

**MINDFULNESS-ACCEPTANCE-COMMITMENT PROGRAM FOR
ATHLETES AND EXERCISERS: AN ACTION RESEARCH CASE STUDY**

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Master's Thesis in Sport and

Exercise Psychology

January 2016

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ACKNOWLEDGEMENTS

I owe an enormous debt of gratitude to my friends, family, the participants of the mindfulness-based program and my supervisor Prof. Taru Lintunen for their endless support and contributions along the journey.

I am very grateful to have you all in my life.

ABSTRACT

Doğan Umut, 2016. Mindfulness-Acceptance-Commitment Program for Athletes and Exercisers: An Action Research Case Study. Master's Thesis in Sport and Exercise Psychology. Department of Sport Sciences. University of Jyväskylä. 74p.

Control-based psychological skills training (PST) practices have been widely capitalized on in sport for the past few decades, despite inconsistent empirical evidence of their efficacy on sport performance. The Mindfulness-Acceptance-Commitment (MAC) program has preliminary support as an additional approach in performance enhancement, however, there is very limited research involving its implementation especially within group settings. Current study was aimed at planning, implementation, and evaluation of a seven-session MAC program among a diverse group of active athletes and regular exercisers (n=16). This study was an educational action research case study with a mixed method design. Perspective of a novice instructor and information upon the implementation of the sessions were reflected through an elaborate narrative case description compiled based on researcher's log and participants' feedback. Participants also filled in the following performance and wellbeing-related scales before and after the intervention: Athlete's Performance Self-Rating Scale (Hasker, 2010), The Acceptance and Action Questionnaire (AAQ; Hayes et al., 2004), The White Bear Suppression Inventory (WBSI; Wegner & Zanakos, 1994), and The Five Facet Mindfulness Questionnaire (FFMQ; Baer, et al., 2006). Qualitative data was analyzed through narrative and content analyses, while quantitative data was analyzed via Paired Sample t-Test. Based on the qualitative analyses, participants benefited from student centered and interactive ways of teaching (metaphors, games, videos, focus group discussions and exercises) used as part of the program. Participants also tended to prefer more active tasks like various informal mindfulness exercises as opposed to paper-based exercises. Based on the quantitative analysis, participants improved on perceived performance, thought suppression, acceptance and committed action. This study showed that it was possible for a novice instructor to adapt and apply the MAC program to a group of athletes and exercisers successfully. Future research can focus on certain sports, certain groups and include a control group and other performance-related measures, in addition to incorporating more action-oriented exercises within the program.

Keywords: MAC program, mindfulness, action research, active athletes and exercisers.

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1 INTRODUCTION

Control-based self-regulation of internal states (feelings, thoughts and sensations) has been predominantly utilized to enhance sport performance for the past few decades (Birrer & Morgan, 2010). Control-based self-regulation techniques assume that internal states can be and should be controlled -more specifically negative internal states should be decreased and positive internal states need to be increased- to improve performance (Birrer, Röthlin, & Morgan, 2012). However, there is inconsistent empirical evidence supporting the assumptions and efficacy of such self-regulation practices regarding sport performance.

Contrarily, mindfulness-based programs –like the *Mindfulness-Acceptance-Commitment* (MAC) program by Gardner and Moore (2007)- claim that athletes and exercisers don't need to control their internal states to perform optimally. They can reach their meaningful values and goals as long as they accept their internal states while focusing on the relevant stimuli and tasks in the present moment (Gardner & Moore, 2007). The MAC program has been supported as an alternative approach in performance enhancement by numerous studies (e.g., Lutkenhouse, 2007; Hasker, 2010; Wolanin & Scwanhauser, 2010), however, there is very limited number of research on teaching or applying it especially within a group setting and by a novice instructor. Some likely advantageous features of group interventions (peer support, perspective taking and low costs) compared to individual practices render the topic even more intriguing.

To this end, current study is primarily aimed at planning and implementing a seven-session MAC program among an international group of active athletes and regular exercisers of diverse exercise backgrounds (n=16). This study is an educational action research case study (with a mixed method design). Perspective of a novice instructor and information upon the implementation of the sessions will be reflected through an elaborate narrative case description. Participants will also fill out self-rating scales measuring perceived performance, mindfulness, thought suppression, acceptance and committed action before and after the intervention.

Qualitative data will be analyzed through narrative and content analyses, while quantitative data will be analyzed via Paired Sample t-Test. In terms of the qualitative part, participants are expected to benefit from metaphors, games, videos, focus group

discussions and exercises used as part of the program. In terms of the quantitative part, participants are expected to improve on performance and wellbeing-related measures like perceived performance, mindfulness, thought suppression, acceptance and committed action. This study provides information on the process and outcomes of adapting and applying the MAC program to a diverse group of athletes and exercisers by a novice instructor.

1.1 Conventional Methods of Enhancing Performance in Sport

Cognitive behavioral methods have been widely used to aid athletes reach their best performances (Birrer & Morgan, 2010). Self-regulation is the umbrella term for such methods and it consists of techniques like arousal control, goal setting, imagery, self-talk, pre-competitive routines, and mental rehearsal. Meichenbaum's (1977) integrative approach and Bandura's (1977) social cognitive theory were two of the most influential approaches that paved the way to the application of these self-regulation techniques under the name of psychological skills training (PST) over athletes (Hasker, 2010). However, some of these above-mentioned practices can sometimes have a controlling impact over internal states (thoughts, feelings and sensations). Such control-based self-regulation methods rely on the assumption that negative internal states diminish performance, as a result such negative internal states have to be decreased or positive internal states have to be enhanced to increase performance (Birrer, Röthlin, & Morgan, 2012). This was a popular approach for reaching the best athletic performance for a considerably long time. Another underlying assumption of control-based self-regulation techniques was that internal states (thoughts, emotions etc.) could be and should be controlled. However, there were some models -like the individual zones of optimal functioning (IZOF) model, CUSP catastrophe model, and processing efficiency theory- that back the idea that one can perform in high levels, despite having negative internal states (Mellalieu, Hanton, & Fletcher, 2006).

For instance, the IZOF model and the CUSP catastrophe model have a similar approach on the relationship between the levels of anxiety and performance. They state that certain levels of arousal and anxiety would facilitate performance, however, performance would drop after a certain level of anxiety (Hardy, Jones, & Gould, 1996).

Contrarily, it was concluded in a study examining the CUSP catastrophe model that it was possible to preserve performance even under high levels of arousal and anxiety (Cohen, Pargman, & Tenenbaum, 2003). Moreover, according to the processing efficiency theory (PET) increased cognitive anxiety causes a rise in task-irrelevant focus, as a result processing efficacy (performance) might reduce (Eysenck & Calvo, 1992). However, cognitive anxiety may also mean that the relevant task is significant for the person, so performance may even increase in return (Hasker, 2010). In other words, negative internal states do not necessarily reduce performance.

A number of studies also inquired control-based self-regulation methods and their effectiveness. Craft and colleagues' (2003) meta-analytic review showed that self-competitive anxiety and athletic performance are poorly related. In a systematic review carried by Tod, Hardy and Oliver (2011) the impacts of self-talk (a control-based method under PST) were investigated. The results implied that negative self-talk does not have negative effect on performance and that there is no significant performance difference between positive and negative self-talk (Tod et al., 2011).

Furthermore, Moore's (2003) qualitative review aimed to see the empirical evidence for control-based self-regulation techniques. The criteria of the Committee on Science and Practice (under American Psychological Association Studies) were used to evaluate the studies on PST (Moore, 2003). None of the single component interventions (self-regulation techniques under PST alone) were found to increase performance, when the above-mentioned criteria was used to select the studies to be evaluated (Moore, 2003). Same self-regulation techniques worked slightly better, when they were combined; however, the results were not consistent (Moore, 2003). However, this was only a single review and there is evidence supporting the efficacy of several PST techniques under certain conditions (e.g., for goal setting: Kyllö & Landers, 1995; for self-talk: Tod et al., 2011). Still some open space has been created for novel, additional approaches considering the recent theoretical and empirical evidence on performance enhancement.

1.2 Mindfulness

Mindfulness is the state of mind when a person focuses on the present moment nonjudgmentally (Kabat-Zinn, 1990). Mindfulness has been in demand lately as a

therapeutic tool in psychology. In this part, I'll first review the literature on the operational definition and the working mechanism behind mindfulness. Then, I'll briefly explain different versions of mindfulness practices available within psychology. Next, I'll talk about the ways to assess mindfulness consistently and finally, I'll review the literature on the effects of mindfulness on wellbeing and performance.

Mindfulness is thought to have two distinctive facets and definitions, namely 1) the self-regulation of attention in the present-moment and 2) the openness, willingness, and awareness of experiences in the present-moment (Bishop et al., 2004). As an example supporting the first facet/definition, it was found that people were more flexible in word production and had less Stroop interference (better self-regulation of attention), after just brief practices of mindfulness (Wenk-Sormaz, 2005). Contrarily, a more recent study (Anderson, Lau, Segal, & Bishop, 2007) indicated that attending an 8-week Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn, 1990) course improved emotional well-being and mindfulness, however, there was no change in attentional control. The same study also concluded that mindfulness pertains to non-directional attention and nonjudgmental awareness of the present moment, hence supporting the latter.

Mindfulness-based cognitive therapy (Segal, Williams, & Teasdale, 2003) is another kind of intervention that uses practices like meditation to facilitate mindfulness just like MBSR stated above. Moreover, approaches like dialectical behavior therapy (DBT; Linehan, 1993) and acceptance & commitment therapy (ACT; Hayes, Strosahl, & Wilson, 1999) also apply mindfulness procedures mainly in the form of learning some behavioral skills.

In addition to available practices and definitions of mindfulness, assessment of mindfulness is also a multi-faceted topic. We can assess the second component of mindfulness (the openness, willingness, and awareness of experiences in the present-moment) via the Toronto Mindfulness Scale (Lau et al., 2006). There are also some other scales like The Kentucky Inventory of Mindfulness Skills (Baer, Smith, & Allen, 2004) and Cognitive and Affective Mindfulness Scale-Revised (CAMS-R; Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2007) that measure both awareness and acceptance. Yet, if the focus is only on measuring the attentional aspect of mindfulness (the first definition of mindfulness mentioned above), then the Mindful Attention

Awareness Scale (MAAS; Brown & Ryan, 2003) can be used. Finally, the Five-Facet Mindfulness Questