareness that typically begin when we wake from a dreamless sleep and continue through the day until we fall asleep again, die, go into a coma or otherwise become 'unconscious' ". (p. 5) Searle used two words to refer to consciousness i.e. sentience and awareness. Sentience is synonymous with the word qualia and qualia are used more often to describe or define consciousness. Awareness usually accompanies qualia or conscious experience. Some thinkers define consciousness as awareness or one's access to one's own mind or mental states (Humphrey, 2017). There are others who even deny the existence of qualia (Dennett, 1991). However, qualia are usually considered in the science and philosophy of consciousness as the defining feature of consciousness.

Thomas Nagel (1979) pointed out that an organism is conscious "if there is something that it is like to be that organism - something it is like for the organism''. Chalmers (1996) suggested that if there is something it is like to be

in a mental state then that mental state is conscious which means that conscious mental state has a qualitative feel to it and these qualitative feels are qualia. According to Chalmers, qualia can also be referred to as experience.

We can contrast consciousness with unconsciousness. There is nothing like to be dead or in coma or in a dreamless sleep. There are no qualitative feels or experiences attached to these states. It is also true for our unconscious mind i.e. unconscious motives, thoughts or perceptions. However, there is something like to be engaged in conscious thoughts or fantasy or some kind of imagery.

All conscious mental states have qualia. However, qualia are more vivid in relation to sensations. Take the example of visual experiences e.g. seeing a sunset or seeing a beautiful landscape. There is a strong element of qualitative feels or what 'it is like' to have these experiences which are inaccessible to others. Seeing colours is also a very vivid experience e.g. seeing a red rose, blue sky or seeing purple, pink and green colours. Listening to music is an example of qualitative experience which involves the auditory apparatus. Different tunes evoke different experiences in the listeners. The sensation of the smell of a flower or a perfume has certain feels which cannot be captured by words or the experience cannot be fully conveyed by language. In the same way, the taste of chocolate or other sweet foods involve distinct experience from other sense modalities. The same is true about the taste of bitter foods.

To appreciate pain, one has to go through the experience of pain. If a person is immune to the experience of pain due to some neurological reason and he has never experienced pain in his life, then no amount of conceptual

knowledge will help him to understand the true nature of pain because of his lack of access to the experiential aspect of pain.

Consciousness as awareness is defined by Farthing (1992) as "The subjective state of being currently aware of something, either within oneself or outside of self" (P.6). He includes body sensations and perceptual awareness of objects and events, imagery scenes, knowledge and memories of the past in conscious awareness. According to farthing there could be few contents in awareness at one time due to its limited capacity. The concept of consciousness can be understood by the help of some popular thought experiments.

What is it like to be a Bat?

This is the most popular thought experiment to understand the concept and problem of consciousness. Thomas Nagel (1979) used bats as an example to highlight the mystery of consciousness because as mammals they are closely related to humans in evolution; however, their sensory organs to navigate the world are very different from humans. Bats use echolocation to identify objects by their squeaks. They discern the size and shape of objects by their reflected echoes. This is analogous to the function of visual system in humans. However, we knew that the experience of bats must be very different from our visual experience. We can try to imagine imitating the behaviour or life style of bats to get access to their experience but it would not give any clue to bat's subjectivity because we are stuck with our own subjective experience. We can envisage the physical transmutation of ourselves into bats in a gradual manner or by owning the neurophysiological make up of bats. However, that would also

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be meaningless from our present standpoint to get access to the what 'it is like' for a bat.

This thought experiment helps to understand the essence of consciousness in the sense of what it is like for an organism, which can be used as a criterion for the existence of consciousness. For example, this question can be asked with regards to animals that what it is like for a cat or dog or some other animal. There seems to be something what it is like for a dog or cat which means that they are conscious but if this question is asked with regard to non-living matter i.e. stones or rocks, then the answer would be negative because there is nothing to be like for a stone or a rock.

The thought experiment also suggests that it is not possible to have an evidence or proof for the existence of consciousness. The existence of consciousness in other people and other species can be assumed by biological and behavioral similarities but this assumption can be completely wrong because of the absence of direct evidence of consciousness. This is also referred to as the problem of other minds in philosophy. A person cannot be certain about the existence of consciousness in any other person or animal except in himself.

The Knowledge Argument

According to Frank Jackson (1982), no amount of physical information about the world can account for consciousness. Jackson suggests that if we have complete knowledge of how the brain works and how it interacts with other brains, it would still not reveal anything about the conscious experience. To demonstrate his point, he imagines the following scenario.

Marry is a gifted scientist. She lives in a black and white room and examines the outside world with a television monitor which is also black and white. She is an authority on the neuroscience of vision. She knew all about the neural states which involve colour perception and she has also found out about the underlying physical processes which are associated with the use of certain words for certain colours. One day marry leaves that room and see the colours in the external world. She certainly learns something which was missing from her previous knowledge of colours.

This thought experiment suggests that the study of human brain in response to environment or the observance of overt behaviour in response to external stimuli as the behaviourist did, exclude an important part of reality i.e. consciousness or conscious experience. Marry knew about all the physical processes which are associated with colour perception but she never saw the colours herself. Therefore, how it feels to experience colours is different from the knowledge of how colours are perceived.

The knowledge argument highlights the experiential aspect of our lives. Experience can never be grasped by the acquisition of non-experiential knowledge. Experience adds something to one's knowledge and mental life which is absent from the knowledge of the physical world. The crux of the argument is that the possession of all physical information about the world does not mean all the information about the world (Jackson. 1982. p. 130).In other words, knowledge of the world or reality would always be incomplete without accounting for consciousness.

The Chinese Room Argument

Alan Turing (1950) developed a test for determining the existence of conscious thought in machines. It is also referred to as the Turing test for consciousness. According to Searle (2004), the Turing test states that if an expert is unable to distinguish between the behaviour of a machine and the behaviour of human being, this means that there is no difference between the understandings of the two. To refute Turing's claim, Searle developed a thought experiment which is now called as "The Chinese room argument" against machine consciousness.

Searle (2004) imagine that he is confined in a room where he receives questions in Chinese from outside. He does not understand Chinese. However, he has loads of Chinese symbols along with a manual. He arranges symbols according to the instructions of the manual in response to the received symbols. He submits those symbols and they are judged as perfect answers to the questions. Searle conclude "We can suppose that I pass the Turing test for understanding Chinese, but, all the same, I do not understand a word of Chinese" (p. 90).

To understand Chinese room argument, considers this scenario. Suppose you are chatting with someone on internet. You type words and sentences and you get responses from the other side that make sense. You are pretty sure that you are conversing with another human being. However, that someone else turns out to be a machine or robot. That machine would be considered conscious, according to the criteria of Turing test, but, in fact, it is not conscious.

The Chinese room argument shows that a machine can produce complex contents without understanding the contents itself like the person in the Chinese room. Therefore, intelligent behaviour of a machine is not enough for the existence of consciousness.

The Conceivability of Zombies

According to David Chalmers (1996), zombies are logically possible and we can also conceive a zombie world where everyone is zombie. Chalmers envisages his zombie twin which is physically identical to him in every respect. That being is receiving exactly the same environmental input and his behaviour or response to environmental stimuli is also the same as the real Chalmers. He walks and talks like Chalmers but all the same he is not conscious.

Chalmers's (1996) argument about the existence of zombie in the case of identical functions and behaviours can be disputed because identical brains must be conscious as consciousness is caused by brain. However, the point of the conceivability argument is to show that consciousness cannot be equated with functions and behaviours. For example, a robot in the future may be as intelligent as or more intelligent than humans but may not have consciousness. The same would be true of intelligent aliens even if they claim to have consciousness because talking or arguing about consciousness does not necessarily imply the existence of subjective experience.

Searle (2004) suggested that consciousness has certain features which include qualitativeness, subjectivity, unity, intentionality and a centre as well as periphery. According to Searle, conscious states are qualitative in the sense that

they have qualitative feel related to those states. Conscious states must be experienced by an animal or human subject and therefore they have a subjective mode of existence. Consciousness cannot exist in bits and pieces. It exists as a single, unified conscious field. Conscious mental states have a capacity to refer to something or they are about something. This "aboutness" is called intentionality. While attending something, a person has some faint awareness of other things i.e. noise, music etc at the periphery of consciousness, whereas those things which are attended will form the centre of consciousness.

The Hard Problem of Consciousness

Minds have both objective and subjective aspects. Chalmers (1995) formulation of easy and hard problem of consciousness is related to these aspects of mind respectively. The easy problems of consciousness include a person's ability to discriminate external stimuli, report on his mental states and the integration of information in the brain and its consequent use in the control of behaviour. Chalmers believes that easy problems are also difficult to explain but they can be solved in the future by the scientific research in neuroscience and psychology. On the other hand, the hard problem is to explain how the brain creates consciousness or subjectivity. Subjective consciousness is about qualia i.e. the raw feels or experiences related with hearing a sound, seeing colours and experiencing pain or stream of thoughts etc.

The hard problem of consciousness is also referred to as explanatory gap (Levine, 1983). There seems to be an unbridgeable gap between brain and consciousness. If science establish a strong association between certain

neuronal activities and certain conscious mental states, that would not bridge the gap between the two. That would represent the neural correlates of consciousness but how the brain produce or create consciousness would still remain a mystery. Many philosophers and scientists believe that the hard problem of consciousness can never be explained. The philosopher Colin Mcginn (1989) believes that humans may not be equipped with the kind of cognitive tools which are required for solving this problem. He coined the term "cognitive closure" to represent our limited capacities to solve certain riddles of existence including consciousness.

Various Forms of Consciousness

Ned Block (2002) described different kinds of consciousness. He divided them into four main categories. According to block phenomenal consciousness is experiential consciousness. Any mental state can be termed as phenomenally conscious when it has experiential properties. The experiential features of sensations, perceptions and feelings as well as desires, emotions and thoughts are examples of phenomenal consciousness. Access consciousness happens when a representation is broadcast for use in reasoning and for the rational control of action. It also includes reportability. Self-consciousness exists when someone has the notion of self and the capacity to use that notion in his thinking. Monitoring consciousness has different versions. Inner perception is considered to be one form of monitoring consciousness. Another would be internal scanning.

Schooler (2002) described two kinds of consciousness i.e. consciousness and meta-consciousness. He further divided the dissociation between

consciousness and meta-consciousness into two forms which include temporal dissociations and translation dissociations. According to Schooler there is a difference between having an experience and to be aware of the experience itself. The former represent consciousness and the latter correspond to meta-consciousness. Examples of consciousness without meta-consciousness include not knowing that one's mind wanders away while reading or not aware that one was writing from many hours. Consciousness is re-represented in the state of meta-consciousness and it also entails describing, interpreting or characterizing one's state of mind. Temporal dissociations between consciousness and meta-consciousness happen when meta-consciousness is turned towards an experience which occurs previously without explicit awareness e.g. mind wandering, dreams, hypnosis, flow states and automatic behaviours such as driving without awareness. Translation dissociation occurs when the contents of consciousness are re-represented as some information is lost or get distorted in the process. This can happen when one reflect verbally on non-verbal experiences e.g. on the taste of wine or one's feelings.

Armstrong (1981) account of different kinds of consciousness includes minimal, perceptual and introspective consciousness. He suggests that a person is always minimally conscious as some mental activity is going on in his mind. Perceptual consciousness is the consciousness of what is taking place in the environment as well as in one's body. Armstrong illustrate this kind of consciousness with an example A truck driver after driving long distances, realizes that he was not aware of what was happening around him which means that he was conscious in the sense of perceptual consciousness during the time

of driving but he was unconscious in the third sense of consciousness i.e. introspective consciousness. Introspective consciousness is the perception of one's mental states. Without this kind of consciousness there would be no personal history and no self-awareness as it is also important for memory or recall. Armstrong's account of the minimal consciousness seems to be problematic because for anything to be conscious there must be something it is like for the animal or human subject (Nagel, 1979) and without qualia, there can be no conscious mental states.

Farthing (1992) views primary consciousness as the direct experience of thoughts, memories and feelings. It also includes sensory percepts and emotional feelings which are primitive and which exist in animals and children. According to Farthing, on another end is the reflective consciousness which is the act of reflecting on one's own conscious experience. Reflective consciousness is a prerequisite for self-awareness.

Mindfulness is another kind of consciousness which is about the present moment awareness, whereas self-awareness includes the awareness of the past and the future. The present study investigated these two distinct kinds of consciousness i.e. self-awareness and mindfulness in relation to inner speech.

Self-Awareness

Duval and Wicklund (1972) defined self-awareness as the capacity of becoming the object of one's own attention. Self-awareness can be induced by exposing a person to television cameras (Duval, Wicklund & Fine, 1972), mirrors (Wicklund & Duval, 1971) or someone's own recorded voice (Ickes,

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Wiklund & Ferris, 1973). Self-awareness can exist in the form of a state as temporary state of awareness of oneself and it can also exist as a permanent characteristic of a person in the form of a trait. Self-awareness in the form of trait is also referred to as dispositional self-awareness. Dispositional self-awareness represents an individual's innate characteristic or ability to inhabit self-awareness. A self-aware person is not only aware of his present but he or she is also aware of his or her past and future. Self-awareness is accompanied with the capability of reflecting on the past as well as future. A person having self-awareness is aware of the fact that he or she is different and separate individual from others.

Fenigstein, Scheier, and Buss (as cited in Morin, 2006) divided self-awareness into private and public self-aspects. They suggested that a self-aware organism will attend to private self-aspects or public self-aspects. Private self-aspects are unobservable, which include values, goals, emotions, perceptions and sensations. Physical appearance and behavior are public self-aspects which are externally visible. Morin (2006) believes that private self-focus is a higher form of self-awareness because of its conceptual and abstract nature compared to the public self-focus.

Self-awareness is distinct from self-concept and self-esteem. According to Heatherton and Wyland (2003) self-concept denotes beliefs about oneself which include facts such as name, appearance, race, values, likes and dislikes. On the other hand self-esteem refers to one's judgment about one's self concept (McEachron,1993). Therefore Self-awareness differs from self-concept and

self-esteem as it is defined as awareness or attention, which is directed towards oneself.

Alain Morin (2011) suggest that self-awareness has certain functions which include Self-knowledge, Self-regulation and the ability to attribute mental states to others i.e. theory of mind. According to Morin, accurate self-reports are produced by self-aware individuals rather than non-self-aware individuals. Self-regulation is the capacity to change one's behaviour and mental processes accordingly which require self-evaluation and self-evaluation is not possible without self-awareness. The attribution of mental states to others i.e. theory of mind is also associated with self-awareness. Children develop this capacity at the age of six which is related to the acquisition of language.

Baumeister and Bushman (2011) described certain consequences of being self-aware. They suggest that Self-awareness is usually accompanied by evaluation of oneself. This self-evaluation is carried out by comparing oneself to the standards. Standards exist in the form of norms, morals, ideals and expectations. When people are aware that they fall short of standards, they feel bad and this bad feeling leads to two reactions i.e. change or escape. The change can involve improving oneself or solving the problem but it can also involve changing one's standards. The other reaction to get rid of the bad feelings is to reduce or avoid self-awareness which involves drinking alcohol, binge eating and suicide. Morin (2011) suggested emotional intensity as another consequence of self-awareness.

Rochat (2010) gave an account of the developmental course of the emergence of self-awareness. According to Rochat, conscious experience emerges in fetuses 8 to 10 weeks before birth and by 30 to 32 weeks of gestational age. Around 18 months, the implicit sense of self-awareness is transformed into explicit self-consciousness as children start using the words "I" and "Me". Self-conscious emotions in the form of embarrassment, contempt, pride and shame are also displayed by children in this age. Meta-cognitive abilities emerge at the age of 2 to 3 years which endowed the child to self-reflect before taking action. At the age of 21 months, children have been found to pass mirror mark test which is used for identifying self-awareness. The social self also start to emerge from this age. From the age of 2 to 5 years and beyond, moral self-awareness take root as the child is increasingly concerned with moral issues i.e. equity and sacrifice. At the age of 5, the child exhibits executive functions such as inhabiting selfish inclinations and immediate self-gratification by considering the motives and perspectives of others.

Morin (2006) specified various levels of self-awareness in the context of Mead's (1934, as cited in Morin, 2006) distinction between consciousness and self-awareness i.e. outward attention to the environment is consciousness whereas inward attention to the self is self-awareness. He divided the levels of self-awareness into three kinds i.e. minimal self-awareness, self-awareness and meta self-awareness. According to Morin, consciousness or minimal self-awareness exist when an organism is not reflecting on sensations, perceptions and thoughts and therefore fully engaged in the experience of these mental states. The attention of the organism is directed to external environment but in

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order to interact with his environment the organism is also minimally aware of himself. In contrast, self-awareness is reflectively observing what is going on in one's mind or what one is doing. Language is necessary for the existence of self-awareness. Self-recognition is a lower form of self-awareness because self recognition does not imply the awareness of one's own mental states. The highest form of consciousness is the awareness of one's awareness itself i.e. meta self-awareness. In the state of meta self-awareness, a person would not only experience anger but he would also be aware of his anger and he can analyse his anger as well.

Self-awareness in humans has been found to be accompanied with inner speech. Through Inner speech a person organize his or her experience of the world into a meaningful narrative. The present study investigated self-awareness as it exists in the form of trait or as dispositional self-awareness. Self-awareness is also referred to as self-focused attention.

Mindfulness

Mindfulness can be defined "as a receptive attention to and awareness of present events and experience" (Brown, Ryan & Creswell, 2007a, p-212).The concept of mindfulness comes from Buddhism; however, similar concepts can also be found in some western philosophical traditions e.g. existentialism, phenomenology and transcendentalism. (Brown et al., 2007a)

Mindfulness can be viewed as a state as well as a trait. As a state it can be experienced momentarily but as a trait it is considered as innate characteristic of an individual and therefore the capacity to be more or less mindful differs from individual to individual. This innate disposition to be mindful is also called

as dispositional mindfulness. Mindfulness can also be acquired through a certain set of techniques which are used in spiritual practices as well as in clinical setting. The current study investigated mindfulness as it exists in the form of trait or as dispositional mindfulness.

A person in a mindful mode is aware of the contents of his or her experiences i.e. thoughts and emotions as well as what happens in external environment. The events, internal or external are just noticed and observed. Mindfulness is disidentification with one's mental contents as well as with the world. In the state of mindfulness, a person is focused on present rather than past or future. According to Leary and Tate, (2007)one cannot attend the present experiences if he is constantly engaged in self-talk and therefore people are instructed in mindfulness training to continually bring their attention to breath or asked to describe their experiences with non-evaluative labels for reducing self-talk.

Brown et al, (2007a) states that a Zen metaphor equates mindfulness with a mirror where the mind reflects whatever takes place without adding anything and this mirroring can also result in an insight about reality. According to Brown et al., various factors can contribute or negatively affect the development of dispositional mindfulness, which include genetics and influences of the society and culture as well as factors such as fatigue, stress and life style. They suggested that the effects of society are not only evident in the case of physical and sexual abuse but excessive external control and conditional self-worth can also reduce mindfulness.

Inner Speech

Inner speech is the activity of talking to oneself silently (Zivin, 1979). It is like a silent verbal running commentary on events. Other terms used to refer to inner speech are internal monologue, self-statements, self-verbalizations, sub-vocal speech and self-talk (Burnett, 1996).

Vygotsky,s (as cited in Morin, 2009) theory is important in understanding the development of inner speech. According to Vygotsky, culture not only provides much of the contents for the thought processes of the child but it also instructs the child how to think and thus contribute to the child's cognitive development. A child learns problem solving with the help of his family members, peers and siblings. Language plays an important role as information is conveyed to the child through language by people around him. Afterwards, the child uses that information by talking to himself aloud and then as inner speech to guide his behavior. In this way, the child internalizes the skills and knowledge to regulate his behavior, which once existed outside of him. All this internalization of information is accomplished through inner speech. According to Morin (2009) Vygotsky's theory suggest that inner speech arises from social speech and its main function is self-regulation.

The frequency of inner speech can be distinguished from the contents of inner speech. The frequency of inner speech represents how frequently a person engages in inner speech or how often he talks to himself. It has nothing to do with the contents of inner speech. On the other hand, the contents of inner speech represent the positive, negative or neutral aspects of inner speech. The

current research explored both these aspects of inner speech in relation to self-awareness and mindfulness.

Hurlburt, Heavey and Kelsey (2013) referred to inner speech as inner speaking. They described various characteristics of inner speaking and distinguished it from other related processes. According to Hurlburt et al., inner speaking can be aimed at oneself, a particular other or to no one in particular. It is full of emotions and its frequency ranges from zero to 100% in different individuals. There can be missed words in the sentence without interrupting the continuity of the inner speaking. Mostly, a person feels to be in control of inner speaking but sometimes he feels to be the recipient of it. Sometimes it is comprised of words with no meaning. Inner speaking can be faster or slower than external speaking but mostly it is absent in the presence of external speaking. However, sometimes it is preceded or accompanied by inner speaking which may be different from external speaking. Inner hearing is not inner speaking because the words are not produced by an individual but they are emanating from somewhere else. Thought for the most part is unconscious but inner speaking must be conscious to exist.

Morin (2009) suggested that there are three main functions of inner speech which include self-regulation, language and memory. Self-regulation involves problem solving, decision making, planning and setting short and long term goals which require inner speech. Inner speech is also required for different aspects of language functions i.e. writing, calculating, speaking and reading. Working memory involves a storage component, a rehearsal and an executive component. The rehearsal component is specifically related to inner speech.

Inner Speech and Consciousness

Inner speech plays an important role in consciousness according to various theories of consciousness. Global workspace theory (Baars, 1997) referred to working memory as a stage in its account of consciousness based on theater metaphor. The two important components of working memory are inner speech and visual imagery. Conscious contents emerge when the spotlight of attention falls on the stage.

According to Gazzaniga (1985) consciousness resides in the left hemisphere. He also located the interpreter module in the same hemisphere which is responsible for the interpretation of behavior. Although various modules in the brain affect behavior but the explanation for behavior comes from the "interpreter" in the left hemisphere. The interpreter makes sense of one's behavior. The explanation provided by the interpreter may be false but it serves to unify and integrate information received from different modules. Although Gazzaniga's (1985) interpreter is not synonymous with language, however it is closely associated with language and therefore it highlights the importance of language or inner speech in consciousness.

Inner speech is considered to be a conscious vehicle for expressing unconscious thought in Intermediate level theory of consciousness. Jackendoff (1997) believes that thought is completely unconscious but thought express itself consciously through inner speech as he wrote

When we engage in what we call conscious thinking, we are usually experiencing a talking voice in the head, the so-called

stream of consciousness...For most of us, this voice never shut

up---we have to do Zen or something to make it quiet in there.

