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Imagining Success: Psychology in Rhythmic Gymnastics and Beyond

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ABSTRACT

The purpose of this study was to investigate the differences in the types of imagery employed by athletes in performance sports, with a specific focus on the hypothesis that athletes in these sports would utilize general mastery motivational imagery more frequently than other types. The study aimed to emphasize both objective difficulty techniques and subjective art and implementation aspects. The findings supported the hypothesis, indicating that athletes in performance sports indeed employed general mastery motivational imagery more frequently than other types. The essential elements of the study, highlighting the methodology involving descriptive statistics and single-factor repeated quantitative analysis of variance. The demographic variables and imagery types investigated are delineated, providing a comprehensive overview of the research scope. The emphasis on participant autonomy, anonymity, and the absence of correct responses underscores the ethical considerations, fostering an environment of openness and honesty in responding. The concise and informative abstract serves as a succinct preview of the study's design, methods, and participant guidelines.

Keywords: *Rhythmic Gymnastics, Imagery, Psychological, Athletes, SPSS.*

INTRODUCTION

Rhythmic gymnastics is a sport that is both competitive and artistic. The format of the competition is that athletes present a complete set of movements based on pre-choreographed movements during the competition. The scoring focuses on the difficulty of the body and hand equipment, artistic arrangement and performance, and the quality of the movements. Completeness. Coaches and athletes design the choreography at least several months in advance and work on perfecting it over time. Becoming a top athlete or reaching peak performance seems to be a psychological challenge for athletes. Mind, skill, and body are all indispensable.

In the past, there have been quite a few studies exploring the impact of Psychology skills training (PST) on sports performance. In the past, there have been quite a few studies exploring the impact of Psychology skills training (PST) on sports performance. It was found that sports psychology skills Training can effectively improve sports performance, including imagery, arousal adjustment, self-confidence, goal setting, concentration, self-talk, etc. (Chen Junshan, 2002, Patrick & Hrycaiko, 1998). According to past research, imagery seems to be the most widely used technique among psychological skills (Hall, 2001). A study by Murphy, Jowdy, and Durtschi (1990) interviewed American and Canadian Olympic athletes and found that more than 90% of the athletes There is imagery used. Additionally, elite athletes report that imagery helps improve their performance (Cumming & Hall, 2002). Research has

found that imagery training can help athletes improve their self-confidence, increase motivation, and make athletes more focused during competitions (Hall et al., 2009; Martin & Hall, 1995).

It is worth paying attention to competitive sports events with competitive and artistic requirements, such as rhythmic gymnastics, aerobic gymnastics, Taekwondo Poomsae events, figure skating and competitive cheerleading. In addition to focusing on the same subjective artistic requirements as dance, these events also It also includes requirements for objectively difficult movements, which must not only be beautiful but also difficult, and should belong to performance-type sports. Past research has explored the differences in the use of different types of imagery from the perspective of open and closed, gender, team and individual, and excellent and non-excellent variables, and performance requirements are mostly skills with subjective evaluation. However, performance in competitive sports This type of sports project is very different from previous research projects. In addition to subjective evaluation of skills, there are additional requirements and evaluations for artistry. However, past research has not explored the effects of imagery use on the artistic components of expressive sports, and has rarely differentiated differences in the use of imagery in sports. At the same time, it also emphasizes subjective art and execution. Based on the artistic requirements of performance sports, that is, athletes must be able to convey their artistic expression in the entire set. The fluency and execution of movements are the main focus, and self-confidence may be an influence. The most important factor in artistic expression, and the general proficiency in motivational imagery types, is that the function of imagery is to enhance self-confidence.

Therefore, the purpose of this study is to understand that performance sports events not only emphasize objective difficulty techniques, but also emphasize subjective art and implementation. The question is whether athletes in performance sports in competitive sports use general mastery motivational imagery types more frequently than other imagery types? This study hypothesized that athletes in performance sports would use general mastery motivational imagery types more frequently than other imagery types.

LITERATURE REVIEW

1. Explanation of the Effect of Imagery

Imagery has a symbolic function, allowing athletes to form symbols in the central nervous system of the brain during imagery, which can be transformed into a series of action skills through cognition. This is very different from past research that found that athletes more commonly use general cognitive and general arousal motivational imagery. This study found that no matter what level of athletes they are, the frequency of general proficiency use is relatively high. In other words, athletes in performance sports have a high demand for general proficiency motivational imagery. Especially in terms of art and execution, athletes with higher self-confidence will have better performance in the smoothness, range and execution of movements, which may also indirectly affect performance in terms of difficulty. Imagery is the process of using various sensory perceptions of the body to draw pictures in the mind.

