

Importance of Self Talk in Sports Performance

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Abstract: *Athletes try to excel in sports where self talk plays a vital role. Self-talk has been central in cognitive behavioural modification . Based on the principle that what people say to themselves affects the way they behave, strategies involving mental processes have been developed to regulate cognitions and develop or change existing thought patterns. There are physical, physiological , psychological and spiritual aspects of self talk. In the present critical review study discussed the various aspects, types of self talk. As all the self talk is not positive in nature, the negative self talk can be modified through training into positive self talk, which is very much essential for performance elevation in sports arenas.*

Key Words: *Positive self talk, Negative Self talk, Natural self talk and Sports performance.*

1. INTRODUCTION :

The foundations of self-talk research is intertwined with the complex interactions between cognition, affect, and behaviour, and reflect the origins of the field of sport psychology and its connections with cognitive psychology, personality theories, and social-cognitive approaches to understanding human functioning. Consequently, how we think and how we talk to ourselves is inherently linked to how we feel and how we act (1). It is highly likely that researchers' interest in self-talk interventions within the sporting domain can be attributed to their direct applied value. Given the heavy focus of support on performance, the idea that it can be enhanced through the regulation of how athletes think and what they tell themselves piqued the interest of sports researchers to explore the effectiveness of mental techniques, and the use of self-addressed instructions and reinforcement (2). Even from the beginnings of research focusing on self-talk, the performance enhancing potential of self-talk was investigated through experimental research (3) and in parallel, a descriptive approach, examining athletes' intuitive use of self-talk through self-reports (4). Self-talk has been central in cognitive behavioural modification (5). Based on the principle that what people say to themselves affects the way they behave (6), strategies involving mental processes have been developed to regulate cognitions and develop or change existing thought patterns. The use of self-talk plans, to control and organize athletes' thoughts has been promoted as a key component for successful sport performance, and self-talk is frequently included as an integral part of psychological skill training (7). Accordingly, sport research regarding the use and effectiveness of self-talk has received considerable attention in recent years. Research adopts various designs (e.g. Experimental, intervention and single-subject designs) in a variety of sports and tasks has supported the effectiveness of the self-talk strategy in facilitating learning and improving task performance (8).

Research has progressively moved towards the identification of the functions underlying the effectiveness of self-talk, that is, the mechanisms through which self-talk affects performance (9). Johnson, Hrycaiko, Johnson, and Hallas (2004) suggested that the core of self-talk is that focusing on the desired thought leads to the desired behaviour. In other words, ST is an instruction to initiate or perform an action or a sequence of actions. Several explanations have been provided regarding the facilitating effects of self-talk on performance. Landin (10) and Nideffer (11) supported an attentional interpretation of the self-talk effects. Landin proposed that self-talk can be used to enhance attentional focus, whereas Nideffer indicated that self-talk can be an effective strategy for directing or redirecting attention to task relevant cues. Finn (12) and Zinnser et al. (13) suggested that self-talk can serve to regulate effort and enhance self-confidence, whereas Hardy et al. (7) argued that self-talk can also be effective in controlling anxiety and triggering appropriate action.

It has been suggested that motivational self-talk can have greater impact on motivation-related outcomes, such as effort, self-confidence, and anxiety (Zinnser et al., 2006), and preliminary evidence seems to support this hypothesis (Hatzigeorgiadis et al., 2007). As the primary purpose was to examine the effects of self-talk on self-confidence and anxiety, the use of motivational self-talk was preferred. Based on the preliminary evidence and the above assumptions, it was hypothesised that the use of motivational selftalk (a) will enhance performance, (b) will increase self-confidence and reduce cognitive anxiety, whereas no predictions were made regarding somatic anxiety (15).

2. SYSTEMATIC SELF-TALK RESEARCH:

Conceptual and research advancement: Prior to the beginning of the current century, self-talk researchers mainly concerned themselves with the effects of positive and negative self-talk on performance, and the importance of speaking positively while performing. Some effort was also placed on the effects of instructional self-talk on specific sports oriented skills (16). Since 2000 some continued examination of positive self-talk has occurred (17); however, there has been much more investigation of instructional and motivational self-talk, conducted using either a descriptive (18) or an intervention (19) perspective.