But we know that phonetic form is not the form of thought; it is

rather a consciously available expression of the thought. (p.187)

It can be argued that the positive association between inner speech and

consciousness is true for access consciousness (e.g. self-awareness) but not for

phenomenal consciousness. Mindfulness is comprised of both phenomenal and

access consciousness. Present moment awareness in mindfulness represents the

former whereas awareness of one's mental states represents the latter. However

access to one's mental states is carried out in such a way in mindfulness which

enhances attention and reduces inner speech. Mindfulness is hindered by

frequent inner speech. Inner speech distracts the mind to be more mindful. In

mystical and spiritual traditions, mind is identified with access or reflective

consciousness, (i.e. self-consciousness involving inner speech) whereas the

absence of reflective consciousness is referred to as the state of 'no mind'. This

state of 'no mind' is achieved by eliminating inner speech.

Self-awareness, Mindfulness and Inner speech

We can compare mindfulness and self-awareness and their relationship

to inner speech in the context of the levels of consciousness. On the continuum

of consciousness, mindfulness would be a higher form of consciousness

compared to self-awareness if a person is aware of his thoughts or inner speech

and reduces it intentionally to become more mindful. Mindfulness would be a

lower form of consciousness compared to self-awareness when it is innate or

dispositional because of more reflection in self-awareness and naturally occurring less reflection and inner speech in dispositional mindfulness. However, dispositional mindfulness would be an advance form of consciousness than minimal or mere awareness found in animals and children. Inner speech would be absent in minimal or mere awareness whereas it would be less in mindfulness compared to self-awareness where it would be more frequent. The higher frequency of inner speech in case of self-awareness would reduce the phenomenal experience and would increase the access to one's mental states. The less frequency of speech in case of mindfulness would increase the phenomenal experience and reduce the access to the mental states. However, the latter would be true of dispositional mindfulness. In case of acquired mindfulness one can expect less inner speech but enhanced awareness of one's mental states due to the employment of attention which means that acquired mindfulness may be comprised of both the phenomenal and monitoring consciousness.

It can be argued that inner speech would have opposite relationship to access (i.e. self-awareness) and phenomenal consciousness. Although mindfulness have both phenomenal and access components but the latter is also related to less frequency of inner speech as access to one's mental states is acquired through attention rather than inner speech and therefore the negative relation of inner speech would apply to mindfulness also as it is true of phenomenal consciousness.

The current study was designed to investigate the relationship of inner speech to self-awareness and mindfulness. Due to the opposing relationship of

inner speech to self-awareness and mindfulness, the research also investigated the relationship between these two forms of consciousness to each other.

Literature Review

Self-Awareness and Inner Speech

Mark Leary (2004) observed that the emergence of both language and Self some forty thousand years ago shows a strong association between the two. According to Leary there is minimal evidence for the kind of Self which the modern humans possess prior to sixty thousand years ago. Simple tools existed but there was no art, technology or culture. It was between forty and sixty thousand years ago, when cultural big bang happened, as tools became more refined and the first body adornments appeared which shows that people were concerned about their appearance and the views of others. Leary further suggested that cultural big bang was the consequence of the arrival of Self and as self-awareness is produced for the most part by inner speech therefore both are positively related to each other.

Dennett (1992) wrote that the speech of our early ancestors was not conscious. They would just utter things without any understanding. They would cry or shout in a state of pain or suffering and sometimes they would receive help from others. While solving a difficult problem, these ancestors, would ask questions, not directed to anyone but sometimes their questions would be answered by others by giving them some assistance. In this way, they developed the habit of asking for help and asking questions. One day there was no one around to answer the question asked by one of the ancestors. He heard himself

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asking question and then answer it by himself. In this way, he established the link between the two parts of brain, which were inaccessible previously i.e. hearing and speech. This might be the origin of talking to oneself. Talking aloud was having disadvantage of giving more information to people around and thus the internalization of external communication took place which resulted into conscious thought.

Dennett's (1992) musings on the evolution of conscious thought through language suggests an intimate relationship between self-awareness and inner speech. Self-awareness cannot develop without language as we can observe it in the case of infants and animals. They can have some rudimentary form of self-awareness i.e. self-recognition but they cannot have the kind of abstract self-awareness which the human adults have due to the possession of language.

The importance of inner speech in self-awareness has been pointed out by many thinkers. Flanagan (1992) suggested that self-awareness requires a long conversation with oneself over a period of time. Briscove (2002) believed that higher consciousness is produced by inner speech rather than language. Caruthers (1996) stated that our stream of consciousness is mostly dominated by inner speech. Simonov (1999) suggested that the ability of talking to oneself meaningfully is necessary for the existence of self-awareness. Popper and Eccles (1977) speculated that self-awareness and language share the same origin.

Empirical findings suggest that inner speech is not only an important conscious phenomenon but it is also positively related with self-awareness.

Inner experience was investigated by using a beeper (Heavy & Hurlburt, 2008).The participants were asked to report, whatever they were experiencing at the time of probe. Inner speech was one of the five inner experiences reported by the subjects. Other inner experiences include imagery, feelings, sensory awareness and thought without symbols.

Morin, Uttl and Hamper (2011) investigated inner speech by using open-format thought-listing procedure. The sample consisted of 380 under graduate university students. They found that the inner speech of the participants was for the most part about the Self. Inner speech was also found to serve self regulatory functions. Uttl, Morin, Faulds, Hall and Wilson (2012) probed inner speech by using cell phones. Participants were found to be talking to themselves 50% of prompt occasions. This was higher compared to 25% of the frequency of inner speech found by the previous study (Heavy & Hurlburt, 2008).

Inner speech has been found to be positively correlated with high self awareness in various studies. Morin (1992, as cited in Morin 2005) administered questionnaires for assessing inner speech and private self consciousness, to French speaking participants. Inner speech and self consciousness were found to be positively related in this study. Many other studies found strong relationship between inner speech and self-awareness (Siegrist, 1995; Morin, Everett, Turcotte & Tardif, 1993 as cited in Morin,2005; Schneider, Pospeschill & Ranger, 2005; Schneider, 2002).

Left interior frontal gyrus (LIFG) produces both inner speech and outer speech (Morin, 2011b). As inner speech and self awareness are correlated,

Morin and Hamper (as cited in Morin, 2011b) predicted that significant number of brain imaging studies should have an activation of LIFG. They reviewed 134 studies, assessing brain activity during self referential tasks. LIFG activity was found in sixty percent of studies related to self awareness tasks. The frequency of LIFG activation was higher during conceptual tasks (70%) as compared to perceptual tasks (25%).

Mindfulness and Inner Speech

If inner speech is positively associated with self-awareness then reducing inner speech would reduce self-awareness. The spiritual and mystical literature contains many allusions to the reduction of inner speech through mindfulness. The inner speech in this literature is referred to as inner voice, voice in the head, internal dialogue, brain chatter, self chatter and self talk.

Eckhart Tolle (2004) is a renowned mystic of the present time. He is the author of the bestselling books, *"The Power of Now"* and *"The New Earth"*. He wrote that most normal people are continuously talking to themselves like insane people. The difference between the two is that the former talk silently whereas the latter talk loudly to themselves. Tolle believes that this inner voice is the source of all sufferings because of its evaluative nature. He suggests that the core of ego is the identification with this voice in the head. According to Tolle, the recipe for overcoming inner speech is to observe it with mindful, nonjudgmental awareness.

It can be contented that the inner speech creates distress because it causes duality in one's mind by dividing the mind into two parts. The evaluative

or judgmental part becomes the Self or Ego whereas the objects of judgment comprise the other part. Therefore, inner speech creates a gulf between the subject and object. In this way it breaks the unity of conscious mind or non-dual consciousness. In other words, Self is constructed by the self-talk and when it is minimized or reduced through awareness or detachment, the Self is also dissolved or deconstructed.

The Indian mystic Osho (2012) considers continuous chattering as a fundamental feature of the mind as there is continuous inner talk during all of our activities. He recommends that one should identify with the gaps between words rather than the words themselves, which is the goal of meditation. According to Osho, words represent figures, whereas silence represents the background. He believes that to change the gestalt we should attend the pauses between the words and that will free us from the grasp of self talk. (p.29).Thus, the route to spirituality is to silence the mind by reducing inner speech through mindfulness or meditation.

Carlos Castaneda (1974/1991) was an anthropologist who wrote many books about his experiences while receiving training in shamanism from a sorcerer, Dan Juan. Castaneda wrote that according to Dan Juan, our world view is constructed by our inner speech which is a biased and distorted view. Dan Juan believed that the way to overcome this world view is to overcome inner speech and that is the essence of sorcery.

Jill Bolte Taylor (2006) is a neuroanatomist. She experienced a stroke in her left hemisphere, which impaired her inner speech. She termed the stroke as the stroke of insight as she got many insights through that stroke. She referred to

inner speech as "brain chatter". She wrote that the language center in our left hemisphere construct ours Self by rehearsing the details of our life again and again through inner speech and this inner speech is where the Ego resides. She believes that, in the absence of inner speech we would lose our identity.

Taylor (2006) also reported the loss of the sense of time which is one of the main features of spiritual experiences. She stated that when the voices in her head became silent, her past and future also disappeared as her memories of past and her dreams of future were maintained by the inner voice. In the absence of past and future she was completely immersed in her present. Her Self disintegrated and she felt like a fluid rather than a solid entity as she described her condition "deep within the absence of earthly temporality, the boundaries of my earthly body dissolved and I melted into the universe." (p.49) Taylor believes that she moved into a form of being which is dubbed as nirvana in Buddhism. During her recovery, she reported that her solid self returned and she once again felt as separate individual. Alain Morin (2009) wrote a paper about the experiences of Taylor where he showed that Taylor's account seems to be consistent with the relation of inner speech to self-awareness.

It can be argued that Taylor's (2006) account of her stroke also suggest that inner speech is inversely related to mindfulness because after the disappearance of her inner speech she became more mindful. She also lost the sense of herself which shows that mindfulness and self-awareness are related to each other in opposite ways. Taylor's experiences of ecstasy, calm and bliss are typical features of mystical experiences and all these experiences were linked to the impairment of inner speech. People practice mindfulness for years to have

mystical experience and few of them are lucky to achieve this goal but Taylor was lucky enough to achieve all this with the help of a stroke.

Mindfulness is rooted in different schools of mysticism but it is not restricted to those schools. Nowadays, mindfulness is very popular in the west even in free thinkers. Sam Harris (2014) in his book" *Waking Up: A Guide to Spirituality without Religion"* wrote that meditators have shown that we need not to identify with our self-talk and seeing that possibility would eliminate the self. According to Harris, the goal of spiritual life is to become free from the self. He believes that the claim that the self is an illusion is a neurological fact as the brain work as a whole to create our mental lives and there is no center in the brain where the self can be found.

Dan Harris (2014) is a journalist and sceptic who wrote about his struggle to take control of his inner speech by undergoing some painful training in mindfulness. In his book *10% Happier,* he recommends meditation for neutralizing inner speech and for minimizing self-awareness. He indicated that just focusing on the breath disrupts the cycle of thought, restrain the ego and makes us more mindful. According to Dan Harris, the inner speech in his head is still despicable but "Mindfulness now does a pretty good job of tying up the voice and putting duct tape over its mouth." (p.220).

Douglas Hofstadter (2007) rather critically observed that the followers of Zen and other mystical traditions have distaste for language. They also dislike dividing the world into categories and therefore they recommend their amusing 'koans' to encounter this widespread ingrained propensity for words. Like

mystics, Hofstadter do considers the Self to be an illusion. However, he believes that the Self cannot be erased because it is not possible to survive in the world without Self. The idea of selflessness can be no more than wishful thinking according to Hofstadter.

Leary (2004) suggested that the different forms of meditation have single purpose i.e. to reduce the frequency of inner speech. He attributes most of the positive effects of meditation i.e. peacefulness and relaxation, to the reduction of inner speech. Usually, the running commentary in our heads is not objective but is full of biases and distortions according to Leary. Therefore, the resulting self-awareness feels unpleasant. Leary suggests that mediators use different techniques to reduce self-awareness by reducing inner speech. One is to focus on present experience. Self-awareness is reduced by focusing on one's surroundings in walking meditation which also reduces inner speech. Mystics arrange their surroundings in such a way that excite the sensory faculties and therefore divert one's attention from inner speech. Another strategy for overcoming self-awareness is by experiencing the world without judgment or inner speech.

Self-Awareness and Mindfulness

Talking to oneself or inner speech is linked to self-awareness in theoretical terms (Jaynes, 1976; Dennett, 1992; Leary, 2004) as well as in scientific research (Morin & Hamper, as cited in Morin 20011b; Morin & Michaud, 2007; Morin, 1992, as cited in Morin 2005; Siegrist, 1995; Morin et al, 1993 as cited in Morin 2005; Schneider, Pospeschill, Ranger, 2005;

Schneider, 2002). In the absence of inner speech, a person would have simple awareness but she would not have a self or self-awareness (as it was in the case of Taylor, 2006).This can also be observed in human babies and brutes. Due to the absence of inner speech or language, they do not have Selves i.e. they do not view their lives in the context of past and future. They are stuck in the present. As inner speech constructs the Self, mindfulness is aimed at deconstructing the self by reducing the inner speech (Tolle, 2004; Osho, 2012; Castaneda, 1974/1991; Taylor, 2006; S. Harris, 2014; D. Harris, 2014; Leary, 2004). Therefore, there is an inverse relationship between self-awareness and mindfulness as in the former, inner speech builds self-awareness, in the latter, mindfulness dissolves the Self by diminishing the inner speech. Thus, the fundamental distinction between the two is the involvement of inner speech in opposite ways i.e. increase in self-awareness and decrease in mindfulness.

While using different and rather somewhat opposite terminology, Osho (2012) differentiated between self-awareness and mindful-awareness by suggesting that in the former the emphasis is on the Self whereas in the latter, the emphasis is on awareness. He believes that "If the emphasis is on the 'self' it is a disease. If the emphasis is on the 'consciousness' it is health. very subtle, but a very great difference" (p. 104). Osho states that we are always preoccupied with the opinions of others in the state of self-awareness and therefore it is unpleasant, but in a state of mindful awareness we are not negatively affected by the opinion of others because we are non-judgmentally aware of it.

Baumeister (1991) considers Self to be burdensome. He states that people flee from self-awareness by various ways i.e. suicide, alcoholism, masochism and many other ways. All these flights from Self are harmful but there is a good way to get rid of self-awareness and i.e. spirituality. Baumeister wrote that the purpose of meditation and related practices is to grasp the oneness of being and non existence of separate selves.

According to Baumeister (1991), meditation deconstructs the Self in various ways. He suggests that Self is deconstructed primarily by the rejection of meaning. Meaningful thought is essential to self-awareness as one analyzes whatever happens. This habit is countered by asking a person not to judge or analyze the events or one's own thoughts. In the same way, meditation is about focusing attention on concrete and banal things. A good example is focusing one's attention on breath. One can get rid of most of the Self by focusing on one's body. Self-awareness is also reduced through limiting the time span to the present.

The psychiatrist Mark Epstein (1995) wrote that the complete elimination of the Self is the aim of meditation in Buddhism. He believes that mindfulness is one of the important tactics to achieve that goal. Mindfulness can also be the source of mystical experience by reducing self-consciousness as Jonathan Haidt (2006) suggested that minimizing Self through any means can result in mystical experience. Self-awareness and mindfulness are also opposed to each other due to their opposite effects or consequences. Most existentialist thinkers believed that self-consciousness is a kind of disease (Solomon, 2006).

On the other hand, meditation and mindfulness is recommended as a recipe for overcoming self-consciousness (Baumeister, 1991; Leary, 2004).

Brown, Ryan and Creswell (2007a) suggested that consciousness has two fundamental capacities. The one is monitoring or observing and the other is control. Self-awareness is a form of consciousness, where a person decides to attend something based on his goals. Self-regulation based on self-awareness is to promote Self or the identity. On the other hand, mindful awareness is observing or monitoring whatever is occurring in the conscious field. In this mode of processing, consciousness is differentiated from its mental contents. Brown, Ryan and Creswell (2007b) suggest that mindfulness is related to monitoring whereas self-awareness is related to control.

Teasdale (1999) differentiated among three modes of processing; Emoting refers to complete involvement in experience or emotion without awareness, conceptual mode refers to evaluation of one's experience and experiential mode refers to the awareness of whatever is taking place. In this account conceptual mode represent self-awareness and experiential mode represent mindful awareness.

According to Sartre (1943, as cited in Catalano, 1985) there are two kinds of reflections I.e. pure and impure. Pure reflection is focusing on oneself or becoming the object of one's attention. It is non-propositional. Impure reflection is also focusing on oneself but it is propositional. In other words one is attending oneself without thinking whereas another is attending oneself through thinking. Therefore Sartre's account of pure reflection corresponds to mindfulness whereas impure reflection corresponds to self-awareness.

The fundamental difference between the two is that self-awareness is evaluative whereas mindfulness is non-evaluative. In mindful awareness, mental contents are not judged but just observed and noticed. A thought is not judged as bad or good but noticed as thought in neutral terms. An emotion of love, anger or sadness is not considered to be bad or good but they are experienced non-judgmentally. Mindfulness, in its essence, is non-discriminatory awareness. Self-awareness, on the other hand, is a kind of awareness where mental contents are evaluated. A thought is not just a thought but it is also evaluated as negative or positive thought. Some beliefs are judged as true where other beliefs are termed wrong. Self-awareness is a form of discriminatory awareness.

Mindfulness and self-awareness were found to be distinct from each other in some studies (Brown & Ryan, 2003; Beitel, Ferrer & Cecero, 2005).Mindfulness was also found to be negatively related to psychological disorders in various studies (Erisman & Roemer, 2012; Kohls, Sauer, & Walach, 2009; Brown & Ryan, 2003; Bränström, Duncan & Moskowitz, 2011) whereas self-awareness was found to be positively associated with various forms of psychopathology (Ingram. 1990). Previous studies found no relationship between self awareness and mindfulness but due to the theoretical framework, it was assumed in the current study that both constructs would be inversely related to each other.

Self-Reflection and Insight

Self-awareness is divided into two components i.e. self-reflection and Insight. These two components somewhat represent different modes of self-awareness. According to Grant, Franklin and Langford (2002) self-reflection is about the evaluation of one's mental states and behaviour whereas insight is about the understanding of one's mental states and behaviour. They suggest that self-reflection and insight can also be viewed as two stages of self-awareness where engaging in self-reflection results in some kind of insight about one's behaviour but they also suggest that too much reflection is counterproductive and may not result in an insight. Some studies found negative relationship between self-reflection and insight (Grant et al., 2002; Aşkun & Çetin, 2017), whereas other studies found that the relationship between self-reflection and insight is orthogonal (Grant et al, 2002; Silvia & Phillips 2011; Harrington & Loffredo, 2011). Self-reflection and insight were also found to be related to well being in different and contrasting ways (Lyke, 2009; Grant et al., 2002; Silvia & Phillips, 2011; Harrington & Loffredo, 2011).

According to Morin (2005), inner speech facilitates self-reflection by creating distance between a person and the self-aspect observed by that person. He suggests that inner speech gives access to self-information by presenting existing information in a new way. Morin indicates that a person gets out of the engrossment with his experiences by commenting on it and therefore becomes more aware of his mental content.

As insight is a form of knowing, it does not seem to be related directly to inner speech. Insight usually happens when the mind is relatively calm. The

insight component of self-awareness is also related to mere awareness where one is aware of something i.e. bodily sensations rather than reflecting on it. Insight may not be a conscious activity for the most part, where unconscious processes play a central role and a person becomes aware of the insight as an outcome, which is also true of most creative work. Self reflection, on the other hand, is a conscious process where inner speech plays a central role.

Self-Reflection, Insight and Self-Critical, Social-Assessment Inner Speech

There are different kinds of inner speech or self-talk. Discussing the sources and consequences of these various kinds of self-talk, Brinthaupt, Hein and Kramer (2009) suggested that self-critical and social-assessment inner speech could result in goal conflict. It is also possible that this kind of inner speech may increase following social embarrassment or task failure. Self-reinforcing self-talk could be used to improve one's mood or neutralizing the effects of negative events or this kind of self-talk may be the outcome of positive mood.

Various kinds of self-talk were found to be related in different ways to the different facets of self-awareness in a study conducted by Brinthaupt et al., (2009). The "internal state awareness" factor of self-consciousness scale was found to be positively related to the self-management self-talk whereas self-criticism and social assessment self-talk was found to be positively related to the "self-reflection" factor of self-consciousness scale. The "internal state awareness" factor of self-consciousness scale corresponds to the "insight" factor of self-reflection and insight scale.

Khodayarifard, Brinthaupt, Zardkhaneh, and Fard Azar, (2014) found positive correlation between depression and social assessment aspect of inner speech, whereas self-reinforcement inner speech was found to be negatively related to depression. They also found positive relationship between self-critical and social assessment aspects of inner speech with anxiety. Anxiety was also positively correlated with overall inner speech. In another study, Ren, Wang and Jarrold, (2016) reported that both trait anxiety and motor impulsivity were positively related to self-critical inner speech. Self-reinforcement inner speech was inversely related to trait anxiety in this study.

As Self-reflection and insight were found to be related to well being in different and contrasting ways; therefore it is expected that self reflection will be positively related and insight will be negatively related to self-critical and social-assessment inner speech.

Self-Reflection and Mindfulness

A study by brown and Ryan (2003) found negative relationship between self reflection and mindfulness. As a more healthy form of self focused attention, mindfulness is expected to be negatively related to self-reflection.

Mindfulness and Insight

Due to the non-linguistic nature of both mindfulness and insight, they are expected to be positively related to each other. Both mindfulness and insight were found to be positively related to well being in the previous studies (Harrington, & Loffredo, 2011; Bränström et al., 2011; Baer, et al., 2008; Hollis-Walker & Colosimo, 2011; Lyke, 2009). Insight was found to be

positively related to mindfulness in previous studies (Harrington, Loffredo & Perz, 2014; Akın, & Yıldız, 2012). Although overall self-awareness is expected to relate negatively to mindfulness, one of its aspect i.e. insight is expected to have positive relationship with mindfulness. Self-reflection constitutes the core of self-awareness and various studies showed that insight has orthogonal and opposite relationship to self-reflection.

Mindfulness and Self-critical, Social assessment inner speech

As mindfulness is positively related to psychological well being (Hollis-Walker & Colosimo, 2011; Harrington, & Loffredo, 2011; Baer, et al., 2008; Bränström et al., 2011), therefore it is expected to be negatively related to self-criticism and social assessment inner speech.

