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Mediating Role of Mindfulness on the Relationship between Mental Toughness and Athletics Performance of Inter University Track and Field Athletes

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Abstract

Many Psychological factors influence an individual's participation in sports. Some of them have a direct effect while some others act as mediators or moderators. An insight into how all these psychological constructs function in sport and physical activity is much important to sports psychologists. The purpose of the study was investigating the mediating role of mindfulness on the relationship between mental toughness and performance of interuniversity track and field athletes. Data was collected from a sample of 323 interuniversity athletes (162 Men, 161 Women) from four different Universities in Kerala, India within the age group of 18-22 years through purposive sampling. Athletes with history of mental illness or any other physical ailments and Team games and other individual game athletes were excluded from the study. Mindfulness Mindlessness Scale, Mental Toughness Scale and Direct Measures of Performance were used to collect the data. Multiple Regression analysis will be administered to examine the role of independent as well as intervening variables. The study found that mentally resilient athletes are attracted towards using psychological strategies to aid and enhance their performances.

Keywords: Mindfulness, Mental Toughness, Athletic Performance

Introduction

Spot participation powers all aspects of an individual's make up and help him/her in accomplishing composure, balance and courage. It also helps the individual in inspiring his spirits, rejuvenating inner sources of faith, mastering the skills and meeting the challenges of modern life with ease and calmness. Even though many factors are found to affect athletic performance, no study has clearly shown which factor better predicts performance, which is a clear indication of some mediating factors affecting sport performance.

Many Psychological factors influence an individual's participation in sports. Some of them have a direct effect while some others act as mediators or moderators. An insight into how all these psychological constructs function in sport and physical activity is much important to sports psychologists. Generating such knowledge will have practical implications for coaches, players and trainers. However, sports are multifaceted, there is a huge difference in the physical and psychological demands of different sports.

The psychological construct of mindfulness refers to an awareness that emerges by intentionally paying attention to the present experience in a non-judgmental or evaluative way. This particular quality of awareness has been associated to several indicators of physical and psychological health. Trait or dispositional mindfulness (DM), the tendency to be more mindful in daily life (Garland *et al.*, 2013) [13], seems to be a sum of individual genetics and life experiences, and DM is not necessarily related to having participated in an MBI or practicing meditative exercises. Furthermore, dispositional mindfulness (described as the tendency to be mindful in everyday life) is directly related to sport performance (Birrner *et al.*, 2012) [3]. General mindfulness may be defined as directing attention to the experience of the present moment, without making evaluations (Kabat-Zinn *et al.*, 1992) [17]. Crucial characteristics of mindfulness are nonjudgmental acceptance, openness to experiences, and insight (Walach, Buchheld, Buttermuller, Kleinknecht, & Schmidt, 2006). The Mindfulness Acceptance-Commitment model (Gardner & Moore, 2004) [10] suggests that together with self-regulatory beliefs, mindfulness is among crucial psychological factors prompting mental skills,

facilitating peak performance. According to the dispositional mindfulness approach (Birrer *et al.*, 2012) [3] general mindfulness operates via six top town impact mechanisms. In particular, one of the proposed mechanisms suggests that dispositional mindfulness fosters performance (Birrer *et al.*, 2012) [3].

The concept of mental toughness has recently attracted much attention from sport psychology researchers attempting to understand how psychological factors can underpin success in sport (Bull, Shambrook, James, & Brooks, 2005; Gucciardi, Gordon, & Dimmock, 2008; Jones, Hanton, & Connaughton, 2007) [5, 14, 16]. From the emerging knowledge base, mental toughness is considered to be multi-dimensional (comprising cognitive, affective, and behavioural components) and an important psychological construct that is related to successful sport performance (Bull *et al.*, 2005; Clough, Earle, & Sewell, 2002; Connaughton, Wadey, Hanton, & Jones, 2008; Crust & Clough, 2005; Jones *et al.*, 2007) [5, 6, 7, 8, 16]. Unfortunately, however, there are still different perspectives on the construct. For example, while some researchers suggest that mental toughness can explain how physically talented athletes become great athletes (Gucciardi *et al.*, 2008) [14], others have cautioned against over-emphasizing the importance of psychological constructs when success in sports is most likely down to deliberate practice (Ericsson, 1996) and athletes possessing the appropriate blend of physiological, anatomical, and psychological attributes (Crust, 2008).

Need and Significance

The research on mindfulness is generally limited, especially since it has primarily focused on the efficacy of mindfulness-based intervention programs. In terms of sport and exercise, studies of mindfulness have focused on increasing performance of skilled athletes in precision situations (Kee, 2008; Reeves *et al.*, 2007) [19, 20].

The finding of the study will help expert, coaches and psychologist to plan and develop intervention strategies for enhance mindfulness in order to improve athletic performance. Participation of effective psychological skill training such as mindful sports performance enhancement (MSPE), mindfulness-based stress reduction (MBSR) will be useful for enhancing athletic performance.

Therefore athletes and coaches need to understand how these variables affect athletic performance and these variables need to be given attention in developing training strategies, so that they take their event to the next level and further improve performance standards. So indeed it is highly needed as it attempts to identify the mediating role of mindfulness in mental toughness and performance relationship among interuniversity track and field athletes.