Arguably Hardy et al.'s (18) qualitative investigation represents the first comprehensive examination of athletes' use of self-talk. Drawing from the sports imagery literature, this influential study reported on what has been termed the four 'W's related to self-talk, covering Where, When, What, and Why athletes use self-talk. Athletes reported using self-talk primarily in the proximity of the sporting environment (where), both before and during competition and practice (when). They also mostly endorsed their use of positive as compared to negative and irrelevant self-talk, through the use of phrases rather than shorter-verbal cues or intact sentences, representing specific instructions to themselves (what). The reasons athletes provided for why they spoke for themselves were numerous. Categorization reflected Paivio's (1985) orthogonal framework for the functions of sports imagery; multiple cognitive (aka instructional) and motivational self-talk functions were described. More specifically, instructional self-talk served athletes through its skill and strategy functions both with development and refinement aspects. Conversely, motivational self-talk aided performers by influencing their arousal and anxiety, helping them to master challenging circumstances, and facilitation towards the achievement of their goals. Although these qualitative findings were complemented by three quantitative studies (20,21) that collectively provided a firm descriptive platform for future research to build off, perhaps the most relevant conceptual progression from the original .

3. CONCEPT AND MEANING OF SELF TALK:

All day long, most people have a running dialogue with themselves. If you actually stop and listen to these messages, you may wonder how you accomplish anything at all. How many times in a given day do you find yourself mentally rehearsing the worst possible outcome, or telling yourself you can't do something, or it's too hard? If you are in the middle of a 5K run and someone darts past you, does that little voice in your head encourage you or shoot you down? Getting a handle on our self-talk is one of the hardest things many of us will attempt, whether we play sports or not. In fact, developing positive self-talk is at the heart of many mindfulness-based programs. For an athlete, negative internal messages and thoughts are among the biggest contributors to pre-race jitters and performance anxiety (22).

Types of Self Talk :

In recent years, goal setting has shown to be one of the key components in athletic performance. This has been backed by both athletes themselves and more recently, sport science research. While knowing goals are important and setting them is a good first step, it is the more complex foundation of how that goal was developed which determines the outcome. Perhaps one of the most overlooked aspects of goal setting is the attitude of which one approaches a goal. This is where the concept of 'self-talk' becomes progressively more relevant. For the purpose of this article, self-talk will be broken down into two pillars: 1) positive, 2) negative and 3) natural. While extensive research has been conducted on both of these pillars, only three studies for each component have been examined. This assists in simplifying the information for a more comprehensive review and assists in preventing redundant information to be presented with unfamiliar terminology. Lastly, this article will look at a real-time application of self-talk for sport. This may assist in personal development for future performance (23).

1) Positive Self-talk

As previously noted, self-talk is meant to serve of a guide for individuals to achieve goals and the initial approach of the goal helps set the foundation for future success. Unlike negative self-talk, positive self-talk applies positive encouragement (e.g., I can, I will) followed by positive reinforcement (success vs. non-success). Positive encouragement helps assist in motivating an individual by creating a sense of purpose. Take golf, for example...."Could I make this putt?" or "I *can* make this putt." By stating the word 'can' instead of 'could', one is creating a sense of purpose, to make the putt. Whereas using the word 'could' is the first step in casting doubt which, in turn, may produce lower performance. Others may argue that positive self-talk only creates reinforcement through positive results. If one were to use positive self-talk and see negative results (e.g., failing to make the putt), self-talk doesn't work. While this argument makes some sense at face value, statistically speaking, it is false.

2) Negative Self-talk

Unlike positive self-talk, negative self-talk is the use of negative words such as ‘cannot’, ‘will not’, ‘could have’, and ‘should have’. All of these phrases cast doubt and have shown to create increased somatic (physical) and cognitive anxiety (24). Anxiety such as this creates debilitating performance systems such as increased heart rate, irregular breathing, self-doubt, and lack of focus. Results from Hatzigeorgiadis & Biddle (25) have shown that positive self-talk help to mitigate pre-performance anxiety and can be used a predictor of negative self-talk.

Negative self-talk tends to fall into one of four categories:

1. **Personalizing** – Meaning you blame yourself when things go wrong.
2. **Polarizing** – Meaning you see things only as good or bad, no gray areas or room for middle ground.
3. **Magnifying** – Meaning you only focus on the bad or negative in every scenario and dismiss anything good or positive.
4. **Catastrophizing** – Meaning you always expect the worst.