Self-Awareness and Self-Critical, Social-Assessment Inner Speech

Self-awareness is usually unpleasant. A self-conscious person would evaluate himself with a standard. This standard can be personal or it can be an external standard related to social norms. The more one finds discrepancy about self and the standard, the more it would be the source of distress. Self-awareness implies 'ought' and 'should' statements as one try to adjust to the standards. As psychotherapeutic literature shows, 'should' statements are a great source of unhappiness (Ellis & Harper, 1961). Spiritual traditions also ask a person not to judge himself because judgment is distressing. Evaluating oneself to personal standards can be a source of self-criticism and social comparisons which can lead to preoccupation with social evaluations. Therefore, it is expected that both

self criticism and social assessment aspects of inner speech would be positively related to self-awareness.

Self-Awareness, Inner Speech and Age, Gender, Education

The frequency of inner speech was found to be different for different age groups in a study conducted by Brinthaupt and Christian (2012). 21 to 31 years old group was much higher as compared to 18 to 20 years old group for social assessment self-talk frequency and for over all self talk. Self managing self-talk was found to be much lower in 18 to 20 years old group as compared to 21 to 30 and 41 to 54 year old group. The 21 to 30 year old group was significantly higher on self-reinforcing self talk as compared to 18 to 20 and 31 to 40 years old groups and the frequency of self critical self-talk was significantly lower in 18 to 20 years group as compared to other groups. Self-awareness was also found to vary with age as teenagers and young adults under 25 years of age scored higher compared to 25 to 50 years as well as above 50 years age groups (Panayiotou & Kokkinos, 2006).

Mind wandering is closely associated with high frequency of inner speech as most mind wandering involves inner speech. Various studies showed that mind wandering decrease with advancing age (Maill et al., 2018; Frank, Nara, Zavagnin, Touron, & Kane, 2015; McVay, Meier, Touron & Kane, 2013). It is expected in the present study that age would moderate the relationship between inner speech and self awareness as the frequency of inner speech as well as self-awareness varies with age.

Brinthaupt and Christian (2012) found that men were more engaged in self-reinforcing self-talk than women. In an earlier study Brinthaupt et al., (2009) found no difference in inner speech for men and women. However, in another study, male college students reported more naturally occurring inner speech than their female colleagues (Heavy & Hurlburt, 2008).

Depression is more prevalent in women compared to men. One of the explanations for the higher prevalence of depression in women could be related to self-awareness or self-focused attention. Women are not only more self-focused compared to men (Ingram, Cruet, Johnson, & Wisnicki, 1988; Fast & Funder, 2010; Panayiotou & Kokkinos, 2006) but their self focus is related to negative affect (Ingram et al.,1988; Fast & Funder, 2010).According to Nolen-Hoeksema (1991), the coping style of women is ruminative as compared to the more active coping style of men. The difference between men and women on self-awareness is expected to moderate the relationship between self-awareness and inner speech.

Preoccupation with oneself exists due to ignorance rather than true knowledge. All the wise people over the ages advised their followers to let go of ego or the self. Therefore, a more learned person is expected to have less ego or minimal self. It is expected in the present study that advance education would be inversely related to self-awareness as compared to less education and therefore education is expected to moderate the relationship between inner speech and self-awareness.

Mindfulness, Inner Speech and Age, Gender, Education

People become more mindful when they get older. It may be due to the realization on the part of mature adults that their time on the planet is getting shorter with the passage of time. It can also be due to the aged brain which is no more producing strong emotions and desires. It may also be due to the experiences of life which make them more realistic towards life compared to the idealism of their younger counterparts. Various studies suggest that mindfulness increases with advancing age (Raes, Bruyneel, Loeys, Moerkerke, & De Raedt, 2013; Trousselard et al., 2010; Alispahic & Hasanbegovic-Anic, 2017; Hohaus & Spark, 2013). Therefore, it is expected that age would moderate the relationship between inner speech and mindfulness.

Some studies found no relationship between gender and mindfulness (De Petrillo, Kaufman, Glass, & Arnkoff, 2009; Malcoun, 2008; Bränström et al., 2011) but other studies showed that women are more mindful compared to men (Bryant, 2003; Tamres, Helgeson, & Janicki, 2002) and therefore it is assumed in the present study that gender can moderate the relationship between inner speech and mindfulness.

Bränström et al., (2011) found mindfulness to be positively related to higher education. If more knowledge can shrink the size of one's ego, it should also help a person to be more mindful. A more knowledgeable person is free from the racial or ethnic prejudices. A person with powerful ego cannot be mindful because he spends most of his time thinking about himself but a person with broad perspective on life would not be preoccupied with himself.

Therefore, advance education can cultivate more mindfulness and it can also moderate the relationship between mindfulness and inner speech.

Both theoretical accounts as well as empirical evidence showed that inner speech is an important element of consciousness. Inner speech was found to be positively related to self-awareness in previous research. The literature on mindfulness also suggested an inverse relationship between Inner speech and mindfulness as an increase in the frequency of inner speech leads to self-awareness, whereas reducing or decreasing the frequency of inner speech results in mindfulness. No study has been conducted in the past to investigate the relationship of the frequency of inner speech and mindfulness. Self-awareness and mindfulness were also found to be distinct forms of consciousness. The two aspects of self-awareness i.e. self-reflection and insight were found to be independent from each other and they were also linked with other constructs in different directions. Various kinds of inner speech were found to be related with other constructs in different ways. Demographic variables were also found to affect the frequency of inner speech, mindfulness and self- awareness.

Rationale of the Study

Previous research shows that self-awareness is positively related with inner speech. Most studies were carried out in the west. Self-awareness can vary in different cultures and therefore the current research was aimed at investigating the relationship of inner speech to self-awareness in a different culture i.e. Pakistan. Different forms of inner speech have also been investigated in relation to self-awareness and its two aspects i.e. self-reflection and insight.

The literature on mindfulness suggests that mindfulness reduces inner speech but no empirical study exists to approve or refute this assertion. The current study was an attempt to verify that claim empirically by exploring the relationship between mindfulness and inner speech. Various forms of inner speech (e.g. self-criticism, social assessment, self-reinforcement and self-management) were also investigated in relation to mindfulness which were not explored in previous research.

Self-awareness and mindfulness are two forms of consciousness which are believed to be differently related to inner speech. Therefore, the present study examined the relationship between these two constructs to see whether their contrasting relationship to inner speech also determine their relationship to each other in opposite direction. The present study would contribute to the understanding of the relationship between self-awareness and mindfulness as the research on the relationship between the two is limited.

Previous research on self-awareness was mostly conducted with Self-consciousness scale. This scale was criticized for its psychometric issues (Creed & Funder, 1998; Ruipérez & Belloch, 2003; Ben-Artzi, 2003). Grant et al., (2002) developed Self-Reflection and Insight Scale to counter the problems inherent in Self-consciousness scale. It has clearly divided self-awareness into two parts i.e. Self-reflection and Insight, which was not specified by the Self-consciousness scale. This scale was used in the present study.

Previous research shows that the two aspects of self-awareness i.e. self-reflection and insight are distinct from each other. This distinct nature of these

two aspects of self-awareness was further examined in the current study by investigating their relationship with each other and other constructs i.e. inner speech, various forms of inner speech and mindfulness

Self-awareness is positively related to accurate self-knowledge but it is also positively related to psychological distress. This dilemma is referred to as Self-absorption paradox (Trapnell & Campbell, 1999). The current study addressed this paradox and suggested an alternative solution to self-absorption paradox. Mindfulness is positively related with psychological well being in previous research. The present study explored this connection further by examining the relationship of mindfulness with distressing and healthy self-talk as well as with self-awareness.

The relationship of demographic variables i.e. gender, age and educational level was also explored in relation to main study variables i.e. inner speech and its different forms; self-awareness and its two aspects and mindfulness. The effects of demographics were also examined on the interaction of main study variables with each other. This would contribute to the existing knowledge of the relationship between demographics and these key variables of consciousness.

Mindfulness is a form of conscious awareness of present moment which is used by various psychotherapies as a central treatment strategy. It includes Mindfulness-Based Stress Reduction (MBSR) (Kabat-Zinn, 1982), Acceptance and Commitment Therapy (ACT) (Hayes, Strosahl & Wilson, 1999), Mindfulness-Based Cognitive Therapy (MBCT) (Segal, Williams, &

Teasdale, 2002) and Dialectical Behavior Therapy (DBT) (Linehan, 1993). Exploring the relationship of mindfulness to self-awareness and inner speech can help in utilizing mindfulness as a treatment tool more effectively.

In today's digital world, the flood of information and visuals feels to be a kind of constant noise in one's head. Self-awareness gets inflated when a person talks to himself more. Usually, people attempt to resolve their frequent self-talk by avoiding and distracting themselves from their self-talk. This can bring temporary relief but in the long run avoidance and distraction are ineffective methods. Many people try to suppress their self talk, which is counterproductive. On the other hand, mindfulness decreases the frequency of inner speech by not blocking or avoiding the mental content but by adopting neutral stance towards it which also decreases the excessive self-awareness as it is composed of inner speech.

Mindfulness is central to spirituality. In mysticism it is used for initiating mystical experience. Maslow (1964) coined the term "peak experience" for mystical and spiritual experiences. According to Maslow, these experiences have very positive effects on mental health. Peak experiences also enhance creativity as people report new insights during these experiences. This study was an attempt to investigate mindfulness scientifically and in this way, it would not only contribute to the understanding of consciousness but would also contribute to mental health as mindfulness is relevant to both domains.

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Objectives

1. To investigate the relationship of inner speech to self-awareness and mindfulness.

2. To explore the relationship between mindfulness and self-awareness

3. To explore the relationship between self-reflection and insight components of self-awareness and their relation to various forms of inner speech.

4. To investigate the relationship of insight and self-reflection components of self-awareness to mindfulness.

5. To find out the relationship of self-awareness and mindfulness with various kinds of inner speech.

6. To investigate the moderating effects of gender, age and educational level on the relationship of inner speech to self-awareness and mindfulness.

7. To explore inner speech, self-awareness and mindfulness in relation to gender, age and educational level.

Hypotheses

1. The frequency of inner speech is positively related to self-awareness.

2. The frequency of inner speech is negatively related to mindfulness.

3. Self-awareness and mindfulness are negatively related to each other.

4. Self-reflection and insight aspects of self-awareness are orthogonally related to each other.

5. Self-reflection is positively related to inner speech.

6. Insight is negatively related to inner speech.

7. Self-reflection is negatively related to mindfulness.

8. Mindfulness is positively related to insight.

9. Self-criticism and social-assessment aspects of inner speech are the positive predictors of self-awareness.

10. Self-criticism, social-assessment aspects of inner speech are the positive predictors of self-reflection.

11. Self-criticism and social-assessment aspects of inner speech are the negative predictors of insight.

12. Self-criticism and social-assessment aspects of inner speech are the negative predictors of mindfulness.

13. Age moderate the relationship between inner speech and self-awareness.

14. Educational level moderates the relationship between inner speech and self-awareness.

15. Gender moderates the relationship between inner speech and self-awareness

16. Age moderate the relationship between inner speech and mindfulness.

17. Educational level moderates the relationship between inner speech and mindfulness.

18. Gender moderates the relationship between inner speech and mindfulness.

Conceptual Framework

Figure 1

The relationship of inner speech to Self-awareness, Self-reflection, Insight and Mindfulness
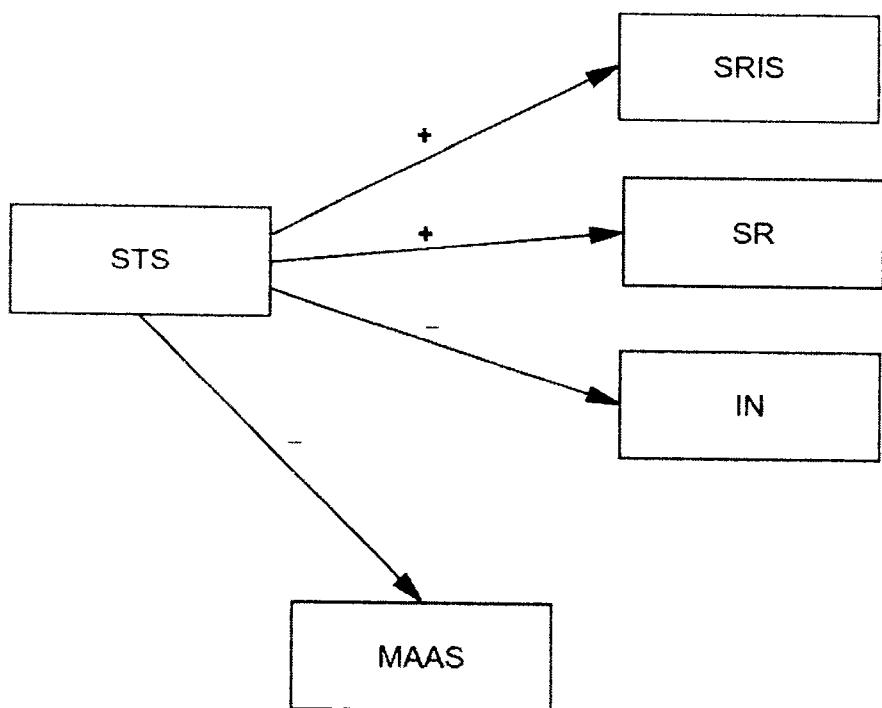
Figure 2

Gender, age and education as moderating variables in the interaction of inner speech to self-awareness and mindfulness
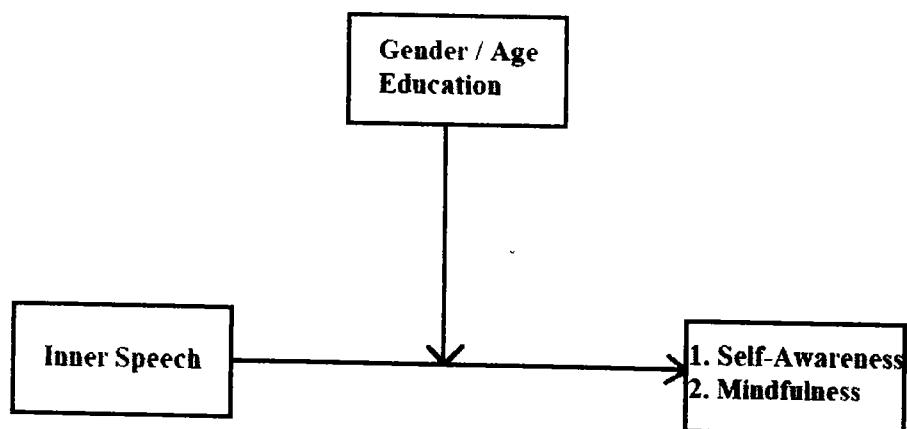
METHOD

Method

Research Design

Correlational research design was used to carry out the study. Questionnaires were used to find out correlation among variables. These questionnaires include Self-reflection and Insight Scale, Self-talk scale and Mindful attention and awareness scale.

Sample

The sample of the present study was comprised of 400 subjects (N=400) which include both males (221) and females (179). They were recruited from the University of Peshawar and International Islamic University, Islamabad, Pakistan. The age range of these subjects was 20 to 40 years. The subjects were students enrolled in different programs in the university i.e. BS, Master, MPhil and PhD. The two universities were selected for the collection of data as they represent population from all over Pakistan. University of Peshawar represents the population of the province of Khyber Pakhtunkhwa as students from different parts of the province come here to get education. International Islamic University, Islamabad represents the other three provinces i.e. Punjab, Balochistan and Sindh as students from all these provinces are studying at this University. Data was collected by using convenience sampling method.

Operational Definition of Study Variables

Inner Speech

Inner speech is the activity of talking to oneself silently (Zivin, 1979). It was measured by the Self-Talk Scale (STS) developed by Brinthaupt et al., in 2009.

Self-Awareness

Self-Awareness is the capacity of becoming the object of one's own attention (Duval & Wicklund, 1972). Self-Awareness was measured by the Self-Reflection and Insight Scale (SRIS) developed by Grant et al., (2002).

Mindfulness

Mindfulness is defined "as a receptive attention to and awareness of present events and experience" (Brown et al., 2007a, p-212).Mindfulness was assessed by Mindful Attention and Awareness Scale (MAAS).

Self-Reflection

Self-Reflection is "the inspection and evaluation of one's thoughts, feelings and behavior" (Grant et al., 2002, p-281).Self reflection is the component of self awareness. Self-Reflection was measured by the self-reflection subscale of SRIS.

Insight

Insight is "the clarity of understanding of one's thoughts, feelings and behavior" (Grant et al., 2002, p-281).Self-Awareness is divided into two

components by Grant et al., (2002).The one component is self-reflection whereas insight is another component. Insight was assessed by the insight subscale of SRIS.

Social-Assessment Self-Talk

Social-Assessment self talk refers "to a person's social interaction (e.g.; replaying something said to another person or imagining how other people responded to things one said)" (Brinthaupt & Christian, 2012. p-326). Social assessment self talk was measured by social assessment subscale of STS.

Self-Reinforcement Self-Talk

This kind of self talk "focuses on positive events (e.g., feeling proud of something one has done or when something good has happened)" (Brinthaupt & Christian, 2012, p-326).The self-reinforcement self talk was assessed by the Self-reinforcement subscale of STS.

Self-Criticism Self-Talk

This type of self talk " refers to self talk regarding negative events (e.g., feeling discouraged about oneself or criticizing oneself for something one has said or done)" (Brinthaupt & Christian, 2012. p-326).The self criticism self-talk was assessed by the self criticism subscale of STS.

Self-Management Self-Talk

It is about "general self-regulatory self-talk (e.g., giving oneself instructions or directions about what to do or say or needing to figure out what

to do or say)" (Brinthaupt & Christian, 2012, p-327).The self management self talk was assessed by the self-management subscale of STS.

Instruments

Demographic Profile

A profile was prepared to get information about the demographics of each subject. The demographic variables include age, education and gender of the subjects. The information about demographics were added to one of the scales i.e. Self-talk scale rather than taken on a separate form.

The Self-Reflection and Insight Scale (SRIS). (Grant et al., 2002)

SRIS was used for the assessment of self awareness. The instrument is consisted of 20 items, utilizing a 6 point Likert scale. The SRIS is further divided into subscales i.e. Self-reflection subscale (SRIS-SR) and the Insight subscale (SRIS-IN).Self-reflection assess the evaluation of one's feelings, thoughts and behaviors whereas insight assess the degree of clarity of understanding of one's feelings, thoughts and behaviors. Self-reflection is consisted of 12 items. It is further divided into two closely related facets i.e. engagement in reflection and need for reflection. Examples of items of self-reflection include " I frequently examine my feelings" and "It is important for me to evaluate the things that I do". Examples of the items of insight include "I am usually aware of my thoughts" and "I usually know why I feel the way I do". The internal consistency of SRIS-SR and SRIS-IN are coefficient alpha of .91

and .87 respectively. The test retest reliability for the SRIS-SR is .77 and for SRIS-IN is .78. (See Annexure-B)

Self-Talk Scale (STS).

The Self-Talk Scale was developed by Brinthaupt et al., in 2009. The STS is 16 items questionnaire which describes situations where people might talk to themselves. The scale is divided in four subscales which include self management, self criticism, self reinforcement and social assessment scales. Examples of items include "I should have done something differently", "I'm mentally exploring a possible course of action", "I want to analyze something that someone recently said to me" and "I want to reinforce myself for doing well". The STS is internally consistent. The alpha coefficients for the four subscales are between .79 and .89. The scale is positively related to verbally oriented information processing strategies (r =.47) and private self-consciousness (r =.37) which shows its congruent validity. All items were completed on 5-Point Likert Scale. (See Annexure-A)

Mindful Attention and Awareness Scale. (MAAS; Brown & Ryan, 2003).

MAAS is consisted of 15 items. It is the most empirically tested scale for measuring mindfulness. MAAS assesses a person's awareness and attention in relation to present moment. Examples of items include " It seems I'm 'running on automatic' without much awareness of what I'm doing." and "I find myself doing things without paying attention." Brown and Ryan (2003) found MAAS to be internally consistent. The alpha coefficient for the scale is .82 and the alpha coefficient for its test–retest reliability is also .82.The scale is positively related to the wellbeing measures which show its convergent validity.Many

independent analyses attested to the reliability and validity of the scale (MacKillop & Anderson, 2007; Carlson & Brown, 2005; Cordon & Finney, 2008).(See Annexure-C)

Procedure

Pilot study was carried out prior to the main study. The objective of pilot study was to assess the reliability and validity of scales. Self-talk scale (STS), Mindful attention and awareness scale (MAAS) and Self-Reflection and Insight Scale (SRIS) were applied to 100 participants (N-100). All the participants were selected from the University of Peshawar and International Islamic University Islamabad. The age range of the subjects was 20 to 40 years. All the subjects had educational level of intermediate and above. The sample was consisted of both men and women.

The main study was carried out by approaching the subjects in the University of Peshawar and International Islamic University, Islamabad. Each subject was briefed about the objectives of the research. The participants were encouraged to ask questions if they found any ambiguity in the questionnaire. After developing rapport, questionnaires were administered i.e. Self-Reflection and Insight Scale (SRIS), Self- talk scale (STS) and Mindful Attention and Awareness Scale (MAAS) to assess self-awareness, inner speech and mindfulness respectively.

Statistical Analysis of Data

The purpose of the present study was to find out the relationship of inner speech to self-awareness and mindfulness. The validity of the instruments was established by conducting confirmatory factor analyses (CFA) with maximum likelihood estimation in Amos 23. Pearson correlation test was used to find out bivariate correlations among the variables.

Simple linear regression was carried out to find out the impact of inner speech on self-awareness and its two components (i.e. self-reflection and insight), as well as, on mindfulness. Multiple regression analysis was conducted to find out the impact of four aspects of inner speech (i.e. self-criticism, social assessment, self reinforcement and self management) on mindfulness, self-awareness and its two aspects i.e. self-reflection and insight. The impact of self-reflection and insight on mindfulness was also examined.

To find out the mean differences in age and gender groups on study variables, independent sample t-test with Cohen's d was used. One-way ANOVA (analysis of variance) was used to find the mean differences among educational levels on the scores of study variables. When F-value was found significant, post hoc pairwise test was applied to find the pairwise mean difference.

The moderating effects of gender, age and educational level on the relationship between inner speech and self-awareness as well as on the relationship between mindfulness and inner speech were examined by applying Process macro (version 21) by Andrew Hayes.

RESULTS

RESULTS

PILOT STUDY

Table 1

Detail of Sample Characteristics for the Study (N=100)

Sample	Categories	f	%
Gender	Male	46	46
	Female	54	54
Education	Intermediate	41	41
	Graduation	25	25
	Master	28	28
	Missing	6	6

Sample	Mean	SD	Range
Age	24.73	4.76	20-40

Table 1 represents the distribution of pilot sample on the basis of their gender, education level and age. Results show the precise and comprehensive distribution of sample characteristics under study. Education of respondents is divided into three groups on the basis of completion of educational years.

