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The effect of SHIP® (spontaneous healing intrasystemic process) on adolescent tennis players

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Abstract

The core problem statement of this study is that SHIP® as a psychotherapeutic intervention has never been tested in a sport psychological context. The study on which this article is based attempted to address this specific lack of research in Sport Psychology. SHIP® focuses mainly on psychological processes such as healing and growth. Experts emphasize that research on psychological processes in sport is very important for the future of Sport Psychology. With the above considerations in mind, a study was done with two groups of adolescent tennis players (an experimental group and a control group). While the experimental group took part in the intervention the control group did not receive any intervention. Both groups were evaluated before, during and after the intervention using the Competitive State Anxiety Inventory-2 (CSAI-2), the Profile of Mood States (POMS) and Ryff's psychological well-being scale as measuring instruments. The results within the groups and between the groups were statistically analysed. The results indicated that the experimental group improved significantly in their ability to cope with competition stress, mood states and psychological well-being, while the control group remained almost unchanged on the above-mentioned attributes. The study found that SHIP® not only has therapeutic value, but can also impact positively on the potential and mental capacities of adolescent tennis players. It is concluded that SHIP® has definite value in the field of Sport Psychology.

Key words: SHIP® healing; growth; potential and mental capacity.

Introduction

The study on which this article is based investigated the effect of SHIP® (Spontaneous Healing Intrasystemic Process) as an intervention to improve the cognitive and physical anxiety, mood states and psychological well-being of adolescent tennis players. It also assessed its value in terms of the improvement of psychological well-being and the development of other psychological potential in adolescent tennis players. Various psychotherapeutic interventions and techniques have been applied effectively in a sport psychological context. Psychotherapeutic interventions like systematic desensitization, stress-inoculation exercises and other psychological techniques such as imagery, progressive relaxation and hypnosis were originally developed and tested in a strictly clinical environment (Potgieter, 2006). In the evolution of Psychology,

the emergence of Sport Psychology as a recognized discipline used these existing psychotherapeutic interventions and techniques extensively and with great success (Murphy, 1995; Potgieter, 2006).

SHIP®, a well established psychotherapeutic intervention originally developed in South Africa, is gradually being accepted internationally (JOS, 2002). This study is important because SHIP® as a psychotherapeutic intervention has not been researched in a sport psychological setting before and the empirical research of SHIP® in a therapeutic environment is also very limited. In essence, SHIP® as a therapeutic intervention is about creating a psychobiological awareness of internal processes within a person and validating them so that change may ensue. The focus of SHIP® is towards balance, in other words towards an even distribution of energy. The concept of energy as used in SHIP® corroborates with the energy concepts and paradigms of Gestalt Psychology (Perls, 1974), the work of healing as manifested in Chi-Gung (Carnie, 1997) and specifically the bio-energetic analyses of Lowen (1994). Spontaneous healing is the process whereby the internal wisdom of the client sets the tone for the achievement of balance between the physical, emotional, mental and spiritual aspects of a person. Spontaneous healing is facilitated by the psychotherapist in a clinical setting and experienced by the client. In SHIP® the psychotherapist is also referred to as the facilitator. The SHIP® facilitator creates the most suitable setting for the process of disconnection to surface to connection, for stuck energy to release to unstuck energy and for the stalled energy to start moving again to create balance according to the self-healing wisdom of the individual (JOS, 2008).

The principles of SHIP® are closely related to Gestalt Psychology in terms of the special emphasis on the concept of awareness as such. The observation by Frederick Perls, one of the main figures in the Gestalt movement, that "awareness per se – by and of itself – can be curative" highlights the core principle on which the SHIP® therapy positions itself (Perls, 1974, p. 17). Perls (1974, p. 17) explains why awareness itself is such an active tool: "Because with full awareness you become aware of this organismic self-regulation, you can let the organism take over without interfering, without interrupting; we can rely on the wisdom of the organism." This "wisdom of the organism" relates closely to the spontaneous healing principle where the SHIP® facilitator fulfils a passive role, following the natural rhythm of the client in the here and now discomfort or

psychological pain, until the disconnected parts of the personality are transformed and integrated into the personality through a self-healing process. This spontaneous uninterrupted way of healing, based on the original Greek notion of the therapist as attendant who allows natural healing to unfold, can be contrasted with modern psychotherapy, where resistances have to be overcome through the psychotherapist playing a very active role. In SHIP® the facilitator simply has to neutralize the distracters and activate the healing process of the patient (JOS, 2002).

The principles of Yoga also concur with the SHIP® principles in terms of reconnecting and realigning the stuck energy in the body that will allow healthy free-flowing energy throughout the body. The increase of body awareness levels and re-establishing balance in the body will enhance psychological growth and well-being (Kabat-Zinn, 2007). The Yoga principles corroborate deeply with the bodywork movement and the exceptional mind-body revelations and contributions of Alexander (1932), Feldenkrais (1972, 1985) and Rolf (1977). Such bodywork principles and techniques concerning the release of stuck energy and re-establishment of balance in accordance with the wisdom of the organism are central to Gestalt Psychology. Special recognition is also given to the contribution of Wilhelm Reich to the development of bioenergy (derived from the Greek notion of life force) and Alexander Lowen (one of Reich's pupils) to the concept of bioenergetics, which aim at generating the healthy integration of body and mind through breathing, relaxing and grounding (Lowen, 1994). Both of these bodywork therapies are in full alignment with the SHIP® therapy principles of re-integrating disconnected parts of the personality, recreating an energy flow in the person and enhancing psychological growth and well-being.

According to Hays (1989), most research in Sport Psychology focuses on how to improve sport achievements by using interventions and techniques like visualization, relaxation and goal setting, but there is not much emphasis on how the process of improved performance and psychological well-being are to be achieved. This methodological problem concerning the application of the interventions were addressed in this study by providing a thorough explanation of the rationale and application of SHIP®. SHIP® focuses on healing and growth by emphasizing the unique psychological process of the client, so that the client can reach his/her full potential.

Assaiante (1981) emphasizes the importance of psychological preparation in tennis. He is of the opinion that neural patterns, as well as meteoric responses and neuromuscular coordination, are strengthened through psychological preparation.

A further motivation for the importance of this study is Murphy`s (1995) view that research on psychological processes and the effect thereof on the athlete's performance is very important for the future of Sport Psychology. Hanin (2000) contends that there is a big gap in the studying of emotions and performance in sport. The use of SHIP® as a complete intervention strategy can address this problem, because the SHIP® intervention encompasses the full spectrum of emotional and cognitive dimensions of the studied tennis player.

Aim of the study

The main aim of the study was to determine the psychological effects that SHIP® may have on adolescent tennis players. The first specific aim was to determine the effect of SHIP® on the cognitive and physical anxiety and the self-confidence level of the adolescent tennis players. The second specific aim was to determine if SHIP®, as an intervention strategy, can enhance the psychological well-being and mood states of adolescent tennis players. A third subsidiary aim was to determine the value of SHIP® for Sport Psychology.

Hypothesis

The hypothesis of this research was that SHIP® will not only have general therapeutic value, but it will also have a positive effect on the cognitive and physical anxiety, self-confidence, psychological well-being and mood states of adolescent tennis players.

This hypothesis was based on SHIP® facilitators' report that the psychological growth and improvement in well-being are natural health 'by-products' after the therapeutic healing phase has been achieved with the patient or client. The pathology problem-solving zone is spontaneously transmuted into the development of potential and capacity, which can consequently facilitate self-actualization among the adolescent tennis players.

Methods

Design

A research design is the basic plan that guides the data selection and data analysis process. Kinnear and Taylor (1996) describe the selection and process of data as the framework that specifies the type of information to be collected, the sources of data, and the data collection procedure. The study used a traditional experimental design consisting of an experimental and a control group. The experimental group took part in the intervention while the control group did not receive any intervention at all, but were part of the post-SHIP® information session. The data were collected by means of psychometric assessments. The psychometric tests were completed by the experimental and control groups before the intervention started with the experimental group. Two post-tests were conducted on both the experimental and control groups. The intervention consisted of weekly SHIP® sessions for each subject in the experimental group over a period of six months.

Qualitative-oriented interviews were also conducted before, during and after the SHIP® intervention with the subjects involved. Coaches were also interviewed after the intervention to determine if the psychological changes could be verified by an external source (coach) that was close to the subject.

Sampling

A convenient sampling method was used because all the subjects were part of a tennis school located in a high performance excellence centre, where subjects were easily available for the intensive SHIP® interventions on a weekly basis. The sample consisted of 10 volunteer adolescent tennis players who were divided by their own choice into the experimental group (two male and four female adolescent tennis players) and control group (two male and two female adolescent tennis players). The tennis players' (subjects') ages ranged between 12 and 18 years. The intensive weekly interventions with the six adolescent tennis players necessitated the use of a small sample.

The selection of subjects for this study was done by making use of a convenient sampling method. After the researchers had explained the SHIP® process to the coach and indicated possible positive outcomes, the coach identified 10 adolescent tennis players that might benefit from this intervention. According to

the coach, these individual tennis players experienced problems on the court such as anger, tantrums, concentration collapses, high stress, mood swings and loss of confidence.

According to single subject experimental design, when only making use of individual subjects in research, scientific quality can still be retained with dramatic increases of scientific measurements on the subject. In this study, because of the small sample, the measurements were not only taken before and after the intervention, but also in the middle of the intervention. The standardized psychological tests that were employed in this study enabled the researchers to capture a large number of psychological factors (15 psychological dimensions) with each testing session.

Analysis

When research of this nature is conducted on a small experimental and control group, the data analysis is done by making use of non-parametric statistics. Inferential statistics were used to determine if significant differences existed between the experimental and the control group. The statistical information was analysed with the help of the statistical product and service solution package which is currently on the market and there is no need for a reference. Although a single subject design was used the Mann-Whitney U-test and Friedman test was the most suitable to determine differences between and within the groups. The Mann-Whitney U-test was used to determine the differences between the two groups and the Friedman test was subsequently applied to determine intra group differences over time (i.e. pre- and post-tests).

Measuring instruments

The rationale for the selection of the following tests was that these tests encompassed a wide spectrum of factors that covered not only the problematic psychological dimensions of the adolescent tennis player, but also captured the growth and well-being components of the tennis players that had been identified for this study.

The Competitive State Anxiety Inventory-2 (CSAI-2)

The CSAI-2 is designed in such a way that it can be used more than once. It is usually used before and after competition in a sport psychological and research environment. The CSAI-2 measures cognitive and physical anxiety, as well as self-confidence. The reliability of the above sub-scales varies between .79 and .90, which is high (Martens, Vealey & Burton, 1990). These authors argue that anxiety is very important during competition in sport. This test is a standardized test used for research in the South African context for sport psychological interventions (Edwards & Steyn, 2008).

Profile of Mood States (POMS)

The Profile of Mood States (POMS) is designed in such a way that it can be used continuously. The construct and psychometric qualities measured by the POMS are tension, depression, anger, vigour, fatigue and confusion. All these mood states that are measured by the POMS can be present before, during and after a tennis match. The reliability of the POMS is high with K-R 20 values that vary between .84 and .95. Test correlations vary from .65 to .74 with a mean of .69. The POMS is an internationally established instrument to measure mood states accurately in a variety of research settings. The POMS is also a well-established standardized research instrument used extensively in sport settings internationally, as well as in South Africa (Steyn & Rossouw, 2007).

Ryff's psychological well-being scale

The Ryff's psychological well-being scale measures six dimensions of psychological well-being, namely autonomy, personal growth, environmental mastery, purpose in life, positive relations with others and self-acceptance. Research shows high levels of internal validity for the six sub-scales of psychological well-being: autonomy .83, personal growth .85, environmental mastery .86, purpose in life .88, positive relations with others .88 and self-acceptance .91 (Ryff, 1989; Ryff & Keyes, 1995). Ryff's psychological well-being scale has been used in the South African context by Edwards, Ngcobo and Pillay (2004). This test is a well-known standardized test that was also used in a similar sport psychological intervention study done in South Africa (Edwards & Steyn, 2008).

Results

Descriptive and inferential statistics were employed in this study. The mean scores of the results are provided in Figures 1, 2 and 3 in order to give an overall impression of the differences, although the real statistical differences were determined by inferential statistics. The analysis focused on defining statistically significant differences between the experimental group and the control group (between groups) on each of the sub-scale measurements. The analysis of each sub-scale was determined over time within each group (intra-group). The Mann-Whitney and Friedman Tables are not included in this article.

Analysis of the CSAI-2 sub-scale scores

Although differences in the mean scores between the experimental group and the control group are apparent in Figure 1, no statistical significance could be determined with the Mann-Whitney test on any of the sub-scales.

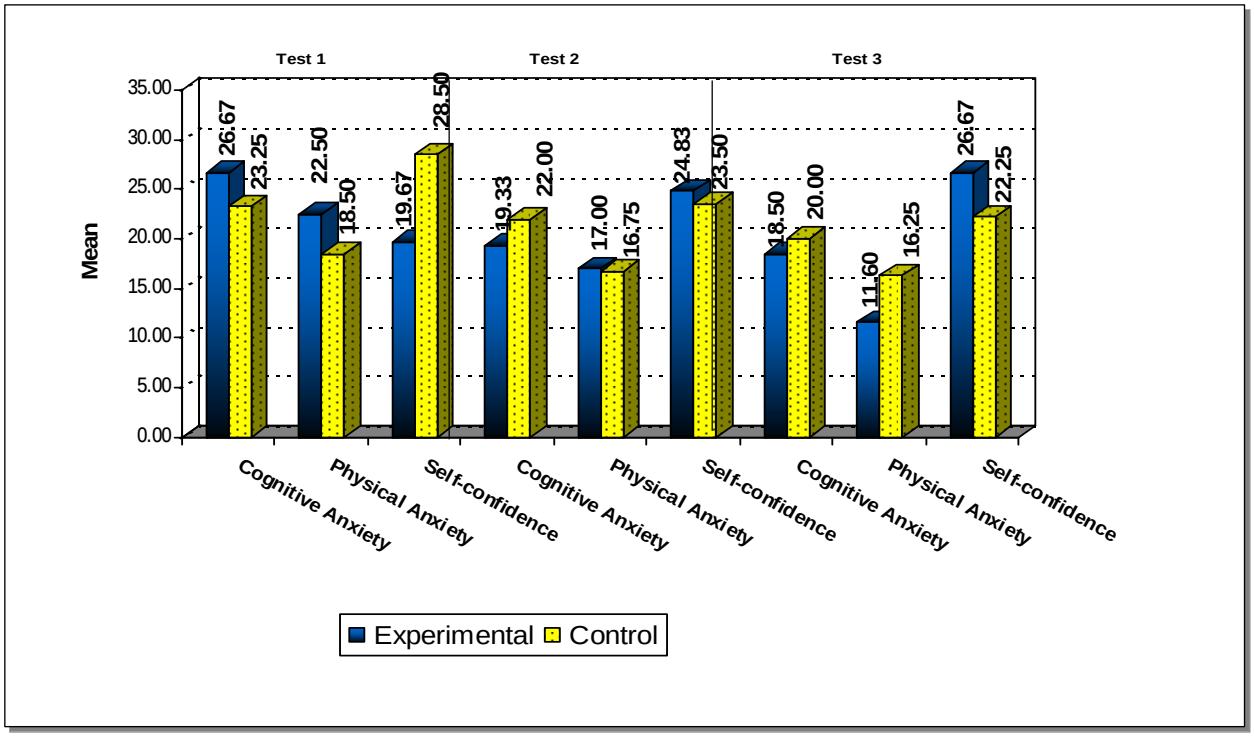

Figure 1: Mean scores of the experimental and control groups on sub-scales of the CSAI-2 over time.

According to the Friedman test, the results within each group (intra-group) indicate that there is a statistical significant difference between the pre- and post-test results of the experimental group with respect to the cognitive anxiety and physical anxiety test scores. There seemed to be a significant decline in the cognitive anxiety and physical anxiety scores of the experimental group over time. The control group's scores showed no significant change. This difference was significant at the 5% level of significance. Both groups showed significant changes in self-confidence scores over time. These changes were statistically significant at the 5% level of confidence. The self-confidence scores of the experimental group increased when comparing pre- and post-test results, while the control group's scores showed a significant decline.

Analysis of the POMS sub-scale scores

The mean scores of the POMS are presented in Figures 2 and 3.

