Program Using Mind "The Impact of a Psychological Counseling Maps on the Beliefs of Female Students with Low Swimming Proficiency"

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Abstract:

The study aimed to design a psychological counseling program using mind maps to identify the effect of the program on the beliefs of female students with low performance in swimming. The research population included all students enrolled in the swimming course for the year 2024 at the Faculty of Physical Education, Beni-Suef University. A pilot sample of 30 students was drawn from the research population (and outside the main sample) from 15/2/2022 to 17/2/2022 to calculate the scientific validity and reliability of the measurement tools used and ensure their suitability. The research sample was intentionally selected and consisted of 55 female students who had failed the swimming course in 2024. The experimental intervention was conducted from 25/2/2022 to 25/4/2022. The researcher used the experimental method with a one-group pre-post design, as it is suitable for the nature of the study. The results showed statistically significant differences between the pre- and post-measurements in favor of the post-test in the beliefs of low-performing students in swimming.The researcher recommends the use of counseling programs based on mind maps to modify false beliefs among female students with low swimming performance and the organization of workshops and awareness programs to educate students about misconceptions in swimming.

Introduction and Research Problem:

In light of the rapid advancement in teaching methods and psychological counseling, numerous modern tools and techniques have emerged aiming to enhance the learning experience and increase the effectiveness of guidance. Among these tools are *mind maps*, which are considered effective methods that contribute to organizing information and facilitating its comprehension. Mind maps can be used as a tool to enhance positive interaction with educational content and to change negative attitudes and beliefs. Although swimming is considered one of the fundamental sports that contribute to developing individuals' physical and psychological capabilities, some female students with low proficiency in swimming face challenges due to erroneous beliefs about this sport. These beliefs negatively affect their ability to acquire swimming skills and achieve the required athletic performance.

According to **Hamed Zahran (2005),** psychological counseling is a conscious, ongoing, constructive, and planned process aimed at helping and encouraging the individual to

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understand and analyze themselves — to comprehend their tendencies, capabilities, strengths and weaknesses, psychological attitudes, experiences, problems, and needs — and to use and develop all their potentials to the fullest through their talents and intelligence. This ultimately leads to greater adjustment with oneself and society. (4:189)

Youssef Al-Qadi et al. (2002) also define psychological counseling as a set of professional steps undertaken by the counselor in dealing with individuals, aiming to increase their insight into themselves and their problems, develop their abilities, and enable them to achieve proper adjustment with themselves and the external world. (10:308)

Mind maps are tools used by the brain to organize and structure thoughts in a way that allows for a free flow of ideas, enabling *radiant thinking*—the spread of thoughts from a central point in all directions. They are designed based on facts about learning and the human mind, which processes numbers, words, commands, lines, as well as dimensions, imagination, symbols, and images. Mind maps captivate learners' attention, provide clarity and precision beyond words, and offer opportunities for comparison, reflection, and inferential thinking by presenting scientific facts visually. (6:123)

Cross (2009) views beliefs as a set of conscious and unconscious ideas and perceptions about the world, the self, and one's place in the world. Similarly, **Phillip (2007)** defines beliefs as ideas and perceptions an individual holds about the world and surrounding things. They are part of the emotional domain, like attitudes and feelings, but are more cognitively aware and harder to change. Beliefs influence individuals' capabilities and guide their decisions based on what they believe about the world. (14:325–346; 16:257–315)

Swimming is a fundamental and essential subject in physical education curricula, including those of military colleges. It encompasses interconnected skills and movements that require significant physical effort, mental focus, emotional balance, and a high level of neuromuscular coordination. (12)

From the researcher's experience as a faculty member in the Department of Psychological, Educational, and Social Sciences at the Faculty of Physical Education, and based on her observations and readings, it was noted that many female students with low swimming proficiency suffer from negative beliefs about swimming. These include fear of drowning, lack of confidence in their ability to learn, and frustration due to slow progress—beliefs that hinder learning and negatively impact performance. Traditional teaching programs often fail to address these psychological issues, as they rely on non-interactive methods and do not sufficiently consider the psychological dimensions. Therefore, this study proposes the use of *mind maps* as an innovative counseling tool to help modify these false beliefs, boost confidence, and encourage skill development in swimming. The

research problem is to investigate:"The impact of a psychological counseling program using mind maps on the beliefs of female students with low proficiency in swimming."