Table 2

Descriptive statistics and reliability coefficients of all variables (N = 100)

Variables	Items No	M	SD	α	Score Range Potential	Actual	Skew	Kurt
STS	16	52.68	7.53	.70	1-80	37-71	.33	.10
Criticism	4	12.24	3.17	.64	4-20	6-20	.48	-.07
Reinforcement	4	13.86	3.07	.69	4-20	4-20	-.40	.22
Management	4	13.73	2.88	.59	4-20	6-20	-.03	-.19
Assessment	4	12.85	3.31	.70	4-20	5-20	-.27	.29
SRIS	20	80.60	9.25	.63	20-120	63-106	.06	.34
Self-Reflection	12	49.87	7.65	.71	12-72	26-71	-.30	-.49
Insight	8	30.73	5.56	.62	8-48	18-43	-.25	.84
MAAS	15	57.50	11.61	.82	15-90	29-84	-.27	-.34

Note. STS = Self-Talk Scale; MAAS= Mindful Attention and Awareness Scale; SRIS-SR = the Self Reflection and Insight Scale- Self Reflection; SRIS-IN = the Self Reflection and Insight Scale- Insight.

Table 2 shows descriptive statistics, alpha reliability coefficients, and skewness and kurtosis of STS, MAAS and SRIS along with its subscales. The table also shows the Mean and Standard deviation of the scales. All the scales are adequately reliable indicating that the scales are internally consistent. Skewness and kurtosis values show that data are normally distributed.

Construct Validity

Item-total correlation of STS, MAAS and SRIS were computed to analyze each item in order to check whether all items were significantly measuring the corresponding scale. For this purpose all items of each subscale were individually correlated with the total score of that corresponding subscale. Item-total correlations of all other scales were also computed to analyze each item as well as to check whether all items were significantly measuring their respective constructs or not.

Table 3

Item-total Correlation of STS (N=100)

Item No.	r	Item No.	R
1	.448**	9	.456**
2	.467**	10	.526**
3	.479**	11	.573**
4	.393**	12	.371**
5	.346**	13	.320**
6	.422**	14	.436**
7	.499**	15	.203*
8	.325**	16	.498**

$* p < .05, ** p < .001$

Table 3 shows the item-total correlation of STS as a whole. Results show that all items of STS have positive significant correlation with the total score of STS and therefore contributed to the total score of the scale. The correlation value ranges from .203 to .573.

Table 4

Item-Total Correlation of subscales of STS (N=100)

Self-Criticisms		Self-Reinforcement	
Item no.	r	Item no.	R
sts1	.519**	sts2	.762**
sts7	.717**	sts5	.730**
sts10	.786**	sts8	.816**
sts14	.733**	sts13	.559**
Self-Management		Social Assessment	
Item no.	r	Item no.	R
sts3	.750**	sts4	.658**
sts9	.655**	sts6	.735**
sts12	.753**	sts11	.768**
sts15	.493**	sts16	.751**

**$p<.001$

Table 4 shows the item total correlation for four subscales of STS with the corresponding total score of each subscale. Results show that all items have positive significant correlation with the total score of each subscale and have contributed to the total score of each subscale. The correlation value ranges from .493 to .816.

Table 5

Item-total Correlation of MAAS (N=100)

Item No.	r	Item No.	R
mf1	.593**	mf9	.350**
mf2	.506**	mf10	.536**
mf3	.581**	mf11	.537**
mf4	.381**	mf12	.566**
mf5	.504**	mf13	.278**
mf6	.677**	mf14	.716**
mf7	.703**	mf15	.557**
mf8	.593**		

** $p<.001$

Table 5 shows the item-total correlation of MAAS as a whole. Results show that all items of MAAS have positive significant correlation with the total score of MAAS and have contributed to the total score of the scale. The correlation value ranges from .278 to .716.

Table 6

Item-total Correlation of SRIS (N=100)

Item No.	r	Item No.	R
sr1	.319**	in11	.193*
sr2	.396**	sr12	.413**
in3	.291**	sr13	.480**
in4	.263**	in14	.363**
sr5	.402**	sr15	.296**
in6	.378**	sr16	.202*
sr7	.615**	in17	.340**
sr8	.257**	sr18	.484**
in9	.194*	sr19	.445**
sr10	.448**	in20	.429**

* $p < .05$, ** $p < .001$

Table 6 shows the item-total correlation of SRIS as a whole. Results show that all items of SRIS have positive significant correlation with the total score of SRIS and have contributed to the total score of the scale. The correlation value ranges from .193 to .615.

Table 7

Item-total Correlation of SRIS-SR and SRIS-IN subscales of SRIS (N=100)

Self-Reflection		Insight	
Item No.	r	Item No.	R
sr1	.327**	in3	.287**
sr2	.527**	in4	.592**
sr5	.528**	in6	.403**
sr7	.615**	in9	.558**
sr8	.313**	in11	.655**
sr10	.582**	in14	.725**
sr12	.538**	in17	.628**
sr13	.373**	in20	.289**
sr15	.529**		
sr16	.456**		
sr18	.604**		
sr19	.571**		

** $p<.001$

Table 7 shows the item total correlation for two subscales of SRIS with the corresponding total score of each subscale. Results show that all items have positive significant correlation with the total score of each subscale and have contributed to the total score of each subscale. The correlation value for self-reflection ranges from .313 to .615, whereas correlation value for insight ranges from .287 to .725.

MAIN STUDY

Table 8

Detail of Sample Characteristics for the Study (N = 400)

Sample	Categories	f	%
Gender	Male	221	55.3
	Female	179	44.7
Education	Intermediate	152	38.0
	Graduation	91	22.8
	Master	154	38.5
	Missing	3	0.7

Sample	Mean	SD	Range
Age	24.68	4.83	20-40

Table 8 represents the distribution of total sample on the basis of their gender, education level and age. Results show the precise and comprehensive distribution of sample characteristics under study. Education of respondents is divided into three groups on the basis of completion of educational years.

Figure 3

Distribution of respondents by gender

Gender Frequencies

45%

55%

■ Male
■ Female
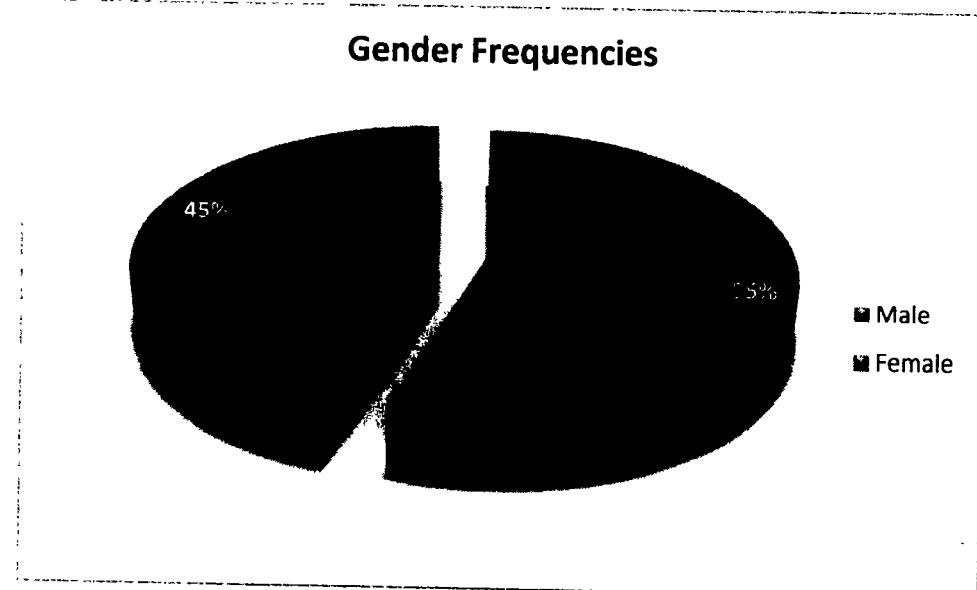
Figure 4

Composition of respondents by educational level

Education

| Percentage |
| Intermediate: 38 | Graduation: 22.8 | Master: 38.5 | Missing: 0.7 |

Qualification
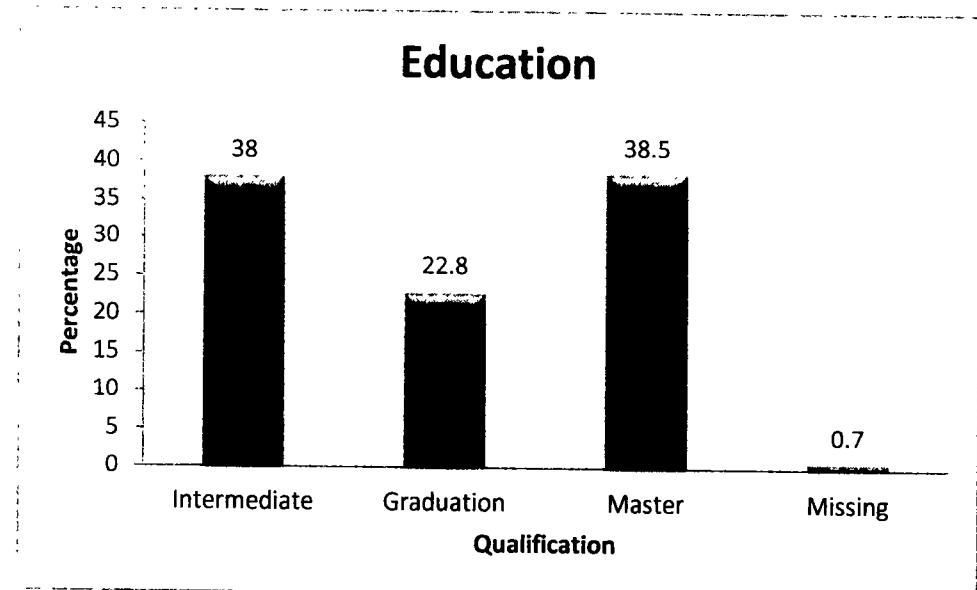
Validation of Study Instruments

The construct validity of the instruments was established by conducting confirmatory factor analyses (CFA) with maximum likelihood estimation in Amos 23. Only those cases were included in the analyses that had no missing data for the items submitted to the analyses. As one of the objectives of present study was psychometric validation of study instruments, therefore confirmatory factor analysis was conducted for study variables STS, SRIS and MAAS.

In order to evaluate the overall goodness of fit for each model, several fit indices were examined, including chi-square (χ^2), relative/normed chi-square (χ^2/df), root mean square error of approximation (RMSEA), goodness of fit index (GFI), adjusted goodness of fit index (AGFI), comparative fit index (CFI), Tucker-Lewis Index (TLI), and incremental fit index (IFI). The chi-square statistic (χ^2) assesses whether the model holds exactly in the population (Brown, 2006), and an insignificant result at .05 threshold suggests a good model fit when evaluating the χ^2 statistic (Barrett, 2007). Although, it is the traditional measure for assessing the overall model fit, but it is extremely sensitive to sample size. In large samples, the chi-square statistic nearly always rejects the model; whereas in small samples, it lacks power and may not discriminate between good fitting and bad fitting models (Hooper, Coughlan, & Mullen, 2008). An alternate to chi-square statistic that is least effective to sample size is relative/normed chi-square, χ^2/df (Wheaton, Muthen, Alwin, & Summers, 1977). There is no consensus regarding the acceptable value of χ^2/df ratio. However, some researchers recommend a cutoff value of as high as 5 (Wheaton

et al., 1977), while others suggest a value of as low as 2 (Tabachnick & Fidell, 2007). Another widely used index is root mean square error of approximation (RMSEA), which reflects the extent to which a model fits reasonably well in the population. Being a population-based index, RMSEA is insensitive to sample size, but it is sensitive to the number of model parameters (Brown, 2006). According to Browne and Cudeck (1993), a RMSEA value of $\leq.05$ suggests good model fit, whereas the values of $\leq.08$ indicate reasonable error of approximation. Similar cutoffs are suggested by Bryne (2012). However, in case of small sample size, it has been suggested that a RMSEA value of .08 is of little concern particularly when all other fit indices suggest good model fit (Brown, 2006).

Goodness of fit index (GFI) measure the proportion of variance that is accounted for by the estimated population covariance. The value of GFI ranges from 0 to 1, with values closer to 1 indicating well-fitting models (Hooper et al., 2008). Relating to GFI is the adjusted goodness of fit index (AGFI), which adjusts the value of GFI on the basis of degrees of freedom, in such a way that more saturated models indicate poor fit (Tabachnick & Fidell, 2007). Like GFI, the values of AGFI range from 0 to 1, with values of .90 or greater indicating good fit (Hooper et al., 2008). Comparative fit indices, including the Tucker-Lewis index (TLI), comparative fit index (CFI), and incremental fit index (IFI) measure the proportionate improvement in model fit by comparing the hypothesized model with a more restrictive baseline model (usually a null or independent model in which all the observed variables, with variances to be estimated, are mutually uncorrelated (as cited in, Yu, 2002). The values of TLI

and CFI in the range of .90 to .95 indicate acceptable model fit (Bentler, 1990), while the value of .90 or higher indicates good fit for IFI.

Confirmatory Factor Analysis for Mindfulness Scale (MAAS)

The Confirmatory Factor Analysis for Mindfulness Scale (MAAS) was conducted in order to find out the more psychometrically sound instrument. Table 9 presents the fit statistics for Mindfulness Scale (MAAS). Table of model fit indices and visual presentation of its items with their factor loadings are given.

Table 9

Model-fit Indices of Mindfulness Scale (MAAS) (N=400)

	χ^2 (df)	GFI	AGFI	TLI	CFI	RMSEA	$\Delta\chi^2$ (Δdf)
Model 1	183.04 (90)	.94	.92	.89	.91	.051	
Model 2	137.60 (86)	.96	.94	.94	.95	.039	45.44 (04)

Model 1= Default model of CFA for Mindfulness Scale (MAAS).

Model 2= after adding error covariance.

Table 9 represents the Model Fit Indices for Mindfulness Scale (MAAS). It shows that Model 1 represents fit indices of default model which are lower than the desired ones and RMSEA value was high. Therefore, in order to get better fit indices modifications were applied to achieve goodness of model fit. Modification includes addition of covariance between errors of different items. Model 2 represents model fit indices of MAAS after adding error covariance between different items. After addition of error variances values of all indicators, χ^2, GFI, AGFI, TLI, CFI and RMSEA are in acceptable range (Brown, 2015; Hooper et al., 2008).

Table 10

Factor Loadings of Items along with Squared Multiple Correlations (SMCs) of Mindfulness Scale (MAAS) (N=400)

Scale	Item No	Λ	SMCs
MAAS	1	.314	.099
	2	.459	.211
	3	.465	.216
	4	.455	.207
	5	.338	.114
	6	.354	.126
	7	.647	.419
	8	.627	.393
	9	.304	.093
	10	.615	.379
	11	.440	.194
	12	.473	.224
	13	.245	.060
	14	.728	.530
	15	.507	.257

Note. λ1= Factor loadings of final scale, SMCs= Squares Multiple Correlations, MAAS= Mindfulness Scale

The factor loadings are described as standard regression weights and a factor loading of each item ≥.30 is generally considered acceptable in social sciences (Field, 2009, Floyd & Widaman, 1995). On the other hand, Squared multiple correlations provides the communality estimate for an indicator

variable. The communality represents the amount of variance in a given indicator variable explained by a latent factor (Bian, 2011). Hooper et al., (2008) suggested that the items with low squared multiple correlations i.e. $R^2 < .20$ are considered weak items with very high levels of error. The above table shows the factor loadings of final model 2, factor loadings (λ) ranged from. 245-.728. The factor loadings of all items of MAAS are in acceptable range.

Figure 5

CFA Model of Mindfulness Scale (MAAS)
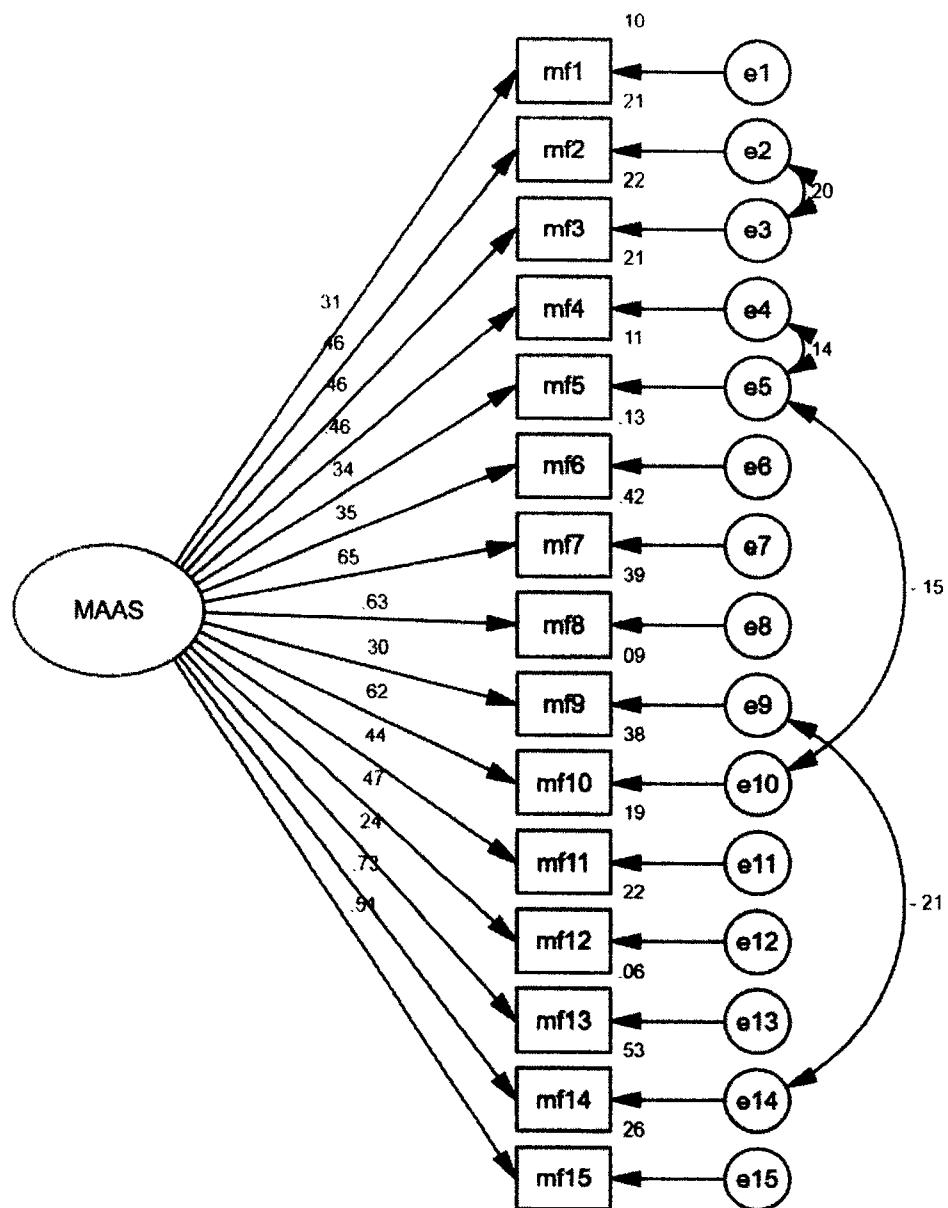
Confirmatory Factor Analysis for Self-talk Scale (STS)

The Confirmatory Factor Analysis for Self-talk Scale (STS) was conducted in order to find out the more psychometrically sound instrument. Table 11 presents the fit statistics for Self- talk Scale (STS) 16-item. Table of model fit indices and visual presentation of its items with their factor loadings are given.

Table 11

Model-fit Indices of Self-Talk Scale (STS) (N = 400)

	χ^2 *(df)*	GFI	AGFI	TLI	CFI	RMSEA	$\Delta\chi^2$ *(Δdf)*
Model 1	246.91 (98)	.93	.90	.84	.87	.062	
Model 2	172.46 (91)	.95	.93	.91	.93	.047	74.45 (7)

Model 1=   Default model of CFA for Self-Talk Scale (STS) having four

           subscales.

Model 2=   after adding error covariance.

Table 11 represents the Model Fit Indices for Self-Talk Scale (STS). It shows that Model 1 represents fit indices of default model having four factors which are lower than the desired ones and RMSEA value was high. Therefore, in order to get better fit indices modifications were applied to achieve goodness of model fit. Modification includes addition of covariance between errors of different items. Model 2 represents model fit indices of STS after adding error covariance between different items. After addition of error variances values of all indicators, χ^2, GFI, AGFI, TLI, CFI and RMSEA are in acceptable range (Brown, 2015; Hooper et al.,, 2008).

Table 12

Factor Loadings of Items along with Squared Multiple Correlations of Self-Talk Scale (STS). (N=400)

Subscale	Item No	Λ	SMCs
Reinforcement	2	.603	.364
	5	.526	.277
	8	.543	.295
	13	.497	.247
Criticism	1	.421	.177
	7	.639	.408
	10	.605	.365
	14	.625	.390
Assessment	4	.510	.260
	6	.540	.292
	11	.699	.489
	16	.547	.299

Note. $\lambda 1$ = Factor loadings of final scale, SMCs= Squares Multiple Correlations

The factor loadings are described as standard regression weights and a factor loading of $\geq$.30 is generally considered acceptable in social sciences (Field, 2009; Floyd & Widaman, 1995). On the other hand, Squared multiple correlations provides the communality estimate for an indicator variable. The communality represents the amount of variance in a given indicator variable explained by a latent factor (Bian, 2011). Hooper et al. (2008) suggested that

the items with low squared multiple correlations i.e. $R^2 < .20$ are considered weak items with very high levels of error. The above table shows the factor loadings of final model 2, factor loadings (λ) ranged from .42-.699. The squared multiple correlations were all in acceptable range except for the item 1 of criticism subscale (i.e. 17).