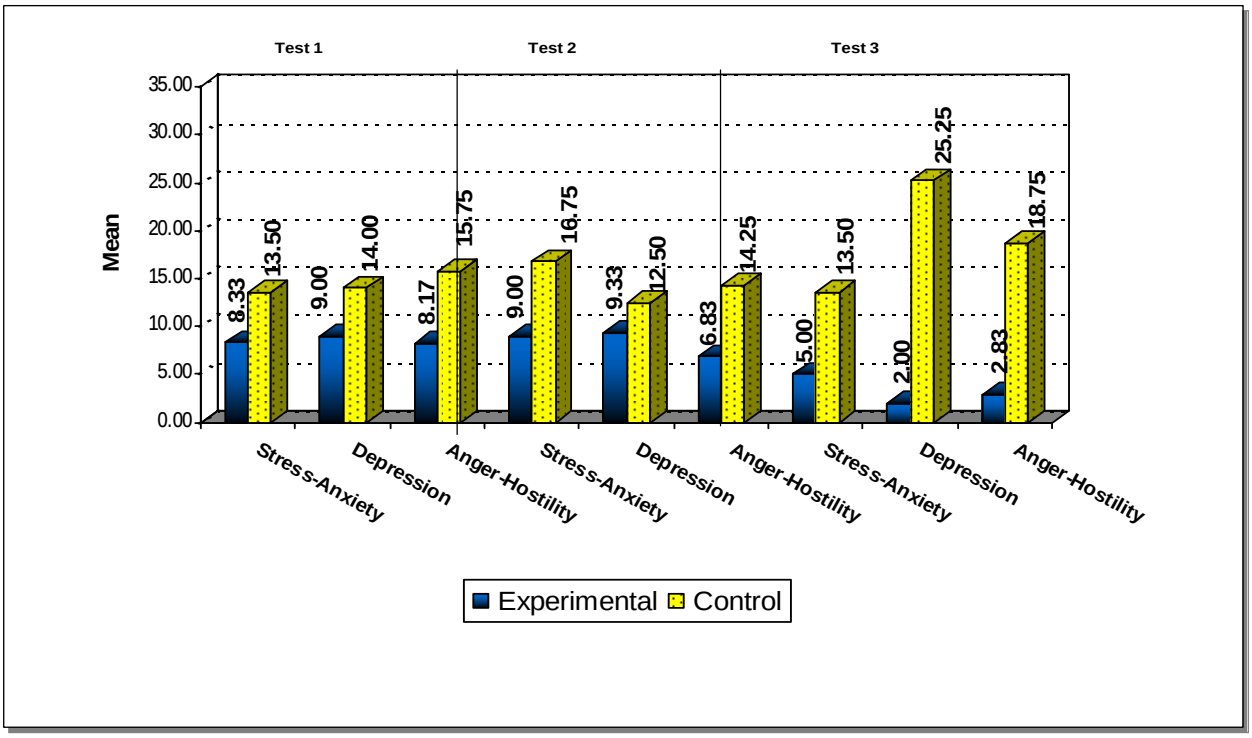

Figure 2: Mean scores of the experimental and control groups on sub-scales of the POMS test over time.

There was a difference between the tension-anxiety scores of the experimental group and the control group at the 10% level. The control group's scores were significantly higher than those of the experimental group. Two differences were significant at the 5% level. The depression and anger scores of the control group were significantly higher than those of the experimental group at the post-test.

The results of intra group analysis over time also showed significant results in the sub-scales. No statistically significant changes occurred in the tension-anxiety scores of both groups. Both groups showed significant changes in depression and anger scores over time. These changes were statistically significant at the 5% level of significance. The depression scores of the experimental group decreased significantly over time, while the control group's scores showed a significant increase. The anger scores of the control group showed no significant change.

The vigour sub-scale scores of the experimental group showed a significant increase (5% level) over time, while the control group's scores showed no significant change. The experimental group's fatigue sub-scale scores apparently decreased over time. This change was at the 10% level. The control group's scores showed no significant change. There was a statistically significant difference between the confusion sub-scale scores of the experimental group when comparing pre- and post-test results. This difference was significant at the 5% level. There was an apparent decline in the confusion sub-scale scores of the experimental group over time. The control group's scores showed no significant change.