Research Objective:

To design a psychological counseling program using mind maps and to examine its impact on:

- The beliefs of female students with low swimming proficiency.

Research Hypothesis:

There are statistically significant differences between the pre-test and post-test scores of the experimental group regarding beliefs about swimming, in favor of the post-test.

Key Terms:

Counseling Program:

Defined by **Hamed Zahran (2000)** as a scientifically based, organized, and planned program for delivering both direct and indirect counseling services, individually and in groups, to all members of an institution. The goal is to assist individuals in achieving healthy development and making conscious and informed choices, fostering psychological adjustment both within and outside the institution. It is planned and implemented by a qualified team. (4:16)

Mind Maps:

Visual tools used for visual thinking. They are creative and diverse representations that engage vision to enhance learning and reinforce imagination. They help the mind assign meaning to previously learned material and expand cognitive capacity. (13)

Beliefs:

Defined by Andrews and Hatch (1999) as a set of perceptions held by individuals. They are effective, influential, and acquired through daily experience or inherent in the individual's personality. (11:223–203)

Research Procedures:

Research Methodology:

The researcher used the experimental method, employing a one-group pre-test/post-test design, as it was appropriate for the nature of the study.

Research Population:

The research population consists of all female students enrolled in the swimming course for the academic year 2022 at the Faculty of Physical Education, Beni Suef University.

Research Sample:

The sample was selected intentionally and consists of all female students who failed the swimming course in 2022, totaling **55 students**. In addition, a **pilot sample of 30 students** was drawn from within and outside the main population to calculate the scientific validity and reliability of the research scales. **Table 1** presents the statistical description of the research sample. The researcher ensured that all participants met the following conditions:

1. From the female students enrolled in the swimming course for the year 2022 at the Faculty of Physical Education, Beni Suef University.
2. Female students who failed in the swimming course.

(Table 1)
Homogeneity of the Main Research Sample (N = 55)

Variable	Mean	Standard Deviation	Skewness	Kurtosis
Beliefs about Swimming	38.67	4.45	-0.901	1.012

Data Collection Tools:

First: Document and Record Analysis

The researcher reviewed previous studies related to psychological counseling, mind maps, and beliefs about swimming, in order to benefit from them in selecting appropriate measurement tools and determining the sampling criteria.

Study by Reda Abdel Razek Jaber Jaber (2021): " "The Effectiveness of Using Electronic Mind Maps in Developing Metacognitive Skills, Psychological Flow, and Academic Achievement among Education College Students" **,**This study aimed to explore the effectiveness of using electronic mind maps in developing metacognitive skills, psychological flow, and academic achievement among students of the Faculty of Education. The research sample consisted of 80 students from the second-year students in the scientific tracks of the Faculty of Education, who were studying the Psychology of Learning course. The students were divided into two groups. An experimental group of 40 students from the Chemistry department. A control group of 40 students from the Biology department.,**Tools used in the study:,** Metacognitive Skills Scale, Psychological Flow Scale , Academic Achievement Test .The study found statistically significant differences between the mean scores of the experimental and control groups in metacognitive skills, psychological flow, and academic achievement, favoring the experimental group. Statistically significant differences were also found between the pre-test and post-test scores of the experimental group, with improvements in metacognitive skills, psychological flow, and academic achievement. However, there were no significant differences between the post-test and follow-up test scores for the experimental group in the same areas, indicating the sustained effectiveness of using electronic mind maps. The results suggest that using electronic mind maps is an effective approach in enhancing metacognitive skills, psychological flow, and academic performance, and that the positive effects of this method remain even after the program's conclusion.

Study by Abu Ouf Mohamed Abdel Latif (2021): "The Effectiveness of a Counseling Program in Reducing Competitive Anxiety Levels among Young Swimmers" , This study aimed to investigate the effectiveness of a psychological counseling program in reducing competitive sports anxiety among young swimmers.The research

sample consisted of 40 young swimmers from the El-Ghaba Sports Club. The researcher used the experimental method, adopting a pre-posttest design with an experimental group, and a control group. The findings revealed statistically significant differences between the pre- and post-tests on the sports competition anxiety scale, favoring the post-test. The improvement was attributed to the implementation of the psychological counseling program, which had a positive impact on reducing competitive anxiety among the participants.

Study by Hazem Jasim Khuzabl (2019):"The Effect of a Psychological Counseling Program Using Relaxation Techniques on Sitting Volleyball Players" , This study aimed to design a proposed psychological counseling program to manage psychological stress cognitively through relaxation techniques, and to identify its effect on physically disabled sitting volleyball players.The research population consisted of 25 players in sitting volleyball during the 2017–2018 sports season.The sample was divided into:Experimental group: 11 playersControl group: 10 players , The researcher used the experimental method, applying a psychological stress scale to both groups, followed by the implementation of the cognitive stress management program using relaxation techniques for the experimental group. Post-measurements were conducted and compared with the control group. The proposed program significantly reduced psychological stress among the players in the experimental group. Additionally, the post-test results showed that the proposed method outperformed the traditional method in improving the psychological state of sitting volleyball players with physical disabilities.

Study by Kireeva (2019): "A Mind Map: The Tool of Cognition" The aim of this study was to explore the use of mind mapping as an educational tool to enhance learning and information organization. It also sought to bridge the gap between the theoretical potential of mind mapping techniques and their practical application in academic environments. The study was conducted at Moscow State Institute of International Relations (MGIMO) and focused on students enrolled in the course "Political Translation." The results indicated that using mind mapping techniques as an educational tool significantly improved the academic performance of students studying "Political Translation."

Study by Maytham Saleh Kareem (2017): "A Counseling Program Based on Mind Maps to Reduce Psychological Hesitation among Students" The study aimed to: Identify psychological hesitation among first-year students at the College of Physical Education and Sports Sciences, University of Babylon, during the academic year 2015–2016 , Design a counseling program based on mind maps to reduce psychological hesitation in the same group. The researcher used the experimental method as it suited the

nature of the research problem. The research population consisted of first-year students at the College of Physical Education and Sports Sciences, University of Babylon, for the academic year 2015–2016, totaling 94 students distributed across three sections.

A simple random sampling method was used to select 54 students, representing 57.44% of the population. The counseling program was effective in reducing psychological hesitation among first-year students in the College of Physical Education and Sports Sciences at the University of Babylon.

Second: Beliefs about Swimming Scale

Description: Designed by Mohamed Hassan Allawi to measure individuals' beliefs about swimming. The scale includes 24 statements, and participants respond based on their personal beliefs.

Scientific Validity:

- **Validity:** Logical and criterion-related validity were confirmed, as well as internal consistency. A high correlation coefficient of 0.86 was observed between the two versions of the scale, based on a previous sample.
- **Reliability:** The reliability of the beliefs about swimming scale was calculated using the test-retest method after two weeks on a sample of 80 secondary school girls from Cairo and Alexandria. The reliability coefficient was 0.89.

First – Calculating the Validity Coefficient:

To verify the scale's validity, the researcher used the "discrimination validity" method. The scale was administered to a random sample of 30 students outside the main research sample. The differences between the highest and lowest quartiles were calculated. Table (2) presents these results.

Table (2)
Statistical Significance of Differences Between the Distinguished and Undistinguished Groups Using the Mann-Whitney Test on the Beliefs About Swimming Scale (n1 = n2 = 8)

Variable	N	Mean Ranks	Sum of Ranks	U	W	Z	p-value
Beliefs about swimming	8	4.50	36.00	0.000	36.000	3.414	0.001
	8	12.50	100.00				

**** Significance level < 0.05***

It is evident from the table that there are statistically significant differences between the distinguished and undistinguished groups on the scale under investigation. This indicates that the scale is capable of distinguishing between the two groups, and therefore, it is valid for use.

Second: Reliability Coefficient Calculation

Table (3)
Cronbach's Alpha Reliability Coefficient for the Beliefs About Swimming Scale
(N = 30*)*

Scale	Split-Half Correlation	Guttman Coefficient	Alpha (Part 1)	Alpha (Part 2)
Beliefs About Swimming	0.806	0.874	0.766	0.871

The table shows that the split-half correlation coefficient for the beliefs about swimming scale is **0.806**, which is considered satisfactory for establishing the reliability of the scale.

Proposed Psychological Counseling Program (Appendix 2):

Program Goal:

The researcher designed a psychological counseling program using **mind maps** to evaluate its effect on the beliefs of female students with low swimming performance levels.