You might identify with only one of these categories or multiple. The point is once you start categorizing your thoughts like this, you can then begin to work on switching them for more positive frames.

This won’t happen overnight, and you’ll need to ensure you put in the practice to really hone in on your self-talk and identify where changes are needed.

3) Natural Self Talk

Neutral self-talk categories (26-28) include instructional self-talk, a category commonly seen in the literature that refers to statements such as “slow and steady” or “bend your knees,” which provide guidance or instruction to an athlete.” Neutral self-talk has neither negative nor positive tone and may include self-talk statements related to tactics or strategy. Neutral self-talk also includes instructional self-talk, a category commonly seen in the literature that refers to statements such as “slow and steady” or “bend your knees,” which provide guidance or instruction to an athlete.

Different Approach of Self Talk :

- **Overtones:** Another approach to categorization of self-talk separates overt self-talk statements that occur out loud and can be seen or heard by others from covert statements that occur internally (29).
- **Convertness:** Self-talk may also be mouthed but not spoken aloud (30). Despite the obvious differences in observ ability between these types of self-talk, it is thought they serve similar self-regulatory functions and indeed research has shown that both overt and covert self-talk use similar brain structures (31-32).

Characteristics of Self Talk (33) :

- **Automatic and never ending.**

The words and conversations in our minds do not stop, even when we aren’t aware or tuned in. When we do become aware, we often say the thought just popped into our head automatically.

Once people become aware of self-talk, it is very hard to shut it off.

Ask if anyone has trouble falling asleep because of self-talk ?

- **Like an avalanche of words.**

Not only is it always going on, it comes at us way faster than normal conversation. Did you know? Normal speech is about 100-150 words per minute, auctioneers speak at 250 words per minute, but self-talk comes at 800-1400 words per minute. This causes people to feel overwhelmed.

- **Personally meaningful.**

When a person becomes aware of self-talk and is able to slow it down to understand what it is saying, a person may automatically accept the message as true.

- **Mostly negative.**

Criticizing others or oneself.

75% or more of self-talk is negative.

Pay attention to different groups of people talking and estimate what percentage of what is said is negative. Do the same for TV or radio, especially news. Share at the next meeting.

- **Creates negative feelings**

Guilt, fear, and letting others down are commonly produced by self-talk.

Self-talk sounds like a bossy person telling a person what they should do, could have done, have to do, are supposed to do. This creates pressure to satisfy other people’s expectations.

- **Magnifies feelings out of proportion.**

Because self-talk comes from within, doesn't stop, repeats itself over and over, and is personally meaningful and negative, it makes things in life seem so much worse than reality.

- **Linked to our experience-ourpast.**

Self-talk can come from what others have said to a person or about a person or judgments about others. The messages may or may not be true, and even if they were true at one time, they do not account for changes people have made in their lives.

- **Self-talk is learned.**

This means that each person has the power to change and control it to move themselves in positive directions.

Factors of Self-Talk

Overall, the self-talk literature has provided strong indications that self-talk is an effective strategy for facilitating learning and enhancing performance. Nevertheless, interesting questions have been raised regarding the methodology of the studies (34), and the factors that may moderate the effectiveness of self-talk. These factors can be classified into four broad categories dealing with (a) the tasks that are used, (b) the participants' characteristics, (c) the specifics of self-talk, and (d) the characteristics of the intervention.

a) Task characteristics

Two important distinctions regarding the characteristics of sport tasks concern motor demands and novelty. Regarding motor demands, the distinction is between tasks involving mostly fine motor skills, which require dexterity, hand-eye coordination, precision, and accuracy (e.g., dart throwing, golf-putting, shooting in basketball) and tasks involving mostly gross motor skills, which require physical conditioning, endurance, strength, and power (e.g., cycling, long distance running, long-jump, shot-put). Hatzigeorgiadis (34) provided preliminary evidence that self-talk strategies mainly enhance attention to the task.

b) Participant characteristics :

Another factor raised by Hardy et al. (35) involves the identity of the participants. In numerous studies the sample consists of students (36). Furthermore, even though many studies have employed athletes, the range in terms of experience and level varies from beginners (37) to more experienced and elite athletes (16). This distinction coincides in certain cases with the one between novel and well-learned tasks, as studies with athletes typically use only well-learned tasks.

c) Self-talk characteristics :

Three characteristics of the self-talk are of interest: the content, the selection, and the overtness. One of the most interesting questions regarding the effectiveness of self-talk concerns the type (i.e., content) of self-talk. The distinction between instructional and motivational cues provided new directions for the self-talk literature. As mentioned previously, research generally supported the distinction and the differential effects that instructional and motivational self-talk can have on performance. Theodorakis et al. (19) proposed what was later described by Hardy et al. (35) as the "matching hypothesis": taking into consideration the requirements of the tasks, instructional self-talk should be more effective for tasks requiring precision and timing, whereas motivational self-talk should be more effective for task requiring strength and endurance.

d) Characteristics of the intervention :

A final factor that seems important in determining the success of a self-talk strategy is the type of the intervention. Several studies have incorporated shorter (e.g., 3–5 days) or longer (e.g., several weeks) interventions, including training on the use of the self-talk strategy (38), whereas in other studies no training on self-talk has been applied (17). In the former, participants had the chance to practice the use of self-talk, whereas in the latter participants received information on the use of self-talk and some familiarization attempts. As with any mental strategy, training was expected to have a significant impact on effectiveness, and, therefore, we hypothesized that the effect of studies using any sort of training will be greater than the effect of studies not using training (39).

4. PRINCIPLES OF SELF TALK :

Athens (40) has suggested that self-talk is not necessarily only a dialogue between two voices, but rather consists of multi-party dialogues with 'phantom others' in which differences in opinions may arise between different 'interlocutors' who are part of the 'me' self-talk dialogue (table I).

Table I. Athens's ten principles defining self-talk 'soliloquies'(40).

1. People talk to themselves as if they are talking to someone else, except they talk in shorthand
2. When people talk to each other, they tell themselves at the same time what they are saying

3. While people are talking to us, we have to tell ourselves what they are saying
4. We always talk with an interlocutor when we soliloquize – the ‘phantom’ others
5. The phantom community is the one and the many. However, we can only normally talk to one phantom at a time during our soliloquies
6. Soliloquizing transforms our raw, bodily sensations into emotions. If it were not for our ability to soliloquize, we would not experience emotions in our existence. Instead, we would only experience a steady stream of vague body sensations
7. Our phantom others are the hidden sources of our emotions. If we devise emotions by soliloquizing about our body sensations, and if our phantoms play a critical role in our soliloquies, then our phantom other must largely shape the emotion we devise
8. The phantom community occupies centre stage whether we are alone or with others. Talking to others about an experience we are undergoing is absolutely essential to understand its emergent meaning. But only in conversation with our phantom community do we determine its ultimate meaning
9. Significant social experiences shape our phantom community
10. As some soliloquies are necessarily ‘multi-party’ dialogues, conflicts of opinion are always possible during soliloquies

5. PHYSIOLOGICAL CONSIDERATION :

It is important to note that the concept of self-talk is not merely a theoretical one, and that recently developed brain neuro-imaging techniques have allowed the examination of the neural correlates of self-talk. Since 1861, when Broca showed that speech was controlled by a specific region in the left frontal lobe(41), a large body of work has examined how different brain regions and processes are responsible for the generation and control of both overt and subvocal speech. Articulated speech is controlled by activity localised to the left brain hemisphere in 96% of individuals. The two principle regions previously shown to regulate speech are Broca’s area, in the left frontal cortex, and Wernicke’s area, in the posterior superior temporal cortex (41).