Figure 6

CFA Model of Self-Talk Scale (STS) -Four Factor Structure
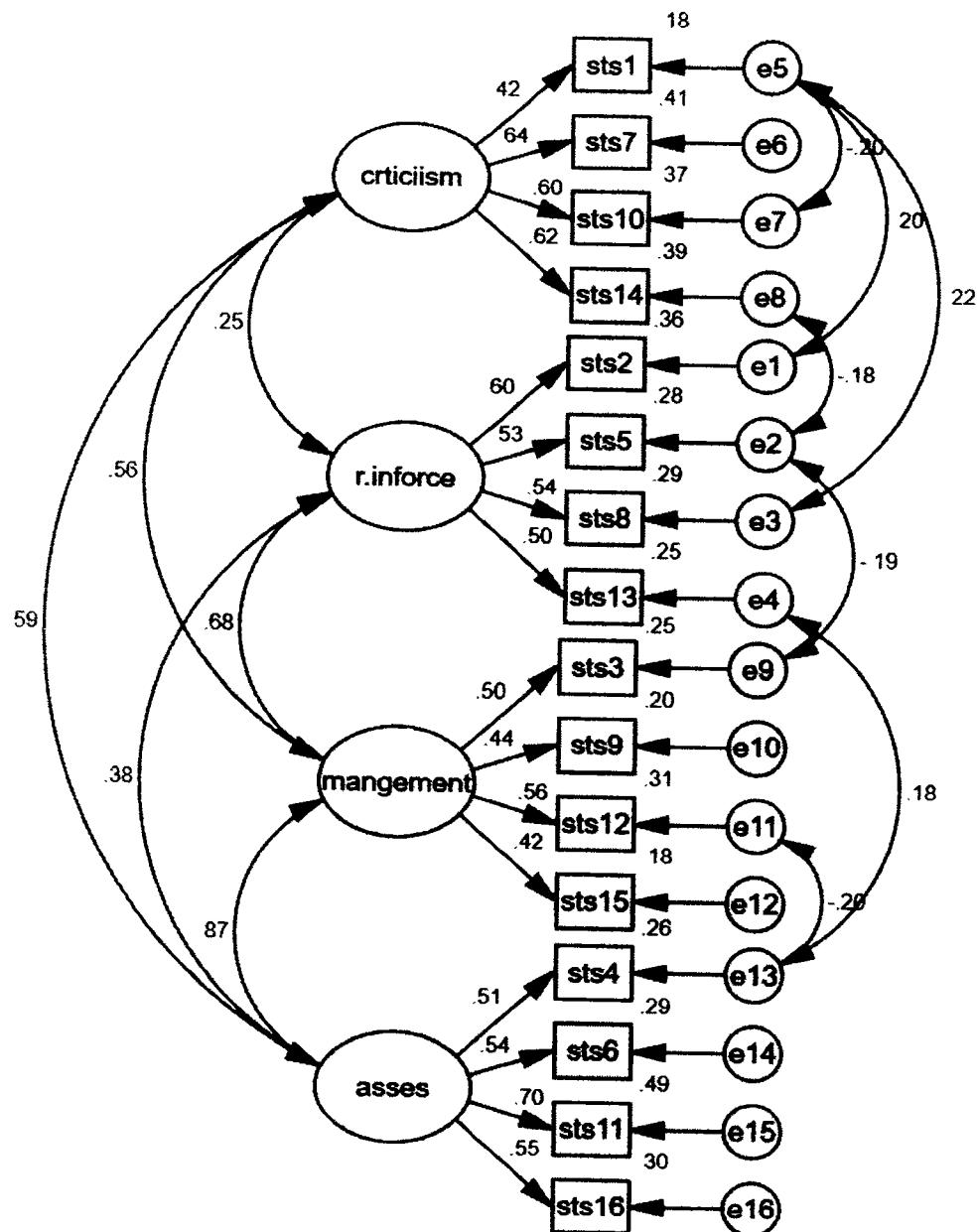
Confirmatory Factor Analysis for Self-Reflection and Insight Scale (SRIS)

The Confirmatory Factor Analysis for Self-Reflection and Insight Scale (SRIS) was conducted in order to find out the more psychometrically sound instrument. Table 13 presents the fit statistics for Self-Reflection and Insight Scale (SRIS). Table of model fit indices and visual presentation of its items with their factor loadings are given.

Table 13

Model-fit Indices of Self-Reflection and Insight Scale (SRIS) (N=400)

	χ^2 (df)	GFI	AGFI	TLI	CFI	RMSEA	$\Delta\chi^2$ (Δdf)
Model 1	590.94 (169)	.87	.83	.58	.63	.079	
Model 2	270.62 (155)	.94	.92	.85	.88	.043	320.32 (14)

Model 1= Default model of CFA for Self-Reflection and Insight Scale (SRIS) having two subscales.

Model 2= after adding error covariance.

Table 13 represents the Model Fit Indices for Self-Reflection and Insight Scale (SRIS). It shows that Model 1 represents fit indices of default model having two factors which are lower than the desired ones and RMSEA value was high. Therefore, in order to get better fit indices modifications were applied to achieve goodness of model fit. Modification includes addition of covariance between errors of different items. Model 2 represents model fit indices of SRIS after adding error covariance between different items. After addition of error variances values of all indicators, χ^2, GFI, AGFI, TLI, CFI and RMSEA are in acceptable range (Brown, 2015; Hooper et al.,, 2008).

Table 14

Factor Loadings of Items along with Squared Multiple Correlations of Self-Reflection and Insight Scale (SRIS) (N=400)

Subscale	Item No	Λ	SMCs
SRIS-SR	sr1	.250	.063
	sr2	.330	.109
	sr5	.432	.186
	sr7	.452	.205
	sr8	.266	.071
	sr10	.573	.328
	sr12	.517	.268
	sr13	.151	.023
	sr15	.409	.167
	sr16	.483	.233
	sr18	.582	.339
	sr19	.506	.256
SRIS-IN	in3	.231	.053
	in4	.558	.312
	in6	.264	.07
	in9	.417	.174
	in11	.436	.19
	in14	.400	.16
	in17	.504	.254
	in20	.169	.029

Note. λ1 =   Factor loadings of final scale, SMCs= Squares Multiple Correlations,

SRIS-SR = Self-Reflection subscale, SRIS-IN =Insight subscale

The factor loadings are described as standard regression weights and a factor loading of $\geq$.30 is generally considered acceptable in social sciences (Field, 2009; Floyd & Widaman, 1995). On the other hand, Squared multiple correlations provides the communality estimate for an indicator variable. The communality represents the amount of variance in a given indicator variable explained by a latent factor (Bian, 2011). Hooper et al. (2008) suggested that the items with low squared multiple correlations i.e. R^2 <.20 are considered weak items with very high levels of error. The above table shows the factor loadings of final model 2, factor loadings (λ) ranged from .151-.582. Item 13 of SRIS-SR and item 20 of SRIS-IN have lower factor loading but significantly measure the subscales.

Figure 7

CFA Model of Self-Reflection and Insight Scale (SRIS) –Two Factor Structure.
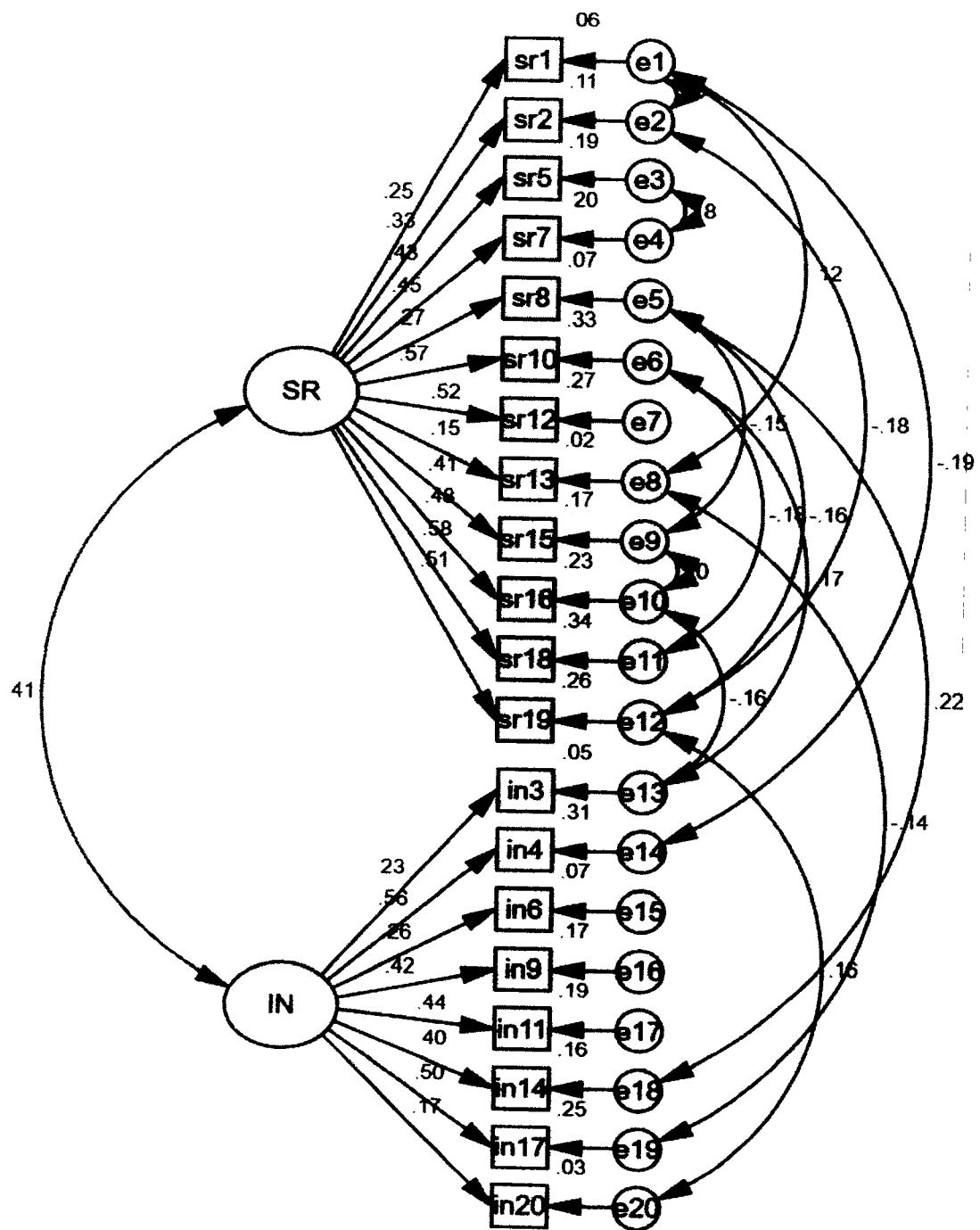
Table 15

Descriptive statistics and reliability values of the Scales Used in the Present Study (N = 400)

Variables	Items No	M	SD	A	Score Range		Skew	Kurt
					Potential	Actual		
STS	16	53.40	8.54	.79	1-80	27-76	.02	.36
Criticism	4	12.07	3.18	.64	4-20	4-20	.30	-.14
Reinforcement	4	14.07	2.99	.64	4-20	4-20	-.45	.08
Management	4	14.04	2.68	.55	4-20	5-20	-.11	-.06
Assessment	4	13.19	3.01	.67	4-20	4-20	-.23	.04
SRIS	20	81.21	8.77	.62	20-120	56-106	.10	-.18
Self-Reflection	12	50.54	6.99	.68	12-72	26-72	-.22	.62
Insight	8	30.67	5.17	.57	8-48	13-47	-.04	.15
MAAS	15	57.44	11.43	.81	15-90	27-86	-.23	-.47

Note. STS = Self Talk Scale; MAAS= Mindful Attention and Awareness Scale; SRIS-SR = the Self Reflection and Insight Scale- Self Reflection; SRIS-IN = the Self Reflection and Insight Scale- Insight.

Table 15 shows descriptive statistics, alpha reliability coefficients, and skewness and kurtosis of STS, MAAS and SRIS along with its subscales. The table shows the Mean and Standard deviation of the scales. All the scales are adequately reliable indicating that the scales are internally consistent. Table 15 also shows skewness and kurtosis values that shows data are normally distributed.

Table 16

Correlation among study variables (N=400)

Variables	1	2	3	4	5	6	7	8	9
1. Inner Speech	1								
2. Self Criticism	.69**	1							
3. Self Reinforcement	.63**	.17**	1						
4. Self Management	.77**	.36**	.37**	1					
5. Social Assessment	.77**	.41**	.28**	.51**	1				
6. Mindfulness	-.10*	-.16**	.008	-.008	-.12*	1			
7. Self-Awareness	.13*	-.08	.21**	.18**	.06	.32**	1		
8. Self Reflection	.29**	.15**	.17**	.23**	.24**	.11*	.81**	1	
9. Insight	-.19**	-.34**	.13*	-.09	-.22**	.39**	.60**	.02	1

Note: *p<.05; **p<.01

Table 16 shows that self-awareness is positively related to inner speech (r =.13, p <.05). Self-awareness is also positively related to mindfulness (r =.32, p <.01) but it is not significantly related to self-criticism and social-assessment aspects of inner speech. Mindfulness is negatively related to inner speech (r = -.10, p <.05) and positively related to both self-reflection (r =.11, p <.05) and insight (r =.39, p <.01). Mindfulness is negatively related to self-criticism (r = -.16, p <.01) and social assessment (r = -.12, p <.05) aspects of inner speech but self-reinforcement and self-management aspects of inner speech are not significantly related with mindfulness. The relationship between self reflection and insight is orthogonal (r =.02, p >.05). Self-reflection is positively related to inner speech

(r =.29, p<.01).Self-reflection is also positively related to self-criticism (r =.15, p<.01), self-reinforcement (r =.17, p<.01), self-management (r =.23, p<.01) and social assessment (r =.24, p<.01) aspects of inner speech. Insight is negatively related to inner speech (r = -.19, p <.01).The self criticism (r = -.34, p <.01) and social assessment (r = -.22, p <.01) aspects of inner speech are negatively related to Insight whereas self-reinforcement (r =.13, p <.05) aspect of inner speech is positively related to insight. Insight has non-significant relationship with self-management aspect of inner speech.

Regression Analysis

To find the impact of independent variables on dependent variable simple and multiple Linear Regression analysis was performed.

Table 17

Simple Linear Regression analysis showing the effect of inner speech on the prediction of Self-Awareness scale (SRIS) (N=400)

Model	B	SE	β	t	p-value
Constant	74.37	2.76		26.92	.000
Inner Speech	0.128	.051	0.125	2.51	.013

$F(1, 398)=6.29, p <.05, R^2=.016$

Note: B = *Unstandardized Coefficients,* β=Standardized Coefficients, *SE=Standard Error.*

Simple Linear Regression analysis is computed with inner speech as a predictor variable, and self-awareness (SRIS) as an outcome variable. The R^2 value of .016 specifies that 1.6% of variance in the dependent variable can be accounted for, by the predictor with F = 6.29 and p<.05. The results also specify that inner speech has a significant positive effect on prediction of self-awareness (SRIS).

Table 18

Simple Linear Regression analysis showing the effect of inner speech on the prediction of Self-Reflection, a subscale of Self-Awareness scale (SRIS) (N=400)

Model	B	SE	β	t	p-value
Constant	37.62	2.12		17.75	.000
Inner Speech	0.242	.039	.296	6.17	.000

$F(1, 398) = 38.10, p < .001, R^2 = .087$

Note: B = *Unstandardized Coefficients,* β=Standardized Coefficients, SE=*Standard Error.*

Simple Linear Regression analysis is computed with inner speech as a predictor variable, and self-reflection subscale of self-awareness (SRIS) as an outcome variable. The R^2 value of .087 specifies that 8.7% of variance in the dependent variable can be considered for, by the predictor with F=38.10 and p<.0001. The results specify that inner speech has a significant positive effect on prediction of self-reflection subscale of self-awareness (SRIS).

Table 19

Simple Linear Regression analysis showing the effect of inner speech on the prediction of Insight, a subscale of Self-Awareness scale (SRIS) (N=400)

Model	B	SE	β	t	p-value
Constant	36.74	1.61		22.83	.000
Inner Speech	-0.114	.030	-.188	-3.82	.000

$F (1, 398)=14.62, p <.001, R^2=.035$

Note: B=*Unstandardized* *Coefficients,* β=Standardized Coefficients, SE=*Standard Error.*

Simple Linear Regression analysis is computed with inner speech as a predictor variable, and Insight subscale of self-awareness (SRIS) as an outcome variable. The R^2 value of .035 specifies that 3.5% of variance in the dependent variable can be considered for, by the predictor with F=14.62 and p<.0001. The results also specify that inner speech has a significant negative effect on prediction of insight subscale of self-awareness (SRIS).

Table 20

Simple Linear Regression analysis showing the effect of inner speech on the prediction of Mindfulness scale (MAAS) (N=400)

Model	B	SE	β	t	p-value
Constant	64.85	3.61		17.98	.000
Inner Speech	-.139	.07	-0.11	-2.08	.038

$F(1, 298)=4.33, p <.05, R^2=.011$

Note: B = *Unstandardized Coefficients,* β=Standardized Coefficients, *SE=Standard Error.*

Simple Linear Regression analysis is computed with inner speech as a predictor variable, and mindfulness as an outcome variable. The R^2 value of .011 specifies that 1.1% of variance in the dependent variable can be considered for, by the predictor with F=4.33 and p<.05. The results also specify that inner speech has a significant negative effect on prediction of mindfulness.

Table 21

Multiple Linear Regression analysis showing the effect subscales of inner speech on the prediction of self-awareness (SRIS) (N = 400)

Model	B	SE	β	t	p-value
Constant	71.61	2.74		26.14	.00
Self-criticism	-0.47	0.15	-0.17	-3.15	.002
Self-reinforcement	0.50	0.15	0.17	3.27	.001
Self-management	0.62	0.20	0.19	3.18	.002
Social assessment	-0.04	0.17	-0.02	-0.24	.814

$F(4, 395)=8.9, p<.01; R^2=.083$

Note: *B=Unstandardized Coefficients,* β=Standardized Coefficients, *SE=Standard Error.*

Multiple Linear Regression analysis is computed with self-criticism, self-reflection, self-management and social assessment as a predictor variables, and self-awareness (SRIS) as an outcome variable. The R^2 value of .083 specifies that 8.3% of variance in the dependent variable can be considered for, by the predictors with F=8.9 and p<.01. The results also specify that self-criticism has a significant negative effect and self-reinforcement and self-management has a significant positive effect on self-awareness, whereas social assessment (β=-0.02) has a non-significant negative effect on self-awareness.

Table 22

Multiple Linear Regression analysis showing the effect of subscales of inner speech on the prediction of self-Reflection subscale of Self-Awareness (SRIS) (N=400)

Model	B	SE	β	t	p-value
Constant	37.164	2.161		17.199	.000
Self-criticism	.056	.117	.026	.481	.631
Self- reinforcement	.125	.121	.054	1.035	.301
Self-management	.561	.153	.216	3.664	.000
Social assessment	.231	.131	.102	1.765	.078

$F(4, 395)=11.14; R^2=.101$

Note: B=Unstandardized Coefficients, β=Standardized Coefficients, SE=Standard Error.

Multiple Linear Regression analysis is computed with self-criticism, self-reinforcement, self-management and social assessment as predictor variables, and self-reflection, a subscale of self-awareness (SRIS), as an outcome variable. The R^2 value of .101 specifies that 10.1% of variance in the dependent variable can be considered for, by the predictors with F=11.14 and p<.01. The results also specify that self-management has a significant positive effect on prediction of self-reflection whereas self-criticism, self-reinforcement and social assessment have a non-significant positive effect on self-reflection subscale of self-awareness (SRIS).

Table 23

Multiple Linear Regression analysis showing the effect of subscales of inner speech on the prediction of Insight subscale of Self-Awareness (SRIS) (N=400)

Model	B	SE	β	t	p-value
Constant	34.444	1.534		22.456	.000
Self-criticism	-.523	.083	-.322	-6.301	.000
Self-reinforcement	.377	.086	.218	4.389	.000
Self-management	.057	.109	.029	.520	.603
Social assessment	-.270	.093	-.162	-2.907	.004

$F (4, 395)=20.21, p <.001,; R^2=.170$

Note: B = Unstandardized Coefficients, β=Standardized Coefficients, SE=Standard Error.

Multiple Linear Regression analysis is computed with self-criticism, self-reinforcement, self-management and social assessment as predictor variables, and insight, a subscale of self-awareness, as an outcome variable. The R^2 value of .170 specifies that 17% of variance in the dependent variable can be considered for, by the predictors with F=20.21 and p<.001. The results also specify that self-criticism and social assessment have a significant negative effect on prediction of insight, whereas self-reinforcement has a significant positive effect on insight subscale of self-awareness and self-management has a non-significant positive effect on insight subscale.

Table 24

Multiple Linear Regression analysis showing the effect of subscales of inner speech on the prediction of Mindfulness scale (MAAS) (N=400)

Model	B	SE	β	t	p-value
Constant	62.368	3.653		17.072	.000
Self-criticism	-.543	.198	-.151	-2.746	.006
Self-reinforcement	.124	.205	.032	.605	.546
Self-management	.406	.259	.095	1.566	.118
Social assessment	-.441	.222	-.119	-1.988	.047

$F (4, 395)=3.93, p <.05, R^2=.038$

Note: B=Unstandardized Coefficients, β=Standardized Coefficients, SE=Standard Error.

Multiple Linear Regression analysis is computed with self-criticism, self-reinforcement, self-management and social assessment as predictor variables, and mindfulness as an outcome variable. The R^2 value of .038 specifies that 3.8% of variance in the dependent variable can be considered for, by the predictors with F=3.93 and p<.05. The results also specify that self-criticism and social assessment have a significant negative effect on prediction of mindfulness whereas self-reinforcement and self-management has a non-significant positive effect on mindfulness scale.

Table 25

Multiple Linear Regression analysis showing the effect of Self-reflection and Insight on the prediction of Mindfulness (MAAS) (N = 400)

Model	B	SE	β	t	p-value
Constant	22.64	4.88		4.64	.000
Self-Reflection	0.16	0.08	0.10	2.14	.033
Insight	0.87	0.10	0.40	8.58	.000

F (2, 397)=39.48, p <.01, R^2=.166

Note: *B=Unstandardized Coefficients, β=Standardized Coefficients, SE=Standard Error.*

Multiple Linear Regression analysis is computed with self-reflection and insight as a predictor variables, and mindfulness as an outcome variable. The R^2 value of .166 specifies that 16.6% of variance in the dependent variable can be considered for, by the predictor with F=39.48 and p<.01. The results also specify that self-reflection and insight both has significant positive effect on prediction of MAAS.