Paivio (1985) proposed an imagery model framework and believed that imagery can be divided into two major functions: cognitive and motivational, which affect sports performance through cognition and motivation. The image content of cognitive functions divided into large blocks is the image content of athletes' skills, tactics, and execution; while the motivational image content is the image content of athletes' emotions such as arousal, mental toughness, self-confidence, etc. This is very different from past research that found that athletes more commonly use general cognitive and general arousal motivational imagery. This study found that no matter what level of

athletes they are, the frequency of general proficiency use is relatively high. In other words, athletes in performance sports have a high demand for general proficiency motivational imagery.

Imagery training is the most widely used psychological skill, but unfortunately there are very few studies on the use of imagery intervention to help performance in performance sports. Therefore, there is a lack of comprehensive recommendations for providing imagery training intervention in such sports. Expressive sports do have their own particularities. In addition to requiring technical difficulty, they also require artistic expression. There are also corresponding scoring requirements in terms of scoring. Therefore, we will explore the different types of imagery used by athletes of this type when performing imagery. The impact of different performance requirements can help improve the performance of athletes in this event. It can be seen that different imagery functions and types will have different impacts on performance and can meet the different needs of athletes. In other words, athletes can choose to use different image categories according to the needs of different stages (preparation period, competition period, recovery period), action execution or emotion to produce different functions to meet the needs of athletes.

2. Sports: Rhythmic Gymnastics

Rhythmic gymnastics is a sport that is both competitive and artistic. The format of the competition is that athletes present a complete set of movements based on pre-choreographed movements during the competition. The scoring focuses on the difficulty of the body and hand equipment, artistic arrangement and performance, and the quality of the movements. Completeness. Rhythmic gymnastics also includes requirements for objectively difficult movements, which must not only be beautiful but also difficult, and should be a performance-type sport. Because competitive sports and performance sports have different requirements for scoring performance, and past imagery-related research has found that different image types have different effects on performance (Hall et al., 1998), it is therefore important to explore the impact of competitive sports on performance. The impact of imagery in sport on both artistic and difficult performance sports provides a more comprehensive understanding of the frequency with which athletes in performance sports use different types of imagery.

In rhythmic gymnastics, in order to allow athletes to move fluently and match the position of the handpieces, and to complete the entire set of movements without affecting the position of the field, it seems that the use of external imagery can make the athletes clear Know the corresponding throwing and catching position and the relationship between the field, and then adjust yourself to complete the whole set smoothly.

3. Sports: Rhythmic Gymnastics Past

In the 2016 Rio Olympics, Yana Kudryavtseva was the athlete with the highest claim to win the individual event. She was ahead of her teammate Margarita Mamun in both the ring and ball events, but she A mistake occurred in the stick event and ended up with a silver medal. In the team event of the 2020 Tokyo Olympics, the Japanese team won the second place in the all-around and the first place in the five-goal event at the 2019 Rhythmic Gymnastics World Championships held in Azerbaijan before the competition (which is also one of the qualifying events for the 2020 Tokyo Olympics). They were preparing to win the first medal in the history of the Olympic Games for their host country. They were also evaluated by all parties as a team with the strength to win medals. However, unexpectedly, they made serious mistakes in the preliminaries and entered the finals in last place. What's even more regrettable was that the finals were also abnormal. Missed the medal. Obviously, after countless trainings to achieve zero mistakes or near

perfection, the abilities that are already possessed cannot be used in the game. This seems to be a psychological challenge that athletes have to face. To become a top athlete or achieve peak performance, mind, skill, and body are all indispensable. Especially in higher-level competitions, when technology and physical fitness reach a certain level, mental skills become particularly important and determine victory or defeat the key (Shino, 2016).

MATERIALS & METHODS

1. Test tools

1.1 Basic Information Table

The test tool used in this study includes two parts, 1. Basic information sheet, 2. Movement imagery. Includes study participant gender, age, sport, level of competition, highest score, and whether they have received imagery training courses.