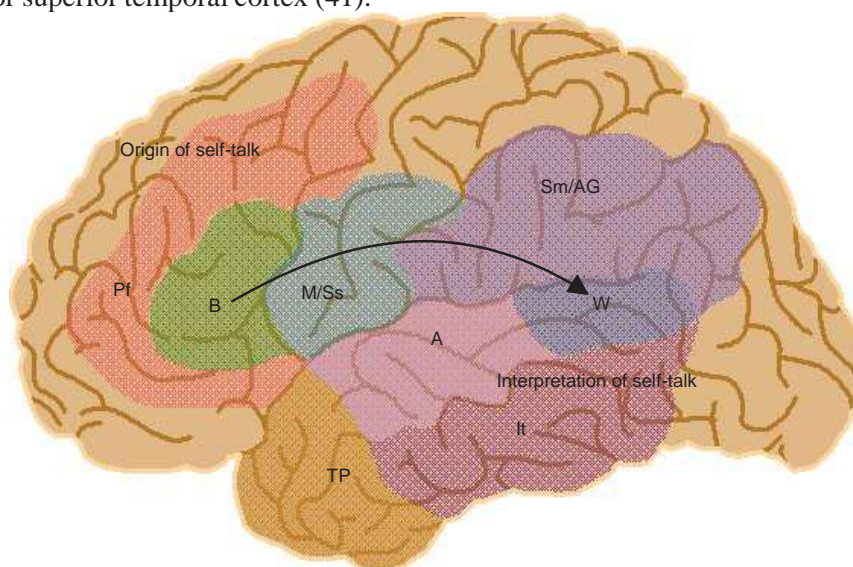


Fig.1. Brain correlates of self-talk. The production (Broca’s region [B] – left frontal cortex) and comprehension (Wernicke’s region [W] – left posterior superior temporal cortex) areas that are activated similarly in overt and subvocal self-talk may correspond with the ‘I’ and ‘me’ voices described previously by Athens(40) and Mead (42-43) and with the Ego and Super-Ego concepts described previously by Freud (44) **A** = auditory cortex; **It** = infero-temporal cortex; **M/SS** = motor/somatosensory cortex; **Pf** = prefrontal cortex; **Sm/AG** = supramarginal/angular cortex; **TP** = temporo-parietal cortex.

Speech production, Broca’s area in the left frontal cortex and Wernicke’s area in the left posterior superior temporal cortex are thought to initiate and control speech production. However, recent research has shown that a number of other regions of the brain are important in speech production, and that Broca’s and Wernicke’s regions are involved in other brain processes such as memory formation, perhaps as part of a ‘phonetic’ loop where speech related processes are important for memory formation and recall. The speech regions appear to be also active during imagery of motion,

as well as action comprehension and imitation, and may therefore be involved in both inter-individual communication and self-monitoring of one's thoughts, vocal processes and actions at rest and during exercise (45). therefore, that the ability of recognise one's own inner speech is generated in the temporal cortex, and this ability is important for the creation of a 'sense of self'(46).

There are anatomical and physiological correlates to self-talk, and that self-talk is not merely a psychological phenomenon It is enticing to speculate that speech production areas such as Broca's area may be responsible for the production of self-talk during exercise, and that this self-talk may direct or influence action. In contrast, Wernicke's and other to speech comprehension areas may be secondary there voices or processes that attempt to determine whether the subvocal articulated desires during exercise elaborated by self-talk are viable and/or match the current physiological status of the body at that point during an exercise bout (46).

Measuring Brain Activity

Research exploring neurological aspects of self-talk has shown that some participants (17%) who are at rest while undergoing functional magnetic resonance imaging (fMRI) report that self-talk is their dominant mental activity . This type of self-talk, self-talk that occurs spontaneously, has different neural correlates than that of assigned inner speaking Specific areas of the brain have been found to be involved in planned, directed, self-talk as well as automatic self-talk. Although neurological approaches to measuring self-talk are promising, extant tools do not easily lend themselves to assessing self-talk during many sport performance tasks (47).

6. PSYCHOLOGICAL CONSIDERATION :

Here are a few categories of thoughts that you may find your mind drifting into:

- **Catastrophizing**—This is the mind's "what if" game. It snowballs the worst-case scenario of the future with worried thoughts: *What if this happens? What if that happens?* These thoughts amplify anxiety and depression.
- **Blaming**—This is a mind trap in which some uncomfortable feeling is expelled by holding ourselves responsible for another's pain or holding others responsible for our pain. The problem here is that when you perceive the issue as lying outside of you, you give your power away to effect change.
- **Rehashing**—This is when our thoughts reflect on past circumstances, going over them again and again, often in an effort to figure something out.
- **Rehearsing**—This is the mind practicing some future event, playing through, again and again, the possible ways it may unfold.

Just intentionally being curious about how your mind works and even labeling certain categories of thoughts widens the space between awareness and the thoughts themselves. In that space is where your choice and freedom live.