Table 26

Mean differences between Male and Female on Inner Speech (STS) and on its subscales (N=400)

	Male (n=221)		Female (n=179)				95% CI		
	M	SD	M	SD	t (398)	p	LL	UL	Cohen's d
STS	52.91	8.27	53.99	8.86	1.25	.21	-2.76	0.61	0.127
SC	11.96	3.25	12.19	3.10	0.71	.48	-0.85	0.40	0.072
SR	14.08	2.95	14.11	3.04	0.80	.93	-0.62	0.57	0.010
SM	13.96	2.61	14.15	2.78	0.69	.49	-0.72	0.35	0.070
SA	12.91	3.05	13.55	3.13	2.06	.04	0.30	1.25	0.208

Note: M=Mean; SD=Standard Deviation; STS= Self Talk Scale; SC = Self-Criticism; SR=Self -Reinforcement; SM=Self-Management; SA=Social Assessment

Table 26 shows the mean differences and standard deviation between male and female on the score of STS. Independent-samples t-test indicates that there is no significant means differences between male and female on the frequency of inner speech (STS) and its subscales, self-criticism, self-reinforcement and self-management, whereas there are significant differences between male and female on the subscale of Social Assessment inner speech. Figures show that females have slightly higher mean on social assessment inner speech as compared to male sample with $t=2.06$ and $p<.05$.

Table 27

Mean differences between Male and Female on the scores of Self-Awareness (SRIS) and its subscales (N = 400)

	Male (n=221)		Female (n=179)		t (398)		95% CI		Cohen's d
	M	SD	M	SD		P	LL	UL	
SRIS	80.81	8.52	81.70	9.09	1.01	.31	-2.63	0.84	0.101
SR	50.29	6.30	50.85	7.78	0.80	.42	-1.95	0.82	0.080
IN	30.52	4.83	30.85	5.56	0.63	.53	-1.35	0.69	0.064

Note: M=Mean; SD=Standard Deviation; SRIS= Self-Reflection and Insight Scale; SR = Self-Reflection; IN=Insight

Table 27 shows the mean differences and standard deviation between male and female on the score of SRIS and on its two subscales. Independent-samples t-test indicates that there are no significant mean differences between male and female neither on the whole Self-Awareness scale nor on its subscales, Self-reflection and Insight.

Table 28

Mean differences between Male and Female on the score of Mindfulness (MAAS) (N = 400)

	Male (n=221)		Female (n=179)				95% CI		Cohen's d
	M	SD	M	SD	t (398)	p	LL	UL	
MAAS	55.92	10.65	59.31	12.1	2.06	.003	1.15	5.63	0.300

Note: M=Mean; SD=Standard Deviation; MAAS= Mindfulness

Table 28 shows the mean differences and standard deviation between male and female on the score of mindfulness scale. Independent-samples t-test indicates that there is a significant mean difference between male and female on the mindfulness scale. Figures show that female sample has higher mindfulness as compared to male sample. The mean difference 3.39 is significant as p <.01.

Table 29

Mean differences between two age groups on the score of Inner Speech (STS) and on its subscales (N=400)

	Upto 23 Years (n=218)		Above 23 Years upto 40(n=182)				95% CI		Cohen's d
	M	SD	M	SD	t (398)	p	LL	UL	
STS	54.51	7.93	52.05	9.07	2.89	.004	0.78	4.13	0.291
SC	12.29	3.10	11.79	3.26	1.57	.116	-0.12	1.13	0.158
SR	14.32	2.95	13.82	3.01	1.67	.094	-.086	1.09	0.168
SM	14.34	2.56	13.68	2.78	2.47	.014	0.13	1.19	0.248
SA	13.56	3.04	13.55	3.13	2.56	.011	0.18	1.40	0.0032

Note: M =Mean; SD=Standard Deviation; STS= Self Talk Scale; SC = Self-Criticism; SR=Self -Reinforcement; SM=Self-Management; SA=Social Assessment

Table 29 shows the mean differences and standard deviation between age groups on the score of STS and its subscales. Independent-samples t-test indicates that there is significant mean differences between two age groups on total frequency of inner speech (STS) as p <.01. There is also significant mean differences between age groups on the subscales self-management and social assessment as p<.05 whereas there are non-significant differences between age groups on the subscales self-criticism and self-reinforcement as p>.05. Figures show that the age group up to 23 years has higher mean on STS and its subscales as compared to age group above 23 years.

Table 30

Mean differences between age groups on the score of SRIS and on its subscales (N = 400)

	Upto 23 Years (n=218)		Above 23 Years upto 40 (n=182)		t (398)	p	95% CI		Cohen's d
	M	SD	M	SD			LL	UL	
SRIS	80.75	8.05	81.76	9.56	-1.15	.25	-2.74	0.71	-0.115
SR	50.77	6.64	50.27	7.40	0.71	.479	-0.88	1.88	0.072
Insight	29.98	5.16	31.49	5.06	-2.95	.003	-2.52	-0.5	-0.296

Note: M=Mean; SD=Standard Deviation; SRIS= Self-Reflection and Insight Scale; SR = Self-Reflection;

Table 30 shows the mean differences and standard deviation between age groups on the score of SRIS and on its two subscales. Independent-samples t-test indicates that there are non-significant mean differences between age groups on the total Self-Awareness scale and its subscale, Self-reflection but there is a significant mean difference on the score of insight subscale of SRIS. Above 23 years age group has higher insight score as compared to upto 23 years.

Table 31

Mean differences between age groups on the score of MAAS scale (N = 400)

	Upto 23 Years (n=218)		Above 23 Years upto 40 (n=182)				95% CI		Cohen's d
	M	SD	M	SD	t (398)	P	LL	UL	
MAAS	56.01	11.30	59.15	11.37	-2.75	.006	-5.37	-0.89	0.278

Note: M=Mean; SD=Standard Deviation;; MAAS= Mindfulness

Table 31 shows the mean differences and standard deviation between age groups on the score of MAAS scale. Independent-samples t-test indicates that there is significant mean differences between two age groups on the score of MAAS as p <.01. Figures show that above 23 years age group has higher MAAS score as compared to up to 23 years.

Table 32

Mean Differences among educational level on STS, SRIS and MAAS (N = 400)

Scales	Intermediate (n=152)		Graduate (n=91)		Master (n=154)		F	P
	M	SD	M	SD	M	SD		
STS	54.55	8.11	53.86	7.67	52.10	9.3	3.31	.037
SC	12.47	3.19	12.05	3.19	11.72	3.13	2.16	.116
SR	14.18	2.91	14.52	2.84	13.77	3.13	1.85	.157
SM	14.39	2.58	14.05	2.49	13.73	2.87	2.37	.095
SA	13.51	3006	13.23	3.04	12.88	3.14	1.56	.210
SRIS	81.41	7.95	79.77	8.28	81.71	9.74	1.54	.214
SR	51.30	6.38	50.26	6.57	49.85	7.74	1.70	.183
IN	30.12	4.75	29.51	5.84	31.89	4.94	7.68	.001
MAAS	55.57	10.63	57.29	11.42	59.29	11.9	4.13	.017

Note: M = Mean; SD=Standard Deviation; STS= Self Talk Scale; SC = Self-Criticism; SR=Self-Reinforcement; SM=Self-Management; SA=Social Assessment; SRIS= Self-Reflection and Insight Scale; SR = Self-Reflection; IN=Insight; MAAS= Mindfulness

Table 32 represents mean, standard deviation, and F values on STS, SRIS and MAAS among education level. There is significant difference among educational level on overall STS, insight subscale of SRIS and MAAS while all other study variables do not differ significantly. To investigate further post hoc analyses was conducted as demonstrated in table 33.

Table 33

Post hoc Analysis on STS, MAAS and Insight among Educational levels (N=400)

Scale	i (Edu.)	J (Edu.)	Mean D (i-j)	SE	P	95% CI LL	95% CI UL
STS	Intermediate	Graduate	0.70	1.1	1.00	-2.0	3.40
		Master	2.45	0.9	.036	0.11	4.78
	Graduate	Master	1.75	1.1	.36	-0.95	4.45
MAAS	Intermediate	Graduate	-1.71	1.5	.76	-5.32	1.89
		Master	-3.72	1.3	.013	-6.83	-0.61
	Graduate	Master	-2.01	1.5	.54	-5.60	1.59
Insight	Intermediate	Graduate	0.61	.67	1.0	-1.01	2.24
		Master	-1.77	.58	.008	-3.17	-0.37
	Graduate	Master	-2.38	.67	.001	-4.0	-0.76

Table 33 shows post hoc analysis for STS, MAAS and Insight. Results indicate that intermediate and master groups differ significantly on STS ($MD = 2.45$, $p<.05$). Intermediate group scored higher on STS than master educational level. Other group comparisons for STS are non-significant. For MAAS, results indicate that intermediate and master groups differ significantly ($MD = -3.72$, $p<.05$). Intermediate group scored lower on MAAS than master educational level. Other group comparisons for MAAS are non-significant. Analysis revealed that on Insight subscale of SRIS, intermediate and master as well as graduation and master groups differ significantly i.e. ($MD = -1.77$, $p<.01$) and ($MD = -2.38$, $p<.01$) respectively. Master level educational group scored higher on Insight as compared to intermediate and graduation level.

Moderation Analysis

The present study also explored the moderating role of various demographic variables (gender, age and education) in relation to study variables. Therefore, to check the moderating role of gender, age and education, Process macro (version 21) by Andrew Hayes was selected. It was assumed that these variables will moderate the relationship between MAAS and STS; and STS and SRIS.

Table 34

Moderating effect of age, on the relationship between STS and MAAS (N = 400)

Variables	MAAS	
	B	CI 95%
Constant	57.30**	[56.15, 58.42]
Age	0.18	[-0.05, .42]
STS	-0.11	[-.24, .023]
Int_1	-0.02	[-.045, .002]
R^2	.028	
ΔR^2	.008	
F	3.39	

Note: ** $p<.01$; Int_1= STS*Age; B= Unstandardized coefficients; R^2 = explained variance, ΔR^2= change in R^2

Table 34 illustrates moderation analysis for age, on the relationship between STS and MAAS. Age is not acting as moderator for the relationship between STS and MAAS. Results revealed that age and STS are non-significant predictors of MAAS (R^2 =.028 $p>.05$). The interaction term is also non-significant (B =-.02; $p>.05$) by explaining the 0.8 % additional variance.

Table 35

Moderating effect of education, on the relationship between STS and MAAS (N = 400)

Variables	MAAS	
	B	CI 95%
Constant	57.34**	[56.22, 58.47]
Education	1.73	[0.45, 3.00]
STS	-0.10	[-.23, .032]
Int_1	-0.06	[-.21, .08]
R^2	.029	
ΔR^2	.002	
F	0.72	

Note: ** $p<.01$; Int_1= STS*Education; B= Unstandardized coefficients; R^2 = explained variance, ΔR^2= change in R^2

Table 35 illustrates moderation analysis for education, on the relationship between STS and MAAS. Education is not acting as moderator for the relationship between STS and MAAS. Results revealed that education is a significant predictor of MAAS whereas STS is a non-significant predictor of MAAS. The interaction term is also non-significant (B =-.06; $p>.05$) by explaining the 0.2 % additional variance.

Table 36

Moderating effect of gender on the relationship between STS and MAAS (N = 400)

Variables	MAAS	
	B	CI 95%
Constant	57.42**	[56.31, 58.53]
Gender	3.55*	[1.31, 5.78]
STS	-0.15*	[-.28, -.023]
Int_1	.068	[-.19, .32]
R^2	.035	
ΔR^2	.0006	
F	0.26	

Note: *$p<.05$; ** $p<.01$; Int_1= STS*Gender; B= Unstandardized coefficients; R^2 = explained variance, ΔR^2= change in R^2

Table 36 illustrates moderation analysis for gender, in the relationship between STS and MAAS. Gender is not acting as moderator for the relationship between STS and MAAS. Results revealed that gender is a significant positive predictor of MAAS and STS is a significant negative predictor of MAAS. However the interaction term is non-significant (*B* =-.06; *p>.05*) by explaining the 0.06 % additional variance.

Table 37

Moderating effect of gender on the relationship between STS and SRIS (N = 400)

Variables	SRIS B	CI 95%
Constant	70.38**	[62.45, 78.31]
Gender	7.92	[-2.96, 18.81]
STS	0.21*	[0.06, 0.35]
Int_1	-0.16	[-0.36, 0.04]
R^2	.024	
ΔR^2	.006	
F	2.52	

Note: ** $p<.01$; Int_1= STS*Gender; B= Unstandardized coefficients; R^2 = explained variance, ΔR^2= change in R^2

Table 37 illustrates moderation analysis for gender, in the relationship between STS and SRIS. Gender is not acting as moderator for the relationship between STS and SRIS. Results revealed that gender is a non-significant predictor of SRIS and STS is a significant predictor of SRIS. However the interaction term is non-significant (*B =-0.16; p>.05*) by explaining the 0.6 % additional variance.

Table 38

Moderating effect of education, on the relationship between STS and SRIS (N = 400).

Variables	SRIS	
	B	CI 95%
Constant	77.29**	[62.66, 61.54]
Education	-1.67	[-7.81, 4.47]
STS	0.06	[-0.20, 0.32]
Int_1	.04	[-0.07, 0.15]
R^2	.02	
ΔR^2	.001	
F	0.43	

Note: ** $p<.01$; Int_1= STS*Education; B= Unstandardized coefficients; R^2 = explained variance, ΔR^2= change in R^2

Table 38 illustrates moderation analysis for education, in the relationship between STS and *SRIS*. Education is not acting as moderator for the relationship between STS and *SRIS*. Results revealed that education is a non-significant predictor of *SRIS* and STS is also non-significant predictor of *SRIS*. The interaction term is also non-significant (*B =0.04; p>.05*) by explaining the 0.1 % additional variance.

Table 39

Moderating effect of age, on the relationship between STS and SRIS (N = 400)

Variables	SRIS	
	B	CI 95%
Constant	67.064**	[40.44. 93.68]
Age	0.28	[-0.74, 1.30]
STS	0.24	[-0.26, 0.73]
Int_1	-0.004	[-0.02. 0.15]
R^2	.017	
ΔR^2	.0004	
F	0.16	

Note: ** $p<.01$; Int_1= STS*Age; B= Unstandardized coefficients; R^2 = explained variance, ΔR^2= change in R^2

Table 39 illustrates moderation analysis for age, in the relationship between STS and *SRIS*. Age is not acting as moderator for the relationship between STS and *SRIS*. Results revealed that age and STS are non-significant predictors of *SRIS* (R^2 =.017, $p>.05$). The interaction term is also non-significant (B =-0.004; $p>.05$) by explaining the 0.04 % additional variance.

DISCUSSION

DISCUSSION

Once one becomes self-conscious, he cannot go back, no matter how he denies himself, drugs himself, leaps or falls away from himself. Robert Solomon, 2005.

The present research examined the relationship of inner speech with two different kinds of consciousness i.e. self-awareness and mindfulness. The relationship of mindfulness and self-awareness with each other was also explored. The two aspects of self-awareness i.e. self-reflection and insight were investigated in relation to each other. They were also explored in relation to mindfulness and inner speech as well as different forms of inner speech. The moderating effects of age, gender and educational level on Inner speech, self-awareness and mindfulness were investigated. Demographics were also evaluated in relation to inner speech, self awareness and mindfulness.

Results showed that inner speech was positively related to self-awareness. The findings confirmed the hypothesis that there is a positive relationship between inner speech and self-awareness. The findings were also consistent with previous research (Morin, 1992, as cited in Morin 2005; Siegrist, 1995; Morin et al, 1993; Schneider et al, 2005; Schneider, 2002).

Self-awareness can only exist when a person has a past as well as future. The existence of past and future is not possible without talking to oneself. Self-talk construct a story about oneself and this story binds together past, present

and future as Daniel Dennett (1992) suggested that Self is nothing more than the narrative we develop about ourselves.

When an animal is hurt by another animal or human, the hurt feelings seems to be momentary as compared to human adult. Due to the absence of language and inner speech, the animal cannot repeat or rehearse the event again and again but this is not the case with human beings. Due to inner speech, a person will talk to himself repeatedly about a painful event. In this way he or she builds a narrative about that event which becomes part of the Self of that individual. Self-awareness is always accompanied with self-evaluation. Self-evaluation is about judging, categorizing or interpreting something. All this requires inner speech to take place. As Julian Jeans (as cited in Morin, 2005) remarked that 'How can you know yourself [self-awareness] unless you have an analog 'I' [inner speech] narratizing in a mind-space and reminiscing or having episodic memory about what you have been doing and who you are' (p. 137).

The hypothesis of the inverse relationship between mindfulness and inner speech was confirmed as findings showed that mindfulness was negatively predicted by inner speech. The finding of the present research is consistent with the claims regarding mindfulness and its relationship to inner speech in the literature about mindfulness (Tolle, 2004; Osho, 2012; Castaneda 1974/1991; Taylor, 2006; S. Harris, 2014; D. Harris, 2014; Leary, 2004).

Mindfulness is about attending the present moment and one cannot remain focused on the present if he is engaged in frequent inner speech. Inner speech draws a person towards the past or future and detaches him from what is happing in the present moment. People are less mindful when they are suffering from psychological disorders e.g. anxiety and depression. In anxiety disorders people are continuously engaged in worrying about imagined catastrophes. Worrying not only involves imagery but also involve increased inner speech. Depression is characterized by rumination. Depressed people ruminate about their past decisions, mistakes or negative events which requires frequent inner speech. Therefore it seems that the more we engage in inner speech, the more our minds wander away which means poor attention and less focus on the present.

Mindfulness training or practices involves different skills which help in reducing inner speech. One way of decreasing inner speech is to consider it neutral. Inner speech is neither judged as good nor bad. This decreases one's involvement with the contents of inner speech. This kind of non-judgmental attitude to inner speech weakens its grip on a person and consequently reduces its intensity and frequency. Inner speech is also reduced by focusing on breath or bodily sensations. These practices can obstruct the intrusive flow of inner speech by creating some space in the mind. Mystical traditions and their advocates have always asserted that meditation and mindfulness reduce inner speech and the current study provided empirical evidence in support of their claims.

Inner speech may have different functions in self-awareness and mindfulness. Inner speech in self-awareness would perpetuate more inner speech whereas inner speech in mindfulness is aimed at reducing the inner speech itself (as animals and children cannot sustain attention for a long time because of the absence of inner speech). For example considering one's inner speech as mere words or sentences in mindfulness rather than facts require words for such consideration but this kind of strategy would reduce inner speech rather than perpetuating it. Focusing one's attention on something or enhanced attention can also decrease inner speech (compared to mind wandering) which is a central component of mindfulness. However the manipulation of attention also requires inner speech. In case of self-awareness inner speech is not considered as unreal but it is believed to be true or false in relation to facts which would produce more inner speech as part of self examination.

Correlational analysis showed that there is a positive relationship between self-awareness and mindfulness. This finding is contrary to the hypothesis of current study which predicted an inverse relationship between the two. This finding is also inconsistent with previous studies which found no relationship between the two (Brown & Ryan, 2003; Beitel et al., 2005).

The results of the present study also indicated that self-awareness was positively related to inner speech whereas mindfulness was inversely related to inner speech. However positive relationship between self-awareness and mindfulness suggest that the difference in inner speech may not create a fundamental difference or inverse relationship between the two constructs. Both mindfulness and self-awareness involve attention to oneself and therefore

attention to Self (or more appropriately attention to one's bodily sensations and mental states in mindfulness) may unite these constructs as compared to the difference in inner speech, divorcing them from one another. It can be suggested that both self-awareness and mindfulness are forms of self-focused attention. However they utilize different strategies to achieve self-focus. In self-awareness it is achieved through increased inner speech whereas in mindfulness it is achieved through enhanced attention to oneself by reducing inner speech. Self-awareness and mindfulness can also be considered negative and positive forms of self-consciousness given their opposite relationship to both inner speech and psychiatric illnesses. It can also be suggested that increased inner speech in self-awareness build narrative about oneself(and may decrease attention as it can also lead to mind wandering)whereas that narrative is deconstructed in mindfulness by reducing inner speech which enhance one's attention.

It can be argued that when one's attention is fully engaged by something external e.g. sports or creative work, then the Self completely disappears but Self is maintained in mindfulness because of self focused attention. Self-awareness can also be contrasted with primary consciousness found in animals and children where attention is directed outward and not towards oneself (animals and children are also mindful in the sense of present moment awareness but they cannot attend to themselves and their attention span is also limited as both of these factors are important for mindfulness).Therefore, both self-awareness and mindfulness are positively related to each other because of the existence of Self in both constructs. Acquired mindfulness is a form of self regulation which cannot be carried out without the Self and therefore

mindfulness also does not seem to be different in the context of self regulation from self-awareness.

In mindfulness, the subject-object distinction exists and therefore it can be argued that the Self also exists in the form of subject object distinction but a particular form of meditation dissolve this distinction and therefore the non existence of Self is possible in those people who practice this form of meditation i.e Dzogchen meditation (S.Harris, 2014).

The literature on mindfulness not only suggested the reduction in inner speech through mindfulness but also the shrinking or disappearance of the Self. The findings of the current study endorse the suggestion about inner speech but it does not endorse the suggestion about Self. Mindfulness cannot reduce the Self in any significant way as the findings of the present study showed but it is possible that it may have positive impact on the Self due to its non-judgmental stance or due to its present oriented focus. However, one can also view the current findings in the context of alternative explanations.

Mindfulness can exist as a trait but it can also be achieved through training. On different self-report measures of mindfulness, meditators scored higher than non-meditators on mindfulness as well as psychological well being (Baer, Walsh & Lykins, 2009; Baer, Lykins, & Peters, 2012; Walach, Buchheld, Buttenmüller, Kleinknecht, & Schmidt, 2006).).According to Baer et al. (2008), mindfulness consisted of various facets i.e. observing, describing, acting with awareness, non-judging of inner experience and non-reactivity to inner experience. In a study, they found that the students score on the facet of

observing was negatively correlated with well being as compared to regular or experienced meditators. Baer et al., suggested that this difference between students sample and meditators could be due to the ability of meditators to shift their attention flexibly rather than getting absorbed in particular stimuli. It could also be due to meditators ability to label the observed stimuli with words. These findings suggest the possibility that mindfulness could be different in meditators as compared to non-meditators. This also suggests the possibility that mindfulness may be differently related to self-awareness in meditators group as the current study was carried out on general population.

It is also possible that the inverse relationship between self-awareness and mindfulness may not apply to the existence of mindfulness in general population or regular meditators but it may be true of those rare individuals, who have attained certain enlightenment or who had mystical experiences or what Maslow (1964) termed as "peak experiences". Peak or mystical experience can happen to people without practicing mindfulness but mindfulness is one of the important sources of peak experience.

Consciousness usually exits along with its contents. In other words, if you are conscious, you are conscious of something e.g. things in the external environment or the contents of one's own mind. However, mystics believe that it is possible for a person, due to prolong meditation and mindfulness, to attain a state of consciousness without contents. This state of consciousness is termed as pure consciousness or the state of "no mind". Consciousness without contents would also mean the complete absence of inner speech and therefore the complete absence of the Self. It can be argued that these states of

consciousness would be temporary because it is not possible to be functional without the Self. However, the possibility for an inverse relationship between self-awareness and inner speech can exist if subjects with 'pure consciousness' are compared in research to the self-conscious or self-aware group. All these instances present the possibility of shrinking the size of the Self to the degree where it can have an inverse relationship with self-awareness.

