RESEARCH HIGHLIGHTS

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Mindfulness Training for Hong Kong Athletes

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Introduction

Traditional Psychological Skills Training (PST) has dominated athletes' mental training over the last thirty years^[1]. There is a lack of empirical support for the efficacy of traditional $\mbox{PST}^{\mbox{\tiny [2]}}.$ The mindfulness-based approach, as an alternative of the PST, has been gaining more and more attention in the field of sport psychology.

Objective

In this study, researchers applied a mindfulness-based training approach, the Mindfulness-Acceptance-Insight-Commitment (MAIC) developed by Chinese indigenous sport psychologists[3], within Hong Kong elite athletes, and examined the effectiveness of the MAIC on the athletes' mindfulness level, acceptance level, commitment level, and training performance.

Methodology

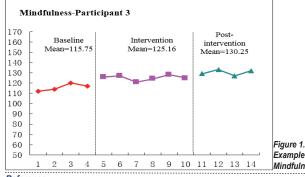
A multiple-baseline single case design was applied in this study. Ten Hong Kong elite athletes, who were first exposed to mindfulness-based training, were recruited from Hong Kong Sports Institute as the participants of this study. The study included three phases (i.e., baseline phase, intervention phase and post-intervention phase). Baseline phase lasted two weeks with no training, and four points data collections were conducted for all participants with their mindfulness, acceptance, commitment and training performance. Intervention phase lasted 3 weeks with training for all participants, and 6 points data collections were conducted. Post-intervention phase lasted 2 weeks with no training, and four points data collections were conducted.

Results

Through Visual analysis and Non-Overlap of All Pairs (NAP) analysis [4-5], this study indicated that:

- With regard to mindfulness level, the MAIC was demonstrated having medium or strong effect (rescaled NAP values between .32 - 1.0) for eight athletes in the intervention phase, and having medium or strong effect for seven athletes in the postintervention phase. The effect of the MAIC was demonstrated not significant (original NAP values smaller than .50) for only two athletes in the intervention phase, and three athletes in the post-intervention phase.
- With regard to acceptance level, the MAIC was demonstrated having medium or strong effect for six athletes in the intervention phase, and having medium or strong effect for eight athletes in the post-intervention phase. The effect of the MAIC was demonstrated not significant for only four athletes in the intervention phase, and two athletes in the post-intervention phase.
- With regard to commitment level, the MAIC was demonstrated having medium or strong effect for all ten athletes in the intervention phase, and having medium or strong effect for nine athletes in the post-intervention phase. The effect of the MAIC was demonstrated not significant for only one athlete in the post-intervention phase
- With regard to training performance, the MAIC was demonstrated having medium or strong effect for nine athletes in the intervention phase, and having medium or strong effect for nine athletes in the post-intervention phase. The effect of the MAIC was demonstrated not significant for only one athlete in the intervention phase, and the post-

Examples of data analysis:



Example of Mindfulness

Acceptance-Participant 4 55 Baseline Intervention Mean=27.17 intervention 45 Mean=20.75 Mean=27.25 35 25 15 5 -5 15

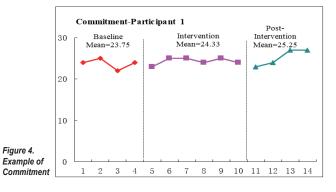
Training Performance-Participant 1 30 Baseline Mean=14.00 Intervention Mean=14.80 Intervention Mean=18.50 20 10 4 5 6 7 8 9 10 11 12 13 14 15

Figure 3. Example of Training Performance

Figure 2.

Example of

Acceptance



Conclusions

The MAIC training program has integrated the Mindfulness-Acceptance-Commitment (MAC)[2] training approach with the Chinese concept of heart, insight from Zen Buddhism, the concept of socially oriented values, and acceptance-based adversity coping^[6]. This study applied the MAIC among Hong Kong elite athletes, and the finds demonstrated the effectiveness of the MAIC on mindfulness, acceptance, commitment, and training performance. In addition, the Hong Kong Wushu team's psychological preparation with the MAIC for the 13 Wushu World Championship has also revealed elite Wushu athletes can benefit from the MAIC for their training, psychological wellbeing, and even their competitions[7]. Therefore, it is worth to recommend the MAIC to all the athletes of Hong Kong. Moreover, we also welcome more Chinese researchers to apply the MAIC in their practice and researches to evaluate the effectiveness of the MAIC further.

Reference

- Harmison, R. J. (2011). Peak performance in sport: Identifying ideal performance states and developing athletes' psychological skills. Sport, Exercise, and Performance Psychology, 1, 3–18. doi: 10.1037/2157-3905.1.S.3 Gardner, F. L., and Moore, Z. E. (2007). The psychology of enhancing human performance: The Mindfulness-Acceptance-Commitment (MAC) approach. New York, NY: Springer. Si, G., Zhang, G., Su, N., Zhang, C., Jiang, X., and Li, H. (2014). Mindfulness training manual for athletes [運動員正念訓練手冊], Beijing: Beijing Sports University Press. Parker, R.I., & Vannest, K.J. (2009). An improved effect size for single case research: Non-overlap of all pairs (NAP). Behavior Therapy, 40, 357-367.

- Parker, R.I., & Vannest, K.J., (2009), An improved effect size for single case research: Non-overlap of all pairs (NAP). Behavior I Inerapy, 40, 35/-367.

 Parker, R.I., Vannest, K.J., Davis, J.L. (2011). Effect size in single case research: A review of nine on-overlap techniques. Behavior Modification, 35, 302-322.

 Si, G. (2006). Pursuing "ideal" or emphasizing "coping": The new definition of "peak performance" and transformation of mental training pattern [追求 "最佳 "還是強調 "應對 "一對理想競技表現的重新定義及心理訓練範式變革]. Sport Science, 26, 43-48.

 Liu, T., Liu, X., Guo, Y., Su, N., & Huang, Z. (2016). Effect of mindfulness intervention on Wushu training and competition: The case of Hong Kong Wushu team [正念心理訓練干預武衛套路效果評價研究——以香港武術隊為例]. Journal of Chendu Sport University, 42(5), 88-92.

 Hardy, L., Johnes, G., and Gould, D. (1996). Understanding psychological preparation for sport: Theory and practice of elite performers. New York, NY. John Wiley & Sons.

 Gardner, F. L., and Moore, Z. E. (2004). A Mindfulness-Acceptance-Commitment-based approach to athletic performance enhancement: Theoretical considerations. Behavior Therapy, 35(4), 707-723. doi: 10.1016/S0005-7894/Mingotts 6.