Kahneman (48) noted that two discrete but interacting systems transform information from the outside world into cognitive content: (a) System 1, which is fast, effortless, and emotionally charged; and (b) System 2, which is slower, effortful, and consciously monitored. Content that originates in System 1 is often described as intuition, and comes to mind spontaneously as gut feelings or impressions. System 2 includes explicit and intentional ideas, logic, conscious calculations, attributions, and interpretations (49-51). Once System 1 and System 2 have translated stimuli from the outside world into information in the brain, experiences can be articulated as new positions within the inner-discourse of consciousness. According to proponents of discursive theories, this type of internal self-talk plays an important role in regulating psychological functions (52).

7. SPIRITUAL ASPECT OF SELF TALK:

Almost each and every performer believe in luck factor, which can not predict before any occurrence. When we are in failure and problematic situation, we want to get external support from almighty. In case of competitive sports , almost every athlete pray before God for success. The process of prayer may be in a loud voice, or maybe in whispering mode or it can be done through mental imagery.

Sport-specific model of self-talk :

The dynamic interrelationships among: (a) personal factors; (b) situational factors (referred to as contextual factors in this model); (c) cognitive mechanisms (represented by System 2); (d) affect, motivation, and anxiety related to both Systems 1 and 2; (e) behaviour; and (f) self-talk. The model is designed to address shortcomings in existing models of self-talk in sport and to highlight areas where research is lacking (52).

8. BENEFITS OF POSITIVE SELF-TALK :

As the research suggests, positive self-talk is important for a number of reasons. From helping to overcome body dysmorphia to sports performance, mediating anxiety and depression, to more effective learning: positive self-talk can make a world of difference. Three additional benefits include:

8.1. Helps to Reduce Stress, Depression and Anxiety

Research has shown that people who are more inclined towards thinking optimistically, are also more inclined towards positive self-talk and utilize more active coping strategies when faced with stressful situations and challenges. Positive self-talk helps you reframe the way you look at stressful situations, understanding that you will approach challenges with the best of your ability and that whatever the outcome – you did the best you could. Tackling these situations with an 'I can do this' mindset rather than a negative 'This is too hard' one, opens up new ways of thinking and problem-solving.

8.2. Helps to Boost Confidence and Resilienc

Approaching life with a positive self-talk approach can help to boost your self-confidence. Individuals who score high for optimism and positive self-esteem are more likely to achieve their goals, score good grades and recover quickly from surgery. Regular positive self-talk can help you to feel more confident in the face of achieving your goals, as you instill yourself with the belief that the things you want are achievable, and when problems do arise, you find workarounds.

8.3. Helps Build Better Relationships

You're probably aware of what it feels like to be around someone who is positive, self-assured and content in who they are as a person. They exude confidence, and it reflects positively on those around them. Researchers found that couples who were more optimistic cited higher levels of cooperation and positive outcomes.

Steps for Developing a Positive Self Talk Habit (53)

- **Choose a mantra:** To get started with creating more positive self-talk, choose one of two mantras you can use during your training. This could be a simple affirmation, such as "I feel strong," or the mantra "Go, Go, Go," or another simple, positive phrase you can repeat over and over.
- **Practice multiple scenarios:** Once you have developed the habit of repeating this phrase during practice to the point where it is automatic, start expanding the dialogue so that you have familiar and comfortable statements for a variety of situations during your sport. For example, if you are cycling and reach a hill, you might say, "I'm a great hill climber," or "I've done this before and it's doable." If you get dropped from the pack you can say, "Anything can happen, and I'm definitely not out of this. Don't let up."
- **Create a positive mental image or visualization:** The phrases and words you choose should be those that you can immediately call up and create a visual picture of yourself doing exactly what you say. The image along with the words is a powerful combination that creates a positive message tied to a belief.

9. CONCLUSION :

Self-talk has been studied from the earliest days of research in experimental psychology. In sport psychology, the cognitive revolution of the 1970s led researchers and practitioners to explore the ways in which self-talk affects performance. Recently, a clear definition of self-talk that distinguishes self-talk from related phenomena such as imagery and gestures and describes self-talk has emerged. Self-talk is defined as the expression of a syntactically recognizable internal position in which the sender of the message is also the intended receiver. Self-talk may be expressed internally or out loud and has expressive, interpretive, and self-regulatory functions. Various means, types, factors, physiological and psychological phenomena discussed in this review article systematically.

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