Grossman (2011) believes that mindfulness can only be achieved through practice or training. He suggests that the non-meditators cannot understand the terminology related to mindfulness and therefore assessment of mindfulness in this population would not reveal an accurate account of mindfulness. He even dismissed the idea of assessing mindfulness in experienced or trained meditators through self-report questionnaires because of the bias in the reports of subjects. He endorsed other ways of assessing mindfulness i.e. qualitative investigation and interview method. There was no inverse relationship between mindfulness and inner speech while using self report questionnaires in the present study, but the possibility of having different outcome is there by measuring mindfulness by alternative methods.

Earlier studies which showed that there is no relationship between self-awareness and mindfulness can be due to the difference in cultures. It can also be due to the different scale used in the previous studies i.e. Self-consciousness scale. The scale has less internal consistency (Chang, 1998; Ruipérez & Belloch, 2003; Anderson, Bohon & Berrigan, 1996). The scale may also be taping a negative form of self-reflection (Grant et al., 2002). The instrument

used in the current study i.e. Self-Reflection and Insight Scale was developed by Grant et al., (2002) which was an improvement on the previous scale.

Trapnell and Campbell (1999) indicated that self-awareness is associated with accurate or more self-knowledge which suggests that self-awareness should lead to good adjustment but self-awareness, on the other hand, is positively related to psychological disorders. Trapnell and Campbell termed this dilemma as the self-absorption paradox. However, they offered a resolution for this paradox by suggesting that there can be two kinds of self focus i.e. ruminative or neurotic self focus and intellectual self focus. Ruminative self focus would involve repeated thoughts of perils, unfairness and privations about the Self whereas intellectual self-focus would involve abstract and philosophical reflection on the Self. They also suggested that the difference in self focus would depend on the difference between motives which initiated the self focus. Self focus motivated by fear and threat would lead to rumination whereas self focus motivated by openness to experience and curiosity in Self would not result in distress.

Trapnell and Campbell (1999) reject the idea that more wisdom or knowledge about oneself in the form of self-awareness would lead to unhappiness. In their opinion, the outcome of self-focused attention would depend on the kind of self focus one is implying i.e. ruminative self focus or intellectual self focus. Someone who engages in self focus, which is not ruminative, needs not be unhappy or sad. They also suggested that self-awareness would not lead to comparisons with standards if it is motivated by the acquisition of knowledge about the Self. However, the literature on self-

awareness suggest that self-awareness results in self-evaluation in relation to some standard which can be the source of distress (Morin, 2011; Baumeister & Bushman, 2011).Trapnell and Campbell's solution to self-absorption paradox cannot explain that why the capacity for high self-awareness makes people more vulnerable to develop psychological disorders or why more reflective people are prone to distress compared to less reflective people?

A general observation shows that animals do not experience the kind of distress to which a human adult is prone. This is true despite the fact of the harsh existence of those animals. Among humans, less reflective humans are not vulnerable to psychological disorders compared to more reflective individuals. There would be particular exceptions but generally many would agree that high self-awareness or higher capacity for reflective thought can make a person more vulnerable to distress.

Trapnell and Campbell's (1999) contention about intellectual self-focus may not be right. Intellectual self-focus would increase one's knowledge of self but it can also be the source of psychological distress. It can come at the cost of social alienation, non-conformity to social norms or more isolation. It can make someone aware of the harsh realities of existence which is non-existent for less self-aware person. Reflective thought creates gap between one's real Self and the ideal Self and trying to achieve one's ideal Self would be unpleasant. Therefore, the core of mindfulness is to reduce or eliminate evaluative thought. The more one thinks, reflects or talks to himself, the gulf between the real and ideal self increases.

Reason can alienate a person from his emotions and passions. Socrates put supreme value on self-knowledge and reason and famously remarked that "The unexamined life is not worth living" (Plato, 1937, trans.p.420). However, Nietzsche (1908/1979) believed that rationality was a sign of decadence in case of Socrates. Nietzsche (1889/1977) defined decadence as something which is opposed to instincts. He suggested that "as long as life is ascending, happiness equals instinct." (p.479)

While discussing the meaninglessness of existence, Yalom (1980) wrote that the meaning of life cannot be found by reflecting on it. The only way to overcome the toxicity of meaninglessness of life is to avoid thinking about it and engage ourselves in the day to day life or in the moment. Yalom's suggestion is also applicable to self-awareness. Self-awareness and reason can be the source of more knowledge about oneself but it can also reduce engagement with life which is one of the major sources of psychological well being.

Therefore, self-absorption paradox can be resolved by not associating accurate knowledge of oneself with good adjustment or well-being. Self-knowledge which reduces self-reflection can be helpful by resolving a conflict or by addressing the source of distress. Any cognitive intervention which lessens self-examination can be therapeutic. However, self-knowledge or insight which perpetuates more reflection may not be healthy.

From above considerations, we can conclude that it is not the kind of self-awareness i.e. intellectual or ruminative self focus which results in different

consequences as theorized by Trapnell and Campbell (1999), but it is less or more reflection which makes the difference. Elliot and Coker (2008) suggested that one would find flaw in a perfect picture when it is subjected to close inspection and therefore the process of reflection would be counter-productive in the same way when applied to oneself. Therefore it can be argued that less reflection would be positively associated with well being whereas more reflection would be associated with more distress. As reflection is mostly carried out through inner speech therefore the same would be true about inner speech.

The above suggestion is also in accord with Watkins (2008) work on repetitive thought. He showed that abstract or evaluative thought is unconstructive compared to concrete thought. Watkins and Teasdale, (2004) distinguished between analytical and concrete or experiential self focus and found that analytical self focus is maladaptive whereas experiential self focus is adaptive. Analytical self focus involves abstract or evaluative thought about oneself, whereas experiential self focus involve concrete thought and non-evaluative mindful awareness. According to Nolen-Hoeksema, Wisco and Lyubomirsky (2008), this distinction between analytical and mindful self focus is also supported by neuroimaging studies. They suggested that the problematic aspects of reflection are its abstract and analytical aspects.

Self-awareness, in the form of abstract or analytical thought, is central to the scientific and technological progress of humankind but when it is applied to oneself or one's problems, it seems to backfire. In other words critical thinking is a great virtue with regards to science and philosophy but it becomes

a vice when applied to oneself and others or human relations. Therefore, the majority of great thinkers in history were afflicted with various psychological disorders.

Self-absorption paradox is all about self focused attention. More attention to self is related to more knowledge about oneself but it also results in more distress. Trapnell and Campbell (1999) divided self-awareness into two to resolve the paradox. However the scope of self focused attention can be expanded to resolve the self-absorption paradox in another way. Self-awareness is not the only kind of self focused attention but mindfulness is also a form of self focused attention. The former involves reflective thought whereas the latter involves non reflective or less reflective attention to self. To put it in another way, self focus is of two types i.e. linguistic self focus and non linguistic self focus. Linguistic self focus would represent self-awareness because of its positive association with inner speech, whereas mindfulness would represent non-linguistic or less linguistic self focus because of negative association with inner speech.

Self-awareness involves Self-reflection which involves self talk. When we talk to ourselves, we analyze something in certain respect. Therefore, linguistic self-awareness would usually result in some sort of evaluation but the same cannot be true of mindfulness. Self focused attention in the form of mindfulness would not allow more absorption in oneself because of its non-evaluative character. On the other hand, self focused attention in the form of self-awareness would allow more absorption in oneself due to its evaluative

character. Evaluations perpetuate themselves and build narratives which can inflate the Self.

Therefore, the key difference between these two modes of self focused attention is reflection or inner speech. We can also consider self focused attention to exist on continuum where at one end less reflection and less inner speech would represent mindfulness. On the other end would be self-awareness, which would involve more reflection and more inner speech. If one attends himself mindfully, the self-focus attention would be the source of good adjustment but not self-knowledge. Mindfulness can relate positively with intuition but not with intellectual or conceptual self-knowledge which belongs to self-awareness. If one attends himself self-consciously, involving thought, one would have more self-knowledge but one would also be maladjusted. Thus, the outcome of self focused attention would depend on the kind of self focused attention, one is employing. The frequency of inner speech would be more important in this context rather than the content or motives of inner speech. The probability of distress would increase with the increase in the frequency of inner speech because of inherent evaluations related with inner speech.

Self awareness is closely associated with the concept of Self whereas mindfulness is associated with selflessness. Many western thinkers denied the existence of Self. Hume (1739/2017) state that when he inspects his mind, he fined different mental states e.g. perceptions and emotions etc but there is no Self. In his view, we mistake the bundle of our different mental states as Self. Buddhism and most mystical traditions related to mindfulness also deny the existence of Self. However, this view may not be true.

In case of Hume's ((1739/2017) argument against the Self, one can argue that he gave an account of the mental contents but he did not account for the observer. The inspection of one's mental states does not reveal the existence of Self but then who is the observer or who is doing the introspection? Hume also did not account for consciousness in his analysis. He describes the human mind as if the mental states are happening without consciousness. In addition to different mental states, consciousness is required to own those mental states. Every human subject knew what his or her mental states are. He can also differentiate his own mental states from others if he is not suffering from some major psychiatric disorder. It would be perfectly rational for a person to disown his mental states and not differentiate it from others if he denies the existence of Self.

The case against Self in spirituality or mysticism is somewhat different as mystics believe in consciousness and consider it a fundamental reality of existence. They believe that Self is a fiction which is created by culture and particular life experiences. However, a false view of oneself does not account for the absence of it. Their denial of Self is based on their belief that consciousness in every human is the same but identification with the contents of consciousness create the illusion of Self or Ego. In other words, all humans share the same consciousness but due to different contents they consider themselves as separate Selves.

If we take human consciousness as the product of brain, consciousness of different individuals need not be identical with each other because their conscious minds are the products of different brains. Different brains have

different thoughts, desires and intelligences, therefore consciousness or how it is like for me is not identical with how it is like for another person. There are many similarities in how emotions and thoughts operate and the same would be true of consciousness, but all these processes are not identical in different individuals. The contents of consciousness certainly add to one's Self or Ego and Self can be the outcome of consciousness and its contents. However considering Self or the contents of consciousness as something alien from consciousness is a mistake.

We can also differentiate among different kinds of Selves i.e. the 'I' Self, the 'Me' Self and the experiential Self. We can be agnostic about the existence of 'Me' and 'I' Self. The 'Me' Self can be denied as it consists of beliefs about oneself and these beliefs can be mistaken. The 'I' Self which represent the agent can also be rejected as illusory as it is determined. However, the experiential Self which represents what it is like for a creature to be that particular creature is a kind of Self which cannot be refuted. This form of Self is rooted in consciousness. If consciousness is not universal but particular to an individual organism, then there exists a Self. This kind of Self can also be termed as implicit Self compared to explicit Selves i.e. 'I' and 'Me' Self. Selflessness is possible by the absence of explicit Self e.g. in mystical experience, sports or due to intense engagement in any activity. However, the denial of Self in the form of experiential Self or individual consciousness is an error.

The ''I' Self can also be divided into two parts or components; the Self as an agent and the Self as observer or monitoring Self. The agent Self is related to desiring, planning and action whereas the monitoring Self observe the agent

Self. .Rollo May (1981) also alluded to this distinction by dividing the Self into ego Self and psyche Self. The former correspond to the doer or wanting Self whereas the latter correspond to the awareness of the ego Self. According to Rollo May the transcendence of Self in Zen Buddhism is about the ego Self as the psyche Self cannot be transcended.(rather it is required to transcend the ego Self) and therefore Zen Buddhism is mistaken in its assertion of the transcendence of Self. Kierkegaard (1849/1954) referred to this characteristic of Self when he remarked that "the Self is a relation which relates itself to its own self". (p.146)

The ability to monitor one's mind or the contents of mind can be another source of Self which is also the central feature of mindfulness. Most animals lack this capacity along with inner speech and therefore can be considered as selfless in this context. Self cannot be overcome because "for us, even selflessness is something viewed self-consciously, something that would have to be striven for by each of us as an individual." (Solomon, 2005).

All the above considerations do not suggest the existence of metaphysical Self but it shows that Self exist as the consequence of the workings of brain. Self is also not possible without consciousness. Explicit Self can be regarded as a form of evolved consciousness. When a person lose consciousness in dreamless sleep, coma or in the form of death, he also lose his Self. Therefore, consciousness can rightly be the real soul of humans as well as other animals.

Many neuroscientists nowadays believe that there is no Self because there is no center in the brain where all mental states meet or get together.

However, it would be premature to arrive at this conclusion. Brain is such a complex organ that the way it accomplishes to give rise to a unified experience of Self may not be known as yet. The problem of Self can be analogous to the problem of consciousness. One of the central features of consciousness is the unity of experience. Humans do not have fragmented conscious experience. The unified conscious experience however results from the activities of brain but there is no center in the brain for conscious experience. The same can be true for the Self.

Sartre (cited in Solomon, 2006) differentiated between facticity and transcendence. Facticity relate to facts about one's life or givens e.g. one's place of birth, illnesses, genetics including our past etc, whereas transcendence represent one's possibilities e.g. desires, aspirations, choices etc. In other words, the former represent what one is and the latter represent what one wants to be. Sartre believes that an individual is in bad faith when he wants to escape either facticity or transcendence and therefore wants to become mere facticity or mere transcendence. Bad faith is flight from freedom and responsibility which is to integrate these two poles in one's life rather than identifying with one at the expense of another. Sartre suggests that bad faith arises because of the inherent freedom in the nature of consciousness as he put it "to be what it is not, and to not be what it is, " (as cited in Solomon, 2006.p.151).

Sartre's(as cited in Solomon, 2006) notions of consciousness and bad faith shows that humans can never be at peace with themselves because humans can never be what they are and they cannot be what they want to be or ought to be. Therefore, self-consciousness is distressing by its very nature. It also

suggests that the project of becoming one with oneself as conceived in spirituality is doomed to failure.

The psychologist Jordan Peterson (2018) believes that the fall of Adam from Eden represents the dawn of self-consciousness in evolution. If Peterson is right then mindfulness is an attempt to get rid of self-consciousness and to get back to that state of innocence and pure consciousness which was humankind's home in the past. Humans can go to some extent in that direction but they can never leave their new territory i.e. self-consciousness. They long for the lost heaven but the heaven is not available any more.

The findings of the current study showed that self-reflection and insight have an orthogonal relationship with each other. The findings are consistent with the hypothesis of the present study. The findings are also consistent with previous studies (Lyke, 2009; Silvia, Eichstaedt, & Phillips, 2005).Self reflection is the process of seeing oneself from a distance. Self-reflection involves objectifying oneself or the contents of one's mind. On the other hand, insight operates in different ways compared to self-reflection. Insight is a non analytical mode of self awareness. Self-reflection is not possible without language but language is not required for insight. The same is true of awareness, which is part of insight. One can be aware of something without inner speech.

The results confirmed the hypothesis that self-reflection is positively related to inner speech as inner speech was a significant predictor of self reflection. Self reflection in humans exists because of the existence of language.

Words are required to label, analyze or judge something and it is no wonder that language and self-reflection originated at the same time in evolution.

Insight was found to be negatively related to inner speech. Insight is not a deliberate process. Great scientists and thinkers usually got insights into a problem when they were not thinking about that problem.

The present study showed that mindfulness was not negatively predicted by self-reflection; rather mindfulness was predicted positively by self-reflection. The findings are not in accord with the hypothesis which proposed an inverse relationship between the two.

Mindfulness and self-reflection are distinct from each other because they are related to general well being in opposite ways as mindfulness is positively related with well being (Hollis-Walker & Colosimo 2011; Harrington, & Loffredo, 2011; Baer, et al., 2008; Bränström et al., 2011) but it is not true of self-reflection (Silvia & Phillips, 2011; Grant et al., 2002; Akın, & Yıldız, 2012; Nolen-Hoeksema et al., 2008). However, Stein and Grant (2014) believe that self-reflection is neutral and it does not lead to distress, depression or other form of psychopathology. According to Stein and Grant, self-reflection would be related to psychological distress when it does not lead to insight, but self-reflection would be positively related to well-being when it leads to insight. They suggest that self reflection would result in insight if it is mediated by positive core self-evaluations but self reflection would not lead to insight in the presence of dysfunctional attitudes because these dysfunctional attitudes suppress the relationship between self- reflection and insight.

Stein and Grant (2014) suggestions are based on a study in which they showed the existence of proposed relationship among these variables. If they are right, self-reflection may not represent a distressing kind of awareness but it may be more closely associated with mindfulness, which is a healthy form of awareness, and therefore the findings of the current study can be due to the existence of constructive self-reflection in the study group of the present study mediated by positive core self evaluations.

While highlighting the importance of insight in psychotherapy, Stein and Grant (2014) do not differentiate between the insight given by psychotherapists to their clients and insight reported by a person on a scale by himself. Insight given to the client in psychotherapy can be more reliable due to the professional background of the psychotherapist. The same would not be true about the insight reported by a person because of his subjective bias. Although the possibility of accurate insights exist but other alternative possibilities should also be entertain in case of insights reported by a person himself. For example a more reflective person would be sceptic about his insights into his behavior but a less reflective person may be more certain about his insight which may be false from an objective view point. As the philosopher Bertrand Russell (1933/1998) once remarked that "The fundamental cause of the trouble is that...the stupid are cocksure while the intelligent are full of doubt". (p.28)

People can have all sorts of intuitions and insights which are plainly false. If a person reports that he knew how his mind works, that would count as an insight on the scale but we may find on further investigation that he believes that a ghost or alien force is inserting certain thoughts in his mind and he is

aware or he has insight to their manipulation. In our culture people equate many kinds of superstitions with insights to oneself or one's problems. However the same would not apply when someone report how frequently he engages in self reflection or attend the present moment.

Positive core self-evaluations would certainly affect the quality of self-reflection and well being as we knew from therapeutic literature but they may not result in accurate insights as positive core self-evaluations have the capacity to create overoptimistic and unrealistic evaluations of oneself and one's life circumstances. The same would be true of negative self-evaluations or psychological distress as it cannot be equated with false insights about oneself. It is also possible that when a person believes or reports that he has insights to his mind or behaviour, it would relate positively with well being compared to someone who believe otherwise.

Nolen-Hoeksema et al., (2008) suggest that an insight need not be accurate to enhance one's mental health. They pointed out that many psychotherapies improve mental health despite that these are different from one another. They proposed that these psychotherapies provide an explanation or insight for one's problem which stop the process of self-examination or self-reflection. This cessation of self reflection is effective as self-reflection in itself is the source of distress. This is true even if that insight is false. In view of Nolen-Hoeksema et al., suggestion, this could also be true when someone arrive at insight by himself.

The investigation of the insight through self report inventories can only determine the existence or nonexistence of subjective insight. It does not tell us anything about the objective insight. Insight can be more objective if the written responses are followed by an interview to verify those responses or if few independent judges or psychologists further evaluate or probe the subjects. Stein and Grant (2014) equate self-awareness with self-knowledge which also seems incorrect. Self-knowledge is the consequence of self-awareness. It also seems incorrect to assume that one aspect of the same construct is the consequence of another aspect as aspects of the same construct should have parallel existence.

A more plausible explanation for the finding would be to assume the existence of self-reflection in mindfulness. Self-reflection is not only about analyzing one's thoughts or behavior but also not identifying with one's inner voice or detachment from one's own self-talk. Self-reflection would not exist if we were unable to adopt a certain perspective regarding our own mental contents. The fact that mindfulness involves a unique form of perspective about one's own mental contents suggests the existence of self-reflection. Self-reflection is not possible when an individual or organism is fully immersed in the experience. Therefore, the existence of perspective in both self-reflection and mindfulness suggest similarity between the two constructs. It can be argued that both Self and reflection exist in mindfulness; however the nature of Selves and perspectives can be different in mindfulness and self-awareness or self-reflection. Nevertheless, the possibility for a different relationship between self-reflection and mindfulness cannot be ruled out in meditators or those who had mystical experiences.

The results showed that insight was a positive predictor of mindfulness. This finding is consistent with the previous research (Akın, & Yıldız, 2012; Harrington et al., 2014). This finding is also in accord with the hypothesis of current research. Mindfulness is awareness of oneself without any concepts, whereas insight represents knowledge of one's behavior or mind without reasoning. Both constructs represent non-conceptual mode of self focused attention. However there is a difference between intuitive insight and logical or rational insight. Intuitive insight which does not involve conscious or deliberate reflection can exist in mindfulness. Rational or conceptual insight is the consequence of reflection. This kind of insight is followed by logical analysis and requires inner speech. As the Insight scale tap the intuitive insights, therefore it relate positively to mindfulness.

Regression analysis showed that self-awareness was not positively predicted by the self criticism and social assessment aspects of inner speech; rather self criticism aspect of inner speech, predicted self-awareness negatively. This finding also disconfirms the hypothesis which predicted positive relationship of self-awareness to social assessment and self-criticism aspects of inner speech. The finding also suggests that self-awareness is not unpleasant in the present study.

One explanation for the current finding may lie in the difference in culture. Self evaluation is the consequence of self awareness, and it can be argued that self-awareness may be more unpleasant in the western culture compared to the east. Western culture is more individualistic and therefore one's success or failure in life is attributed to oneself. When something goes wrong,

the individual blames himself for that mishap. On the other hand, in the eastern cultures, the Self is interdependent and an individual does not consider himself to be excessively responsible for bad outcomes. Religion, family and tradition are all considered to be part of the Self. The current finding also highlights the importance of the contents of inner speech.

Correlation analysis showed that self-criticism and social-assessment aspects of inner speech are positively related with self-reflection. However, multiple regression analysis showed that self criticism and social assessment aspects of inner speech are not significant positive predictors of self-reflection. The findings suggest that self-reflection is not particularly a negative kind of self focused attention. The difference in cultures can also account for the present findings.

The hypothesis that insight is negatively related with social assessment and self criticism self-talk was confirmed by the findings of the current study. Insight and Self-criticism and social assessment inner speech seems to be opposite to each other as insight may not be facilitated by self-criticism and social assessment self-talk but rather this kind of inner speech may impede insight.

The findings of the present study showed that self-criticism and social assessment aspects of inner speech were the negative predictors of mindfulness. Someone who criticizes himself or evaluate his actions frequently cannot remain mindful. His mind would be rarely focused on the present as he would remain absorbed in himself most of the time. This furthermore indicate that

mindfulness is conducive to well being as it negatively relates to the evaluative or negative forms of inner speech.