1.2 Movement Imagery

The Chinese version of the Sport Imagery Questionnaire (SIQ) revised by Lin Qixian (2011) from Hall et al. (1998) was used as a measurement tool. This scale is used to detect the frequency of use of imagery functions and types. The scale consists of a total of 30 questions and is divided into 5 subscales, namely specific cognition, general cognition, specific motivation, general arousal motivation, and general mastery motivation. The scoring method is a seven-point Likert scale (1 means rarely or never used, 7 means often used), with higher scores indicating higher frequency of imagery use. Circle the questions based on how often the athletes use imagery. There is no correct or certain answer. Just fill in the answers based on the athletes' true feelings. This scale was used with the permission of the author, Lin Qixian.

2. Research Methods

This study targeted athletes in performance sports and sent out a total of 170 questionnaires. After the questionnaires were collected, unfilled answers, partially unfilled answers, straight-line answers, zigzag answers, or answers that were not clear enough and did not match their age were eliminated. In the end, there were a total of valid questionnaires. 167 copies, from athletes in five sports, aged between 16 and 25 years old, with an average age of 18.63 years and a standard deviation of 2.27 years. Among them, there are 81 male athletes, accounting for 48.5%, and 86 female athletes, accounting for 51.5%.

Descriptive statistics were first used to analyze demographic background variables and the frequency of types of imagery used by athletes. Demographic background variables include the subject's gender, age, sports, competition level, highest score, and whether they have received imagery training; imagery types include general cognition, specific cognition, general motivation, general mastery motivation, and general awakening motivation. . Secondly, single-factor repeated quantitative analysis of variance was used to test the differences in image types, and SPSS statistical analysis software was used for data analysis. The questionnaire is anonymous. It takes about 15 to 20 minutes to complete the entire questionnaire. There is no correct answer to the question. Participants only need to answer honestly based on their actual situation. If you have any questions during the filling process, you can ask them. . The experimental process is completely voluntary. If you no longer wish to continue participating, you can withdraw freely. Consent can also be revoked at any time during the research process.

RESULT

1. Descriptive Statistics

Table 1, represent Mean and standard deviation of sports imagery of athletes of different genders.

Descriptive statistics showed that the mean scores in the five motor imagery categories were almost always higher for boys than for girls. The average scores of boys in various image categories ranged from 4.78 to 4.92; the average scores of girls in various image categories ranged from 3.89 to 4.68. The

difference among girls was slightly larger than that of boys. In addition, regardless of whether boys or girls, the average score in all image categories is that general proficiency motivation is higher than the other four image categories, and the order of high and low is general proficiency is higher than general cognition, general arousal is higher than specific cognition, and the lowest is a specific motive. (Please refer to Table 1 for the average and standard deviation of each item).

Table 1: Means and Standard Deviations of Different Image Types used by Boys and Girls

	Boys		**Girls**	
	M	**SD**	**M**	**SD**
General Cognition	4.87	1.12	4.57	0.97
Specific Cognition	4.83	1.11	4.37	1.00
Specific Motivation	4.78	1.29	3.89	1.29
General Awakening	4.85	1.05	4.45	0.87
Average Proficiency	4.92	1.08	4.68	0.97
	N=81		N=86	

Table 2, shows Mean, standard deviation, skewness and kurtosis of each subscale of the motor imagery questionnaire.

The mean of each image type in the sports imagery questionnaire ranges from 4.32 to 4.80, the standard deviation ranges from 0.97 to 1.36, the skewness ranges from -0.1 to 0.06, and the kurtosis ranges from -0.39 to -0.66. Between ±2, the distribution state roughly conforms to the normal distribution. (Please refer to Table 2 for the mean, standard deviation, skewness and kurtosis of all items).