Statement of the Problem

The purpose of study was to generate knowledge, which will have practical implications for coaches, athletes and trainers through identify the mediating role of mindfulness on the relationship between mental toughness and athletic performance of interuniversity track and field athletes from Kerala state.

Methodology

Sample

Sample of the present study include 323 interuniversity track and field athletes, 162 men (M=162 & F=161) and 161 women aged between 18-22 years, from four different Universities in Kerala state, India. Athletes with history of mental illness or

any other physical ailments and Team games and other individual game athletes were excluded from the study.

Tools

- i. **Mindfulness Mindlessness Scale (MMS) (Bodner & Langer, 2001)** [4]: It is a 21-item, self-report questionnaire that assesses an individual’s tendency to be mindful. Mindfulness is assessed with a 7-point Likert-type scale with 8 reverse scored items. Cronbach’s alpha for the MMS was .81.
- ii. **The Mental Toughness Scale (MTS) (Leilani, Sharon and Diane, 2013)**: It is an 11-item scale that report responses on a five point Likert scale ranges from 1 to 5. The MTS scale exhibited good internal consistency with a Cronbach’s alpha of .87.
- iii. **Direct Performance Measures (Wolanin’s, 2005 & Sarah M. Hasker, 2010)**: to collect athletics performance and which include:
- iv. **Coach’s Rating Scale of Athlete’s Performance**: The head coach of each team completed a rating of their respective athletes’ athletic performance using a rating scale developed for this study. The rating scale consists of 10-items and uses a 5-point likert scale that ranges from (1) very poor to (5) very good.
- v. **Athlete’s Performance Self-Rating Scale**: Each athlete will complete a self-rating scale of his or her athletic performance. The scale is the self-report version of the coach’s rating scale of athlete’s performance.

Data Collection

All the selected variables were measured by using questionnaires. The prior permission was taken from the coaches and principals from the concerned colleges. Questionnaires were distributed to the subjects as a simple booklet and not translated in to Malayalam because the subjects were perusing their U.G and P.G. Moreover, explained each and every questions to the subjects in their own languages in class room settings and collected the questionnaires from there itself.

Analysis of Data and Results

Barron and Kenny regression analysis and Sobel Test has been used to analyze the obtained data by using SPSS version 20.

Table I: Mediating role of Mindfulness (M) on the relationship between Mental Toughness (X) and Athletics Performance (Y)

Variables	β	<i>t</i>	<i>sig</i>	<i>Z</i>	<i>P</i>
Y ← X	.0891	2.8854	.0042	2.6691*	.0076
M ← X	.4413	7.4625	.0000		
Y ← M . X	.0831	2.8838	.0042		
Y ← X . M	.0524	1.5850	.1140		

*Significant at 0.05 levels

Table 1 indicates that relationship of mental toughness with athletics performance through mindfulness is significant. The beta value obtained for the PMMC Performance relationship is (Y ← X, β -0.0891) .But when the mediating variable was controlled (Y ← X. M) the beta value is reduced to 0.0524. Here the Z value is 2.6691 which is significant at 0.05 level. These clearly indicate that Mindfulness mediates Mental Toughness Athletic Performance relationship.

Discussions

The results show that mindfulness has a significant mediating effect on mental toughness and athletic performance

relationship. In this study mindfulness and mental toughness found a positive relation with athletics performance and also a positive correlation between mindfulness and mental toughness. The research on mindfulness is generally limited, especially since it has primarily focused on the efficacy of mindfulness-based intervention programs. In terms of sport and exercise, studies of mindfulness have focused on increasing performance of skilled athletes in precision situations (Kee, 2008; Reeves *et al.*, 2007) ^[19, 20].

According to Martin I. Jones *et al.* (2014), mindfulness could be a mechanism through which mental toughness influences pain catastrophising; and being mindful and staying in the present moment would seem to be part of being mentally tough (which may be even one of the major features). Research on Mindful Sport Performance Enhancement (MSPE) (Kaufman K. *et al.*, 2009) ^[18] suggests that it is a promising intervention to enhance flow, mindfulness, and aspects of sport confidence.

Recently, mindfulness training has gained traction as a viable alternate approach to prepare athletes for optimal performance (De Petrillo, Kaufman, Glass & Arnkoff, 2009; Gardner & Moore, 2004; 2006; 2007; Thompson *et al.*, 2011) ^[9, 10, 11, 12, 21]. Mindful (nonjudgmental) are required for optimal athletics performance, Frank L Gardner (2004) ^[10]. The Mindfulness-Acceptance-Commitment model (Gardner & Moore, 2004) ^[10] suggests that along with self-regulatory beliefs, mindfulness is one of the crucial psychological factors prompting mental skills and facilitating peak performance. Taking part in mindfulness training was found to influence a sense of control among athletes (Aherne, Moran, & Lonsdale, 2011) ^[1]. Furthermore, dispositional mindfulness (described as the tendency to be mindful in everyday life) is directly related to sport performance (Birrer *et al.*, 2012) ^[3].