Foundations of the Program:

It includes a set of principles and approaches that ensure the program's effectiveness and its ability to achieve the desired objectives. Below are the essential foundations for designing this program:

Initial Assessment:

Assessment of Abilities and Needs*:* Conducting an initial evaluation of the students' swimming performance and identifying incorrect beliefs that need correction.

Individual Goal Setting*:* Setting personalized goals for each student based on the initial evaluation, taking individual differences into account.

Comprehensiveness and Integration:

Comprehensiveness*:* Designing the program to address various aspects of psychological counseling through mind maps to correct and improve beliefs about swimming.

Integration*:* Ensuring that the various activities are interrelated and reinforce each other to achieve the program's goals.

Active Participation:

Student Involvement*:* Encouraging students to actively participate in all program stages, including goal-setting, mind map creation, and executing exercises.

Promoting Responsibility*:* Teaching students how to take responsibility for their own progress and goal achievement.

Flexibility and Adaptation:

Program Adaptation*:* Ensuring the program can be tailored to individual student needs and changing circumstances.

Continuous Modification*:* Making ongoing adjustments based on feedback and assessment results.

Psychological and Social Support:

Psychological Support*:* Providing necessary psychological support through counseling sessions and training in relaxation techniques.

Social Support*:* Promoting interaction and peer support to foster a positive and motivating environment.

Monitoring and Evaluation:

Progress Monitoring: Holding regular sessions to track student progress and goal achievement.

Feedback: Offering continuous feedback to support improvement and development of beliefs about swimming.

Education and Training:

Mind Map Training: Training students to use mind maps independently to organize thoughts, dispel incorrect beliefs about swimming, and achieve goals.

- Practical Training: Providing hands-on exercises using mind maps to enhance swimming skills.

Motivational Enhancement:

Self-Motivation*:* Teaching students how to self-motivate and work independently towards swimming-related goals.

Incentives*:* Offering rewards to encourage students to make measurable progress in the counseling program.

Program Components:

Table (4) outlines the session titles, content, and session-specific data for the counseling program.

(Note: Table 4 content not yet provided—please upload or paste it if you'd like it translated and formatted.

Table (4):
Components of the Counseling Program

No.	Session Details	Session Title	Session Content
1	**Session 1 (Week 1)**	Introduction and Getting Acquainted	- Welcome the participating students - Introduction of the counselor and explanation of their role - Identify participants' expectations - Brief overview of the counseling program
2	**Session 2 (Week 1)**	Orientation to the Counseling Program	- Welcome and reminder of the introductory session's importance - Detailed explanation of program objectives - Clarification of program components - Roles and responsibilities of counselor and participants - Explanation of program rules
3	**Session 3 (Week 2)**	Understanding Mind Maps	- Definition of mind maps - How mind maps work - Uses of mind maps - Steps to create a mind map - Tools used in mind mapping
4	**Session 4 (Week 2)**	Misconceptions About Swimming	- Identification of students' misconceptions about swimming - Understanding the origins of these misconceptions
5	**Session 5 (Week 3)**	Irrational Thoughts About	- Introduction to irrational beliefs, such as those based on fear or misinformation that lead to avoidance and anxiety regarding swimming