Table 2: Means, Standard Deviations, Skewness, and Kurtosis of the Exercise Imagery Items

	Item	**Questions**	**M**	**SD**	**Skewness**	**Kurtosis**
1-1	8	I can consistently control body skills in my imagination.	4.31	1.33	-0.06	0.05
1-2	11	I can easily change the imagination of a skill.	4.25	1.39	0.02	-0.03
1-3	13	I can consistently and perfectly represent a [\specific skill in my mind.	4.57	1.38	-0.1	-0.36
1-4	18	I can mentally correct body skills correctly.	4.48	1.31	0.08	-0.40
1-5	20	Before attempting a specific skill, I can imagine myself performing it perfectly.	4.86	1.30	0.04	-0.77
1-6	27	when learning a new skill, I imagine myself performing it perfectly.	5.13	1.31	-0.26	-0.37
2-1	1	I envision new plans/strategies in my mind.	4.89	1.42	-0.22	-0.60
2-2	5	I imagine alternative strategies in my mind.	4.42	1.44	0.06	-0.47
2-3	9	I imagine every detail of a sports competition (ex: offense vs defense).	4.72	1.35	-0.08	-0.43
2-4	16	I continue to imagine my competition plan even when performance is not ideal.	4.72	1.39	-0.11	-0.69
2-5	19	I imagine executing complete competition/ plans/ details the way I want them to happen.	4.88	1.33	-0.06	-0.81
2-6	29	I imagine successfully following my competition plan.	4.69	1.35	0.011	-0.77
3-1	2	I imagine the atmosphere of winning a championship.	5.05	1.59	-0.45	-0.77
3-2	7	I imagine other athletes congratulating me for my good performance.	4.08	1.65	0.05	-0.65
3-3	10	I imagine the scenario of receiving a medal (ex: pride or excitement).	4.46	1.61	-0.22	-0.61
3-4	12	I imagine the audience cheering for my performance.	4.14	1.70	-0.12	-0.74
3-5	14	I imagine myself winning a medal.	4.56	1.65	-0.36	-0.50
3-6	25	I imagine myself being interviewed like a champion.	3.64	1.88	0.235	-0.94
4-1	4	Before a competition, I can recreate the emotions I feel in my mind.	4.76	1.36	-0.04	-0.60
4-2	6	I imagine being able to control the pressure and excitement emotions of competition and stay calm.	4.55	1.32	0.111	-0.60
4-3	15	I imagine the pressure and anxiety associated with the competition.	4.83	1.48	-0.28	-0.49
4-4	17	When I imagine a competition, I feel emotionally excited.	4.67	1.53	-0.23	-0.41
4-5	22	When I imagine my unique participation in a competition, I feel anxious.	4.51	1.49	-0.17	-0.48
4-6	24	I imagine the excitement that comes with winning a championship.	4.56	1.67	-0.26	-0.68
5-1	3	During a competition, I can imagine with full focus.	4.69	1.33	0.054	-0.52
5-2	21	I imagine myself becoming mentally resilient.	4.82	1.36	-0.06	-0.93
5-3	23	I imagine presenting myself confidently in front of opponents.	4.56	1.6	-0.26	-0.72
5-4	26	I imagine myself concentrating in a challenging situation.	5.04	1.34	-0.38	-0.30
5-5	28	I imagine controlling myself successfully in difficult situation.	4.60	1.35	-0.02	-0.58
5-6	30	I imagine successfully executing actions in difficult situations (ex: painful ankle).	5.11	1.32	-0.12	-0.88

(Note 1: 1=Specific cognition, 2=General cognition, 3=Specific motivation, 4=General awakening, 5=General mastery. Note 2: M=Mean, SD=Standard Deviation.)

DISCUSSION

The purpose of this study is to explore the differences in the types of imagery used by athletes in performance sports. It is hypothesized that athletes in performance sports will use general mastery motivational imagery types more frequently than other imagery types. In addition to emphasizing objective difficulty techniques, it also emphasizes subjective art and implementation. This study hypothesized that athletes in performance sports would use general mastery motivational imagery types more frequently than other imagery types. This study found that performance athletes use more general masterful imagery types than other types. In addition to being consistent with past research findings, it supports Pavio (1985) who believes that imagery has two major functions: cognitive and motivational, and Hall et al. (1998).

The necessity of further dividing it into five types emphasizes that each type has its corresponding function and will have a different impact on performance, and it is necessary to choose different image types according to the performance results it wants to achieve (Lin Qixian, 2015) . It is worth noting that the general function of proficient motivational imagery is to enhance self-confidence. Self-confidence seems to be an important factor affecting athletes in performance sports, especially in terms of art and execution. Athletes with higher self-confidence have better performance in the smoothness and amplitude of their movements. and implementation completion will have better performance, and may also indirectly affect performance in terms of difficulty. This study found that expressive athletes will use more types of general proficiency imagery than other types, and the higher the level of competition, the better the performance. Athletes, in addition to using all types of imagery more frequently, especially general proficiency motivational imagery accounted for the most frequency. This result supports that sports with different characteristics will have differences in the types of imagery used. Compared with other sports, the biggest difference is that rhythmic gymnastics has handpieces, which need to be used to throw, catch and coordinate with the body's performance, and each movement in the whole set must be combined with each other using handgrips. This sport is different from other performances. Compared with traditional sports, the skill execution of the entire set of movements is a little more complex and difficult, so the frequency of imagery use is lower. Is there any other special influencing factors for rhythmic gymnastics? Worthy of concern.