However, Joachim Bervoets (2013) ^[2] reported that mindfulness has a potential mediating influence on athletic peak performance.

Conclusion

From the findings within the limitations of this study it can concluded as Mindfulness has been found to play a significant mediating role on the relationship between mental toughness and athletic performance among interuniversity track and field athletes in Kerala. This means that when athletes are mentally strong they will be mindful which indirectly results in better performance.

The study found that mentally resilient athletes are attracted towards using psychological strategies to aid and enhance their performances. So, care should be taken to include psychological training as part of athletes' regular training schedule.

References

1. Aherne C, Moran AP, Lonsdale C. The effect of mindfulness training on athletes flow: An initial investigation. *Sport Psychologist*, 2011; 25:177-189.
2. Bervoets J. Exploring the relationships between flow, mindfulness, & self-talk: a correlational study, 2013.
3. Birrer D, R othlin P, Morgan G. Mindfulness to enhance athletic performance: Theoretical considerations and possible impact mechanisms. *Mindfulness*, 2012; 3:235-246. doi:10.1007/s12671-012-0109-2.
4. Bodner TE, Langer EJ. Individual differences in mindfulness: the mindfulness/mindlessness scale. In Poster presented at the 13th annual American Psychological Society Convention, Toronto, Ontario,

- Canada, 2001.
5. Bull S, Shambrook C, James W, Brooks J. Towards an understanding of mental toughness in elite English cricketers. *Journal of Applied Sport Psychology*, 2005; 17:209-227.
6. Clough PJ, Earle K, Sewell D. Mental toughness: The concept and its measurement. In I. Cockerill (Ed.), *Solutions in sport psychology* London: Thomson. 2002, 32-43.
7. Connaughton D, Wadey R, Hanton S, Jones G. The development and maintenance of mental toughness: Perceptions of elite performers. *Journal of Sports Sciences*. 2008; 26:83-95.
8. Crust L, Clough PJ. Relationship between mental toughness and physical endurance. *Perceptual and Motor Skills*, 2005; 100:192-194.
9. De Petrillo L, Kaufman K, Glass C, Arnkoff D. Mindfulness for long-distance runners: An open trial using mindful sport performance enhancement (MSPE). *Journal of Clinical Sport Psychology*, 2009; 4:357-376.
10. Gardner FL, Moore ZE. A Mindfulness-Acceptance-Commitment-based approach to athletic performance enhancement: Theoretical considerations. *Behavior Therapy*, 2004; 35:707-723. doi:10.1016/S0005-7894(04)80016-9.
11. Gardner FL, Moore ZE. *Clinical sport psychology*. Champaign, IL: Human Kinetics, 2006.
12. Gardner F, Moore Z. *The psychology of enhancing human performance: The Mindfulness- Acceptance-Commitment (MAC) approach*. New York: Springer, 2007.
13. Garland SN, Campbell T, Samuels C, Carlson LE. Dispositional mindfulness, insomnia, sleep quality and dysfunctional sleep beliefs in post-treatment cancer patients. *Pers. Individ. Differ.* 2013; 55:306-311. doi: 10.1016/j.paid.2013.03.003
14. Gucciardi D, Gordon S, Dimmock J. Towards an understanding of mental toughness in Australian football. *Journal of Applied Sport Psychology*, 2008; 20:261-281.
15. Hasker SM. Evaluation of the mindfulness-acceptance-commitment (mac) approach for enhancing athletic performance (Doctoral dissertation, Indiana University of Pennsylvania), 2010.
16. Jones G, Hanton S, Connaughton D. A framework of mental toughness in the world's best performers. *The Sport Psychologist*, 2007; 21:243-264.
17. Kabat-Zinn J, Massion AO, Kristeller J, Peterson LG, Fletcher KE, Pbert L *et al.* Effectiveness of a meditation-based stress reduction program in the treatment of anxiety disorders. *American Journal of Psychiatry*, 1992; 149:936-943.
18. Kaufman KA, Glass CR, Arnkoff DB. Evaluation of Mindful Sport Performance Enhancement (MSPE): A new approach to promote flow in athletes. *Journal of Clinical Sport Psychology*, 2009; 25(4):334.
19. Kee YH, Wang CK. Relationships between mindfulness, flow dispositions and mental skills adoption: A cluster analytic approach. *Psychology of Sport and Exercise*, 2008; 9:393-411. doi:10.1016/j.psychsport.2007.07.001
20. Reeves JL, Tenenbaum G, Lidor R. Choking in front of the goal: The effects of selfconsciousness training. *International Journal of Sport and Exercise Psychology*. 2007; 5:240-254.
21. Thompson R, Kaufman K, De Petrillo L, Glass C, Arnkoff D. One year follow-up of Mindful Sport Performance Enhancement (MSPE) with archers, golfers, and runners.

Journal of Clinical Sport Psychology, 2011; 5:99-116.

22. Walach H, Buchheld N, Buttermuller V, Kleinknecht N, Schmidt S. Measuring mindfulness – the Freiburg Mindfulness Inventory (FMI). Personality and Individual Differences, 2006; 40:1543-1555. doi:10.1016/j.paid.2005.11.025.