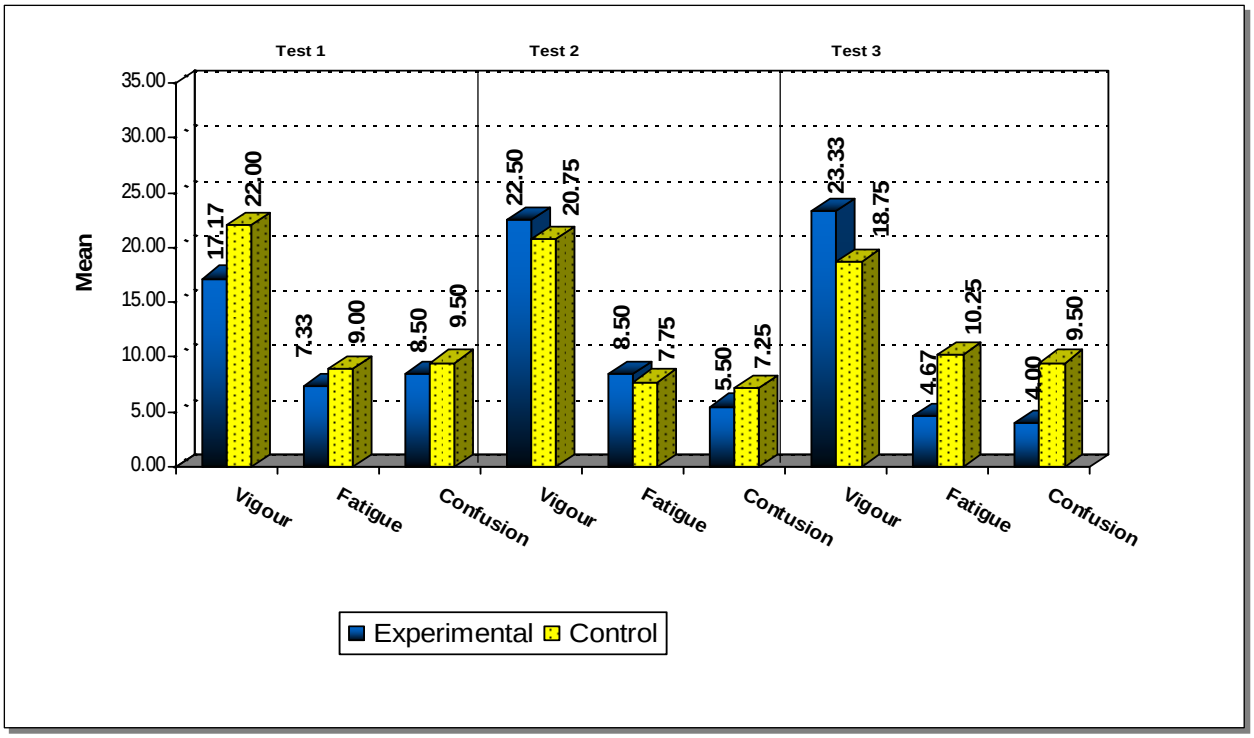

Figure 3: Mean scores of the experimental and control groups on sub-scales of the POMS test over time.

Analysis of the Ryff sub-scale scores

The mean scores of the Ryff sub-scale are presented in Figures 4 and 5. According to the Mann-Whitney test, there was a statistically significant difference between the environmental mastery scores at the post-test. The experimental group's scores were significantly higher than those of the control group even though their scores were already higher than the control group during the pre- and first post-test. No further statistically significant differences were found between the two groups on the Ryff sub-scales.

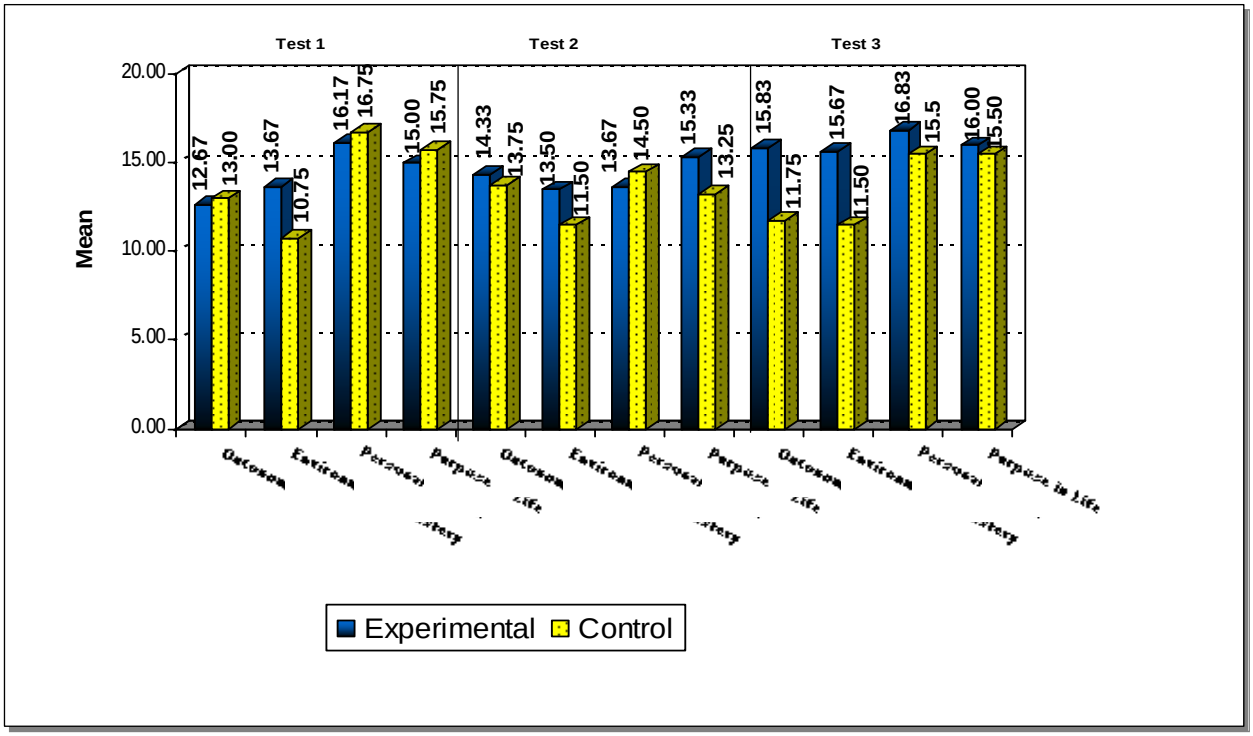

Figure 4: Mean scores of the experimental and control groups on sub-scales of the Ryff test over time.

The analysis of the results within the groups according to the Friedman test indicated that the autonomy sub-scale score of the experimental group increased statistically significantly when comparing pre- and post-test results. This difference was at the 10% level. No significant changes with regard to this sub-scale occurred with the control group. No significant changes took place in the environmental mastery, personal growth, goal orientation or self-acceptance scores of both groups over time. The control group did show a statistically significant decrease in positive relationships.

Sports-specific outcomes

Qualitative interviews were conducted with all the subjects before, during and after the intervention. For the purpose of analysing the verbatim interviews, the researcher adopted and then employed a qualitative phenomenological method that was developed by Giorgi (1987). The researcher specifically used this more

customized approach to suit the relevant sports-specific context (Hoffman, 2008).

The qualitative findings on anxiety and stress corroborate the quantitative findings that were measured by the CSAI-2 and the POMS scales. A definite improvement in the way the tennis players (subjects) coped with stress and high-pressure situations was obvious from the interviews. The following examples substantiate the subjects' improved ability to cope with anxiety and stress in high-pressure situations:

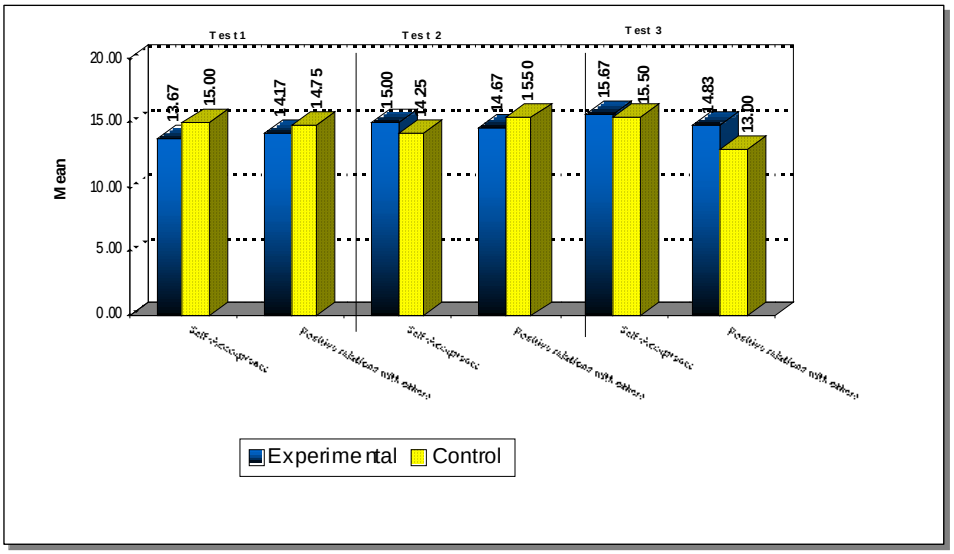

Figure 5: Mean scores of the experimental and control groups on sub-scales of the Ryff test over time.

- Subject 1: "I am definitely a lot calmer. I improved a lot and, I have been training a lot harder. I started to think a lot more like my placement and stuff; it's all falling into place."
- Subject 2: "Sometimes when the game is very tight, I feel the tension, but mostly it's O.K."
- Subject 3: "I have learned that stress and anxiety must not interfere with your game and I am not very angry on the court anymore; I can control my temper."

This improved anger control also is also consistent with the improvement in the anger scores of the experimental group that were measured by the POMS scale. During the qualitative interviews the tennis players also said that SHIP® had assisted them in improving their overall game, motivation, and finding new meaning in their sport:

- Subject 4: "I think SHIP® motivated me to become a better tennis player. The intervention helped me to see tennis in a new perspective."
- Subject 5: "I focus more on the enjoyment stuff of tennis and it helps me to cope with all the stress and anxiety. I have improved a lot since I would say about last year."

Discussion

The analysis of the differences between the CSAI-2 tests showed no statistical significant difference between the experimental group and the control group with regard to any of the sub-scales for both the pre- and post-tests.

The analysis that focused on the changes in the groups on the CSAI-2 showed that the cognitive and physical anxiety scores of the experimental group decreased significantly with no significant changes in the control group and the self-confidence's scores of the experimental group increased significantly with a significant decrease in the control group. The decrease in anxiety levels was a very important shift for this research, because it corroborated the important fact that healing had taken place.

According to the SHIP® theory, the personality attributes of a healthy person is balanced. When there are disconnected parts of the personality that are not integrated or connected, these can create an imbalance of personality attributes. This imbalance will manifest in high levels of anxiety and stress. If the disconnected parts are reintegrated through the spontaneous healing process of SHIP®, the self will spontaneously rebalance. This will lead to increased awareness levels and a radical decrease of anxiety and stress as personality attributes. The same kind of decreases in anxiety levels were also achieved with the Psychological Skills Training (PST) intervention study by Edwards and Steyn (2008). A decrease in anxiety levels after the implementation of sport psychological interventions is not a strange phenomenon. Long (1984) and Long

and Haney (1988) found that anxiety levels of joggers decreased significantly after stress-inoculation and progressive relaxation exercises. Kingston and Hardy (1997) found that process goals set by golf players have a positive effect on their self-efficacy, cognitive anxiety and self-confidence. Burton (1989) found that goal setting, as an intervention strategy, positively impacted on the performance levels of tennis players.

An analysis of the differences between and within the groups on the POMS test found that the tension-anxiety, depression and anger scores of the experimental group improved significantly, while the control group's tension-anxiety, depression and anger scores deteriorated in comparison with the experimental group. Again this finding concurs with the central notion of SHIP®, that healing by integrating disconnected parts of the personality will lead to decreased levels of anxiety and tension. Analysis of the changes in the groups itself showed no statistical significant changes within both groups with regard to the tension-anxiety test.

Further analysis within the groups indicated that the vigour and fatigue scores improved in the experimental group and showed no change in the control group. This improvement in vigour is very important in terms of the central notion of SHIP® that proper energy flow has been restored and that this will lead to improved life energy and vigour (JOS, 2008). A variety of studies have been done on the emotions of athletes. Research by Munroe, Giacobbi, Hall and Weinberg (2000) found imagery to be a positive attribute of athletes since it increases excitement and allows them to be calm during competition. Jones, Mace, Brag, Macrae and Stockbridge (2002) found imagery to decrease stress and to have a positive effect on the moods of athletes. The relation of SHIP® and Yoga are supported by Lavey, Sherman, Mueser, Osborne, Currier and Wolfe's (2005) research, which found significant improvement on the mood states (POMS) of 113 psychiatric inpatients when they followed an intensive Yoga exercise programme on a regular basis.

An analysis of the Ryff test results showed that the experimental group's environment mastery sub-scale scores were significantly higher than those of the control group during the post-test. No other significant changes were found. An analysis of the scores of the two groups showed that the experimental group's autonomy scores had increased significantly. The control group showed a

significant decrease in their positive relationship scores. This significant improvement in psychological well-being supports the hypothesis of this study that psychological growth and capacity building take place after the healing process has been completed. The fact that the subjects started to flourish and move towards improved psychological well-being when the SHIP® process continued, indicates that SHIP® can be beneficial not only in a therapeutic environment, but that SHIP® can also be a powerful agent to improve psychological well-being in normal, healthy people. Edwards and Steyn (2008) found that a Psychological Skills Training (PST) programme improved the psychological well-being, psychological skills and performance levels of young adolescent participants in school sport. The results of the Ryff test are in line with Ryan and Deci's (2000) point of view that there are three important needs to be met for a person to function at his or her best: to be in a relationship with a significant other, to experience competence and to function autonomously.

The qualitative component of this research is fully aligned with the quantitative findings of this research. In the qualitative interviews, the sports-specific outcomes that were clearly expressed by the subjects entailed overall improvement in their game, specific improvement in the way that they coped with stress and high-pressure situations, and improved anger control. The subjects also reported that their overall motivation had increased and that they had discovered new meaning in their sport.

Conclusion

The research showed that SHIP® (Spontaneous Healing Intrasystemic Process) had improved the psychological skills and psychological well-being of adolescent tennis players. In general, the experimental group that took part in SHIP® as an intervention improved significantly with regard to their cognitive and physical anxiety, mood states and psychological well-being compared to the control group that showed no significant improvement on the above-mentioned attributes. This study strongly suggests that SHIP® as an intervention programme not only has therapeutic value, but that it can also significantly have a positive effect on the psychological well-being, overall potential and capacity of adolescent tennis players. The study further suggests that SHIP® has definite value for Sport Psychology.

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