CONCLUSION

Imagery training is the most widely used psychological skill, but unfortunately there are very few studies on the use of imagery intervention to help performance in performance sports. Therefore, there is a lack of comprehensive recommendations for providing imagery training intervention in such sports. Expressive sports do have their own particularities. In addition to requiring technical difficulty, they also require artistic expression. There are also corresponding scoring requirements in terms of scoring. Therefore, we will explore the different types of imagery used by athletes of this type when performing imagery. The impact of different performance requirements can help improve the performance of athletes in this event. Yu Peilun (2018) found that the use of imagery training can improve the difficulty scores of rhythmic gymnasts, but it cannot improve the artistic scores.

This study preliminarily found that the general type of proficient imagery is related to performance sports. Therefore, it is recommended that future research can Further explore the impact of using different image types for expressive sports on difficulty scores and artistic scores. According to research findings, when using imagery training intervention to improve sports performance, in addition to selecting the corresponding type of imagery based on the function of the imagery, the content of the imagery training must also be planned

based on the performance needs of sports events with different characteristics, that is, the imagery script must be Only by designing according to the function and type of imagery can athletes' performance be effectively improved. In expressive sports, in addition to the objective evaluation of physical difficulty, it is also necessary to cooperate with music to deduce the artistry and emotion of subjective evaluation. This investigation discovered that competitors in execution games all the more frequently utilize the picture kind of broad authority inspiration.

The conceivable explanation is that mentors will consider developments inside the competitor's capacity while arranging the whole arrangement of developments, and most execution games are shut. It is a sort of game where the whole arrangement of execution content has been known ahead of time. At the point when competitors play out the whole arrangement of activities, they ought to have the option to finish the troublesome activities and the imaginative articulation expected for the movement. In this way, what is required is the level of certainty that they can finish it. Fearlessness is by all accounts a key element that decides the nature of execution. This is additionally the conceivable justification for why competitors in execution sports, particularly world class competitors, utilize the overall authority symbolism type most frequently, in light of the fact that competitors in execution sports need general dominance persuasive symbolism to improve their fearlessness and consequently assist with creative and execution.

Declaration by Authors

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REFERENCES

1. Chen, J., P. (2002) 。陳俊汕, Cognitive skills to improve sports performance—self-talk. China Sports Quarterly，1(2)，20-28
2. Cumming, J., & Hall, C. (2002). Athletes' use of imagery in the off-season. The Sport Psychologist, 16(2), 160-172.
3. Hall, C. (2001). Imagery in sport and exercise. In R. Singer, H. Hausenblas, & C. Janelle (Eds.), Handbook of research in sport psychology (pp. 529-549). New York: Wiley.
4. Hall, C. R., Mack, D. E., Paivio, A., & Hausenblas, H. A. (1998). Imagery use by athletes: Development of the sport imagery questionnaire. International Journal of Sport Psychology.
5. Lin, Q. (2011) 。林啟賢, Discussion on the application model and research orientation of sports imagery. Taiwan Journal of Sports Psychology，19，69-97。
6. Murphy, S., Jowdy, D., & Durtschi, S. (1990). Reporton the U.S. Olympic Committee survey on imagery use in sport. Colorado Springs, CO: U.S. Olympic Training Center.
7. Paivio, A. (1985). Cognitive and motivational functions of imagery in human performance. Canadian Journal of Applied Sport Sciences,10(4), 22-28.
8. Patrick, T. D., & Hrycaiko, D. W. (1998). Effects of a mentaltraining package on an endurance performance. The Sport Psychologist, 12(3), 283-299.
9. Yu, P. (2018) 。余佩倫, Effects of imagery training on performance of rhythmic gymnastics movements (Unpublished master's thesis). National Physical Education University, Taoyuan City.

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