No.	Session Details	Session Title	Session Content
		Swimming	
6	**Session 6 (Week 3)**	Addressing Irrational Thoughts (Part 1)	- Discussion on irrational fears and how to overcome them, including: • Fear of drowning • Feeling incapable of floating
7	**Session 7 (Week 4)**	Addressing Irrational Thoughts (Part 2)	- Continued discussion on irrational thoughts, including: • Embarrassment learning in front of others • Belief that swimming has no health benefits
8	**Session 8 (Week 4)**	Addressing Irrational Thoughts (Part 3)	- Continued discussion, including: • Fear of deep water • Belief that swimming is boring or unenjoyable
9	**Session 9 (Week 5)**	Addressing Irrational Thoughts (Part 4)	- Welcome and review of program rules - Discussion of irrational thoughts, such as: • Swimming takes too long to learn • Fear of swimming in the sea
10	**Session 10 (Week 5)**	Replacing Irrational Thoughts	- Transforming irrational thoughts into rational beliefs - Reinforcing belief in new, rational perspectives about swimming
11	**Session 11 (Week 6)**	Managing Fear and Anxiety About Swimming	- Techniques for managing fear and anxiety related to swimming
12	**Session 12 (Week 6)**	Relaxation to Overcome Water Anxiety	- Definition and importance of relaxation - How relaxation helps correct misconceptions about swimming - Training on relaxation exercises to reduce water-related fear
13	**Session 13 (Week 7)**	Motivation Enhancement (Part 1)	- Encouraging motivation through: • Sharing inspiring success stories • Watching professional swimmers' videos
14	**Session 14 (Week 7)**	Motivation Enhancement (Part 2)	- Conducting positive affirmations exercise - Discussing each student's personal action plan to improve swimming skills
15	**Session 15 (Week 8)**	Building Self-Confidence	- Brainstorming activity: students write self-confidence keywords in mind maps on a board - Identifying obstacles to confidence - Practicing confidence-building exercises
16	**Session 16 (Week 8)**	Final Evaluation Session	- Assessing current beliefs about swimming - Evaluating student progress and benefits from the counseling program using mind maps

General Framework for Implementing the Proposed Counseling Program :

The researcher designed the sessions for the proposed counseling program, dividing them into a total of **16 sessions**, delivered at a rate of **two sessions per week**. The program was implemented over the period from **February 25, 2022, to April 25, 2022**, with each session lasting **45 minutes**. Sessions were conducted after the school day to accommodate the participants' schedules.

Structure of Each Counseling Session:

- Welcoming the students at the beginning of the session.
- Reviewing previous content and providing feedback.
- Discussing the current session's topic and objective, and engaging in various counseling methods and activities.
- Recording students' feelings and impressions about the session.
- Concluding the session with a summary and a farewell.

Research Implementation Procedures

Pilot Study:

The researcher conducted a **pilot study** on a group of **30 female students** from the research population (not part of the main sample), during the period from **February 15 to February 18, 2022**, to ensure the validity and appropriateness of the measurement tool used.

Pre-Test Measurements:

Pre-test measurements were conducted on the **experimental group** (n = 55 students) to assess their **beliefs about swimming**. This took place between **February 20 and February 22, 2022**.

Application of the Proposed Counseling Program:

The main experimental study was applied to a sample of **55 female students** identified with low beliefs about swimming. The program was implemented during the **second semester**, from **February 25 to April 25, 2022**, at the **Swimming Pool Complex, Faculty of Physical Education, Beni Suef University**.

Post-Test Measurements:

Post-test measurements were administered to the same sample between **April 27 and April 30, 2022**, under the **same conditions** as the pre-test, to maintain experimental control.

Statistical Analyses Used:

The following statistical methods were applied:

- **Descriptive Statistics:** (Mean, Standard Deviation, Skewness, Kurtosis)
- **Inferential Statistics:**
  - **T-test** for determining the significance of differences.

Results Presentation and Discussion:

To test the study hypothesis: "There are statistically significant differences between the pre- and post-test scores of the experimental group in the beliefs about swimming among female students with low performance levels, in favor of the post-test." This hypothesis is examined through the following tables.

Table (5):
Mean, Standard Deviation, and skewness for the Experimental Group Before and After Program Implementation ***(N = 55)***

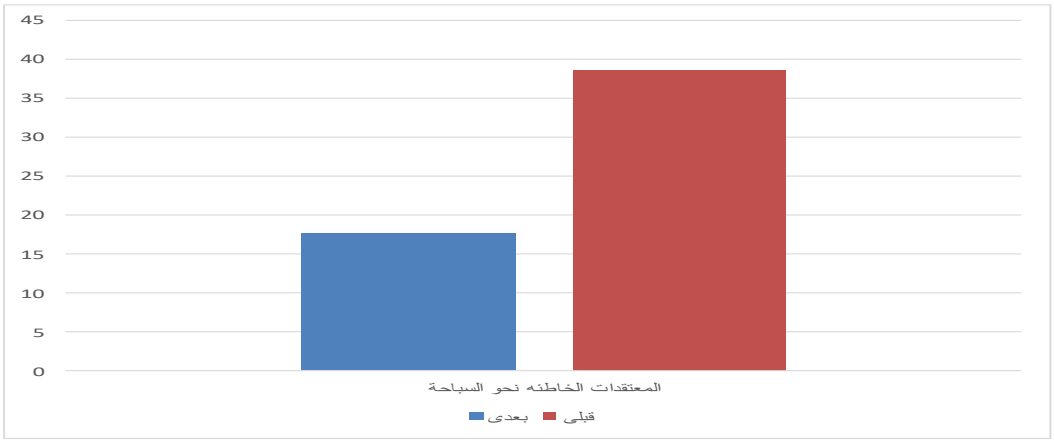
Measure	Pre-test	Post-test
Mean	38.67	17.69
Standard Deviation	4.45	5.56
Skewness	-0.90	0.54