Demographic variables i.e. age; gender and education were found to have no moderating effects on the relationship between inner speech and self-awareness. The same was true about the relationship between mindfulness and inner speech. Previous studies as well as the present study showed significant differences in scores on the overall or some aspects of self-awareness, mindfulness and inner speech in relation to demographics. However, the lack of moderating effects of these demographics suggest that inner speech, self-awareness and mindfulness are such pervasive and stable features of human minds which cannot be moderated by demographic variables. However there can be an alternative explanation for the present findings.

In the current study, the age range of the participants was 20 to 40 years but if we expand the age range from 20 to 60 or 20 to 80 years, the effects of age would be more pronounced and therefore it is possible that age would moderate the relationship between inner speech and self-awareness as well as mindfulness.

The same can be assumed in the case of educational level. Learning or wisdom is a lifelong process. In the academic field, a person in his sixties would be more mindful and insightful compared to a person in his thirties and may be far more mindful compared to someone in his early twenties. Thus educational level in the form a degree would have its own effects but the accumulation of knowledge afterwards is also important. Therefore if we expand educational

level in terms of accumulative knowledge or academic professional career (in addition to certain degrees), the moderating effects of educational level are possible on the interaction of inner speech with self-awareness and mindfulness.

The constitution of a man and woman is different from one another biologically and therefore their psyche is also different in regard to their needs and preferences. However, their mental lives are also related to their roles in society. The present research includes men and women who shared the same role as members of society i.e. getting education in a particular institution. It is possible that their roles remain the same when they get out of the university e.g. acquiring a job for financial reasons or they can have different roles e.g. men doing some work for earning money whereas women working as housewives. Men and women can have different roles from early years in cultures where women are not allowed to get education. There is a possibility of moderating effect on the interaction of main study variables in case of gender, where men and women perform distinct roles in a society.

Additional Findings of the Study

The findings of the current study showed that the two forms of inner speech i.e. self-reinforcement and self-management were found to have different relationship with mindfulness, insight, self-reflection and self-awareness. There was no significant positive relationship between mindfulness and these two forms of inner speech. Self-reinforcement inner speech represents a positive form of inner speech, whereas self-management inner speech is related with self-regulation. Mindfulness was found to be superior in regard to

self regulation compared to self-awareness in some studies (Levesque & Brown, 2007; Creswell, Way, Eisenberger & Liehermen, 2007) and it is also positively related to wellbeing compared to self-awareness. However, the absence of positive relationship of mindfulness to self- reinforcement and self-management inner speech suggest that self regulation and wellbeing in mindfulness is non-linguistic as mindfulness is also inversely related to inner speech in the current study. Self regulation may be performed by employing attentional resources rather than self-regulating through talking to oneself. The sense of well being may also relate to focusing on the present moment rather than dwelling on past and future.

The insight aspect of self-awareness was positively predicted by self-reinforcement inner speech but its relationship with self-management inner speech was not significant. Self reinforcement inner speech relates to rewarding oneself on something and one can argue that sense of knowing or having insight to one's behavior may be rewarding. The absence of positive relationship of insight to self-management inner speech may also indicate the existence of non-verbal self-regulation in insight. Self-reflection was positively predicted by self management inner speech. Self regulation requires instructing oneself about what to do or avoid and therefore the positive relationship of self management inner speech with self-reflection makes sense. However, the relationship of self-reflection to self-reinforcement inner speech was not positively significant. Self-awareness was predicted positively by both self-reinforcement and self-management inner speech which shows the strong relationship of self-awareness to self-regulation.

Additional Findings in relation to Demographic variables

The current study also investigated demographic variables i.e. gender, age and education in relation to self-awareness, mindfulness and inner speech. The findings showed that there was no difference on overall inner speech between male and female but women scored higher on social assessment inner speech compared to men. Women are more interested in social relationship compared to men (DeLazzari, 2000) and therefore they are most likely to evaluate social events more frequently in their minds compared to men.

There were no differences on self-awareness between women and men but women scored higher compared to men on mindfulness. The findings are consistent with some previous studies (Bryant, 2003; Tamres et al., 2002) as other studies found no relationship between the two (De Petrillo et al., 2009; Malcoun, 2008; Bränström et al., 2011).

In Pakistani society, men are more exposed to the outside world as compared to women. Mindfulness decreases when our senses are exposed to the external environment more frequently and that could be one of the reasons for men to be less mindful compared to women in the present study. The difference could also be due to their different interests. Men are more interested in abstract or global issues compared to women who are more focused on family.

The findings of the current study indicated that the two age groups differ on inner speech as those below 23 years scored higher compared to those above 23 years old (upto 40 years). The former also scored higher compared to the latter on self management and social assessment aspects of inner speech. These

findings suggest that below 23 years of age group have more distracted minds. They are more self-conscious compared to the elder group. They seem to be more occupied with their social image and evaluate themselves more frequently in relation to social situations or social standards. They talk to themselves more on managing their behavior but this does not mean that they have insight to their problems.

The findings show no difference between the two age groups on self-awareness and the self-reflection aspect of self-awareness; however the group above 23 years (upto 40 years) scored higher on the insight aspect of self-awareness compared to the age group below 23 years. This finding indicates that the former has more insight to their problems compared to the latter. Perhaps with growing age and experience a person can see his problems more realistically rather than idealistically. The elder age group would predict the consequences of their behavior more accurately compared to the other group. However the illusion of insight cannot be ruled out in this group due to a lack of objective verification.

The two age groups also differed on mindfulness as above 23 years (upto 40 years) scored higher. Mature age is found to be positively related to increased mindfulness (Raes et al., 2013; Trousselard et al., 2010; Alispahic & Hasanbegovic-Anic, 2017; Hohaus & Spark, 2013).One reason for this difference in mindfulness with advanced age would be due to the decreasing intensity of emotions. Emotions are more intense in early adulthood. The intensity of emotions would create a more chaotic mind and consequently increased inner speech. Therefore, the minds of the relatively younger group

would wander more and they would have difficulty to attend the present which is essential to mindfulness.

The results also show differences on educational level as intermediate level subjects scored higher on inner speech compared to master level. Younger adults may worry more as they are not certain about the future of their academic and professional career and therefore they would talk to themselves more compared to the master level group. After completing their master level education, people are quite certain about their academic and professional careers as they usually pursue their careers along the lines of the subject, they studied at this level.

Results showed that intermediate level adults scored lower on mindfulness compared to master level adults. This indicates that the adults with master level education are more focused and this focus on here and now suggests a more practical attitude towards life. More education not only enhances one's knowledge about the world but a person also accumulates the experiences of others by reading books. Higher knowledge gives more tools to a person to cope with the world and therefore he develops a calmer attitude towards life.

Adults with post graduate education scored higher on the insight aspect of self-awareness compared to intermediate and graduate level education. Educational level and insight seems to be intimately related. Whether we acquire knowledge about physical sciences, arts or social sciences, all of these increase our insight about our own lives as well as about the surrounding world.

However it is also possible that more insight in master level subjects may not be the outcome of increased knowledge but it may represent more confidence in oneself (rather than the existence of accurate insights).

Conclusion

The central mystery of the mind is consciousness. If consciousness has any rival as a mysterious phenomenon, that would be the riddle of the Self. Some consider Self as immortal whereas others consider it to be rooted in the brain. Many spiritual traditions and thinkers even deny its existence and consider it to be an illusion. How we can get self from mere consciousness? Inner speech seems to be a bridge between consciousness and self. Remove inner speech and it would be hard to find any explicit Self. Investigating the interaction among these constructs would provide some clues for understanding these mysteries.

The present study investigated the role of inner speech in two kinds of consciousness i.e. self-awareness and mindfulness. Self-awareness was found to be positively related to inner speech whereas mindfulness was found to be inversely related to inner speech as expected. This inverse relationship of mindfulness and inner speech endorses the views of those mystics who were suggesting this kind of relationship from their own practical experience of mindfulness. However, their claims about the dissolution of Self were not supported by the current research as both self-awareness and mindfulness were found to be positively related with each others. Mystical or spiritual practices are aimed at getting rid of the Self but it seems that once we get hold of language

and other cognitive capabilities then it is very difficult to achieve that goal. It is possible to have a healthy Self in mindfulness and somewhat distressing Self in self-awareness, but the Self exist in both states. It is usually asserted by mystics that Self is an illusion but if it is an illusion then it is not possible to transcend that illusion. Alternative explanations exist for the findings of the current study.

Self-reflection and Insight are the two components of self-awareness. They were found to be differently related to other constructs in the past research (Lyke, 2009, Grant et al., 2002; Silvia & Phillips, 2011; Harrington & Loffredo, 2011). In the present study, both self-reflection and insight were found to be positively related to mindfulness in the same direction. However, both these aspects of self-awareness were found to be orthogonally related to each other. They were found to be related in different ways to certain forms of inner speech i.e. social assessment and self-critical aspects of inner speech. Self reflection and insight were also found to be related in opposite directions with overall inner speech as self-reflection was positively related to inner speech, whereas insight was negatively related to inner speech. The orthogonal relationship of self-reflection and insight with each other and their diverging relations to inner speech and certain forms of inner speech endorse grants et al., (2002) suggestion that both these aspects of self-awareness are distinct from one another.

The findings of the present study also showed that self-awareness is not positively related to social assessment and self critical aspects of inner speech which suggest that Self may not be burdensome in our culture. Mindfulness is considered to be conducive to well being and the current research attested this view as it was found to be negatively related to evaluative forms of inner speech.

The examination of demographics in relation to inner speech, mindfulness and self-awareness reveal certain trends. Women seem to have more capacity for mindfulness compared to men. Both increase in age and education were found to be associated with increase in mindfulness and insight and decrease in inner speech whereas the reverse was true for younger adults. In other words, a person becomes wiser with advancing years and with more knowledge. People become more serene and at peace with themselves while getting older compared to their younger counterparts. However, despite these significant associations of demographics with inner speech, mindfulness and self-awareness, the former did not moderated the relationships among the latter.

It is concluded from the findings of the present research that inner speech is important for both self-awareness and mindfulness in opposite ways. The relationship of self-awareness and mindfulness to negative forms of inner speech is negative but not the same. However their positive relationship with one another suggests that they are united by the self focus attention more rather than divorced by their relationship to inner speech.

Limitations

The sample of the current study was limited and therefore the findings may not be relevant to large populations. The sample includes adults of certain age and therefore the findings of the study are not applicable to children, teenagers and the very old. Inner speech was assessed by administering questionnaires in the present study. The subjects recorded their responses on questionnaire by recalling their experience of inner speech rather than reporting the inner speech as it occurs. Subjects also cannot report those aspects of their

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experience or inner speech which are not given in the questions. Therefore inner speech can be measured in better way by combining more than one method e.g. think aloud method, videotape reconstruction procedure, thought listing method and electromyographic recordings of tongue and lip movements during problem solving, including questionnaires. Mindfulness can also be assessed by other methods apart from questionnaires, such as qualitative investigation and interview method. Mindfulness can also be studied by inducing it through different exercises. These methods can explore mindfulness in a finer way as compared to questionnaires.

Recommendations and Implications

The present study found an inverse relationship between mindfulness and inner speech but further studies should be carried out in this domain to see whether the findings are replicated in other studies or not. The research explored the relationship between self-awareness and mindfulness among general population but future research can explore this relationship among regular or experienced meditators as there is some evidence that mindfulness may not be the same in non-meditators as compared to meditators (Baer et al., 2009; Baer, Lykins, & Peters, 2012; Walach et al., 2006). Comparative studies could be carried out between meditators and general population to investigate the relationship of self-awareness and mindfulness. This relationship could also be investigated in those individuals who had mystical experiences with or without meditation.

The same investigation in relation to different groups could be carried out to find out the relationship between mindfulness and inner speech. This

would help in figuring out whether the inverse relationship between mindfulness and inner speech holds true in case of these different groups i.e. meditators or those having mystical experiences. This would also apply to the relationship between self-reflection and mindfulness.

The current study explored the relationship among inner speech, self-awareness and mindfulness by using questionnaires but future studies can explore the relationship among these variables by different methods. This would help in understanding the impact of these different methods on the findings. It would also determine whether the use of certain methods is preferable to others or whether they do not count at all. There are different views about the utility of certain methods over others in this domain.

The two aspects of self-awareness i.e. Self-reflection and Insight can be further investigated in relation to other constructs. The relationship of age, gender and educational level to the main study variables conveyed useful information. Other demographic variables can be included in future research.

The positive relationship of self awareness to inner speech suggests that reducing the frequency of inner speech would also decrease self-awareness. As self-awareness is positively related to psychological disorders ((Ingram, 1990) therefore decreasing self-awareness would be conducive to one's mental health.

Inner speech has two aspects i.e. content and frequency. Cognitive therapy is an evidence based psychotherapy which is specifically related to the contents of inner speech. A person's mood or feelings can be changed by changing the contents of his inner speech. In other words, depression or other

psychological disorders can be cured by changing the negative thoughts or inner speech to more realistic inner speech. Cognitive approach to therapy does not consider the possibility of reducing inner speech because it is considered to be impossible. Even trying to reduce inner speech or thoughts is

considered to be counterproductive as the suppression of thoughts or inner speech increase the frequency of those thoughts or any mental content (Wegner, 1994). However, the present study showed that the frequency of inner speech is negatively related to mindfulness which indicates that mindfulness can reduce or be accompanied with less frequency of speech. Less frequency of inner speech can exist innately but it can be acquired by practicing mindfulness. The reduced inner speech is not the suppression of inner speech which somehow leads to more inner speech. Mindfulness is not about stopping or distracting oneself from inner speech but rather it is allowing every kind of mental state including inner speech to be experienced or witnessed on the screen of consciousness. Inner speech is observed without evaluation or judgment, which reduces the intensity of inner speech. With continuous practice, inner speech decrease in frequency.

The negative association between mindfulness and inner speech in the current study has implications for mental health. Mindfulness is positively related to wellbeing (Hollis-Walker & Colosimo 2011; Harrington, & Loffredo, 2011; Baer, et al., 2008; Bränström et al., 2011) and less frequency of inner speech may be one of the contributing factor to that wellbeing. The content of inner speech play an important role in psychological disorders and its treatment (Clark, Beck, & Alford, 1999) but the frequency of inner speech may also be

important and by modifying the frequency of inner speech we can reduce distress and increase wellbeing. Therefore future research can explore the relationship of the frequency of inner speech to both psychological disorders and well being. Mindfulness can also be used for reducing self-awareness by reducing inner speech. Future research can examine the impact of mindfulness on self-awareness.

The frequency and content of inner speech can also be related to each other. The less frequency of speech can be attributed to attention training in mindfulness but it can also be related to change in perspective. In mindfulness the frequency and not the contents of inner speech matter whereas the opposite is true in cognitive therapy. However they overlap in regard to 'perspective change' which is related to both frequency and contents of inner speech. It is possible that the reduction of inner speech in mindfulness is due to the change in the contents of inner speech. For example, in mindfulness, one is asked to observe his angry self-talk by detaching oneself from it or asked to observe it without judgment. It is also suggested by mindfulness practitioners that one should consider his thoughts as mere objects which have no reality. This kind of approach towards one's mental contents changes that mental content by neutralizing its meaning. On the other hand the change in the contents of one's inner speech in cognitive therapy can reduce the frequency of inner speech. People talk to themselves more when they feel distressed compared to those who are more relaxed. Therefore intrusive thoughts are ubiquitous in psychological disorders. It is difficult to imagine that a depressed person would be more mindful. Even apart from psychological disorders, it can be observed

that whenever a person come across some problem or conflict, he talks to himself more until the resolution of that problem. Cognitive therapy is very effective in the treatment of depression, anxiety and other psychological disorders (Hofmann, Asnaani, Vonk, Sawyer & Fang, 2012) which suggest that the resolution of these ailments can decrease the frequency of inner speech.

Therefore it can be assumed that the frequency of inner speech is positively related with the contents of inner speech. When the contents are positive, there would be less inner speech and when contents are negative then there would be more frequent inner speech. This assumption can be refuted by demonstrating the opposite which is the possibility to have more frequency of inner speech but with positive inner speech contents. On the contrary, one can have less frequency of inner speech with more negative contents A third possibility may be the existence of more or less frequent inner speech without significant relationship to negative or positive contents respectively.

All these possibilities can be investigated by future research. Negative inner speech contents can be investigated in mindful subjects with less frequency of speech by applying an inventory related to cognitive distortions. In the present study, negative forms of inner speech were found to be negatively related to mindfulness, and mindfulness was also negatively related to the frequency of inner speech. However, a more comprehensive study of the negative contents of inner speech can be carried out in relation to less inner speech or mindfulness. Depressed, anxious or distressed subjects can be investigated for the frequency of inner speech before and after the cognitive intervention. Cognitive therapy can also be evaluated for its effects on self-

awareness. Mindfulness and cognitive therapy can be compared for its effects on self-awareness. Subjects with less frequency of inner speech and more frequency of inner speech can also be compared for their contents of inner speech.

Self reflection can lead to insight but too much reflection can be an obstacle to gain insight (Grant et al, 2002).The current study showed that self-reflection is positively related to inner speech whereas insight is negatively related to inner speech. Therefore one way to facilitate insight is to reduce the frequency of inner speech or avoid engaging in more inner speech. Research can be carried out to investigate the impact of the frequency of inner speech on insight.

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Annexure–A

Self-Talk Scale (STS)

Name _____ Age_____

Sex_____ Education_____

Instructions: All people talk to themselves, at least in some situations or under certain circumstances. Each of the following items concerns those times when you might "talk to yourself" or carry on an internal conversation with yourself (either silently or out loud).

Determine how true each item is for you personally by circling the appropriate number next to each item. Assume that each item begins with the statement: "I talk to myself when..." Be sure to rate each item. Please take your time and think carefully about each item. Use the following scale to rate each item:

I TALK TO MYSELF WHEN...

S.#	Items	1 Never	2 Rarely	3 Sometimes	4 Often	5 Very Often
1	I should have done something differently.	1	2	3	4	5
2	Something good has happened to me.	1	2	3	4	5
3	I need to figure out what I should do or say.	1	2	3	4	5
4	I'm imagining how other people respond to things I've said.	1	2	3	4	5
5	I am really happy for myself.	1	2	3	4	5
6	I want to analyze something that someone recently said to me.	1	2	3	4	5
7	I feel ashamed of something I've done.	1	2	3	4	5
8	I'm proud of something I've done.	1	2	3	4	5

9	I'm mentally exploring a possible course of action	1	2	3	4	5
10	I'm really upset with myself.	1	2	3	4	5
11	I try to anticipate what someone will say and how I'll respond to him or her.	1	2	3	4	5
12	I'm giving myself instructions or directions about what I should do or say.	1	2	3	4	5
13	I want to reinforce myself for doing well.	1	2	3	4	5
14	Something bad has happened to me.	1	2	3	4	5
15	I want to remind myself of what I need to do.	1	2	3	4	5
16	I want to replay something that I've said to another person.	1	2	3	4	5

Annexure –B

Self-Reflection and Insight Scale (SRIS)

Instructions: Please read the following questions and circle the response that indicates the degree to which you agree or disagree with each of the statements. Try to be accurate, but work quite quickly. Do not spend too much time on any question. There are no "wrong" or "right" answers- only your own personal perspective. Be sure to answer every question. Only circle one answer for each question.

S.#	Statements	1 Disagree Strongly	2 Disagree	3 Disagree Slightly	4 Agree Slightly	5 Agree	6 Agree Strongly
1	I don't often think about my thoughts	1	2	3	4	5	6
2	I am not really interested in analyzing my behavior	1	2	3	4	5	6
3	I am usually aware of my thoughts	1	2	3	4	5	6
4	I'm often confused about the way that I really feel about things	1	2	3	4	5	6
5	It is important for me to evaluate the things that I do	1	2	3	4	5	6
6	I usually have a very clear idea about why I've behaved in a certain way	1	2	3	4	5	6
7	I am very interested in examining what I think about	1	2	3	4	5	6
8	I rarely spend time in self reflection	1	2	3	4	5	6

9	I'm often aware that I'm having a feeling but I often don't quite know what it is	1	2	3	4	5	6
10	I frequently examine my feelings	1	2	3	4	5	6
11	My behavior often puzzles me	1	2	3	4	5	6
12	It is important to me to try to understand what my feelings mean	1	2	3	4	5	6
13	I don't really think about why I behave in the way that I do	1	2	3	4	5	6
14	Thinking about my thoughts makes me more confused	1	2	3	4	5	6
15	I have a definite need to understand the way that my mind works	1	2	3	4	5	6
16	I frequently take time to reflect on my thoughts	1	2	3	4	5	6
17	Often I find it difficult to make sense of the way I feel about things	1	2	3	4	5	6
18	It is important to me to be able to understand how my thoughts arise	1	2	3	4	5	6
19	I often think about the way I feel about things	1	2	3	4	5	6
20	I usually know why I feel the way I do	1	2	3	4	5	6

Annexure –C

Mindful Attention and Awareness Scale (MAIAS)

Instructions: Below is a collection of statements about your everyday experience. Using the 1-6 scale below, please indicate how frequently or infrequently you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be. Please treat each item separately from every other item.

S.#	Statements	1 Almost Always	2 Very Frequently	3 Somewhat	4 Somewhat	5 Very Frequently	6 Almost Never
1	I could be experiencing some emotion and not be conscious of it until sometime later.	1	2	3	4	5	6
2	I break or spill things because of carelessness, not paying attention, or thinking of something else.	1	2	3	4	5	6
3	I find it difficult to stay focus on what's happening in the present.	1	2	3	4	5	6
4	I tend to walk quickly to get where I am going without paying attention to what I experience along the way.	1	2	3	4	5	6
5	I tend not to notice feelings of physical tension or discomfort until they really grab my attention	1	2	3	4	5	6
6	I forget a person's name, almost as soon as I've been told it for the first time.	1	2	3	4	5	6

7	It seems I'm "running on automatic" without much awareness of what I'm doing.	1	2	3	4	5	6
8	I rush through activities without being really attentive to them.	1	2	3	4	5	6
9	I get so focused on the goal I want to achieve that I lost touch with what I am doing right now to get there.	1	2	3	4	5	6
10	I do jobs or tasks automatically, without being aware of what I'm doing.	1	2	3	4	5	6
11	I find myself listening to someone with one ear, doing something else at the same time.	1	2	3	4	5	6
12	I drive places on "automatic pilot" and then wonder why I went there.	1	2	3	4	5	6
13	I find myself preoccupied with the future or the past.	1	2	3	4	5	6
14	I find myself doing things without paying attention.	1	2	3	4	5	6
15	I snack without being aware that I'm eating.	1	2	3	4	5	6