Table (6)
Significance of the Differences Between the Pre-Test and Post-Test Means for the Experimental Group in the Studied Variable and the Improvement Rate ***(N = 55)***

Variables	Pre-test Mean	Post-test Mean	Mean Difference	Standard Deviation of Differences	t-value	Significance Level	Improvement Percentage
Swimming Beliefs	38.67	17.69	20.98	5.72	27.18	.000	54.25%

Significance < .05

It is evident from the previous table that there are statistically significant differences between the pre-test and post-test measurements for the experimental group regarding the beliefs of the students with a low level in swimming, in favor of the post-test. Additionally, it is clear that there was an increase in the improvement percentage from the pre-test to the post-test in the level of beliefs, with an improvement percentage of (54.25%).



Graph number (1)
The chart illustrates the improvement percentage in the post-test compared to the pre-test regarding swimming beliefs.

Discussion of the Results for the Hypothesis:

" There are statistically significant differences between the pre-test and post-test scores for the experimental group regarding the swimming beliefs of students with a low level of swimming ability, favoring the post-test."

The results from Table (6) show statistically significant differences between the pre-test and post-test scores for the experimental group regarding the swimming beliefs of students with a low level of swimming ability, in favor of the post-test. Additionally, the results demonstrate that the post-test scores showed a 54.25% improvement over the pre-test in terms of beliefs.

In the researcher's view, this improvement is attributed to the psychological counseling program using mind maps, which led to a modification of the incorrect beliefs among the students with a low level of swimming ability. This can be explained through several factors:

The counseling program, which utilized mind maps, helped the students with a low level of swimming ability modify their irrational thoughts and replace them with rational ones. This led to a shift from negative beliefs to positive beliefs about swimming. The counseling methods, such as persuasion, dialogue, logic, and modeling, contributed to the elimination of fears, anxiety related to water, and other irrational thoughts. This aligns with the findings of Mohammad Afif Al-Ja'afra and others, who concluded that group counseling programs have an impact on modifying irrational thoughts and reducing psychological stress (8: 857-886).

The psychological counseling program successfully reconstructed the students' beliefs through visual and methodical learning. When the students observed their progress via mind maps, this reinforced the concept of gradual improvement, which boosted their motivation toward swimming. This shift in perspective made them see swimming as an enjoyable and achievable experience, rather than a difficult or risky one. This also aligns with what Mahmoud Abdel Fattah Anan and Mustafa Hussein Bahi noted, that intrinsic motivation helps individuals overcome challenges that require effort, courage, will, or are driven by the joy of the sport's aesthetic (9: 260).

The program also contributed to enhancing a sense of achievement through mind maps, which convinced the students that they could make real progress in swimming and overcome negative beliefs. This supports the view of Assem Kamel Rateb and Ibrahim Abdel-Rabih, who stated that immediate positive reinforcement has a greater effect in increasing motivation for learning compared to delayed reinforcement (2: 273).

Conclusions:

1. The level of Students with a low level of swimming ability have negative beliefs about swimming.
2. Negative beliefs about swimming for students with a low level of swimming ability was high in the pre-test and low in the post-test.

3. The program led to improvements in the negative beliefs about swimming, with a reduction in these beliefs among students with a low level of swimming ability.

Recommendations:

1. It is recommended to use counseling programs that rely on mind maps to modify incorrect beliefs about swimming in students with a low level of swimming ability.
2. Organize workshops and training sessions to raise awareness among students about incorrect beliefs related to swimming.
3. Swimming coaches and educators should be made aware of the significant role that counseling programs play in supporting learners in swimming.
4. More scientific research should be conducted using mind maps as a tool for psychological counseling in various contexts, including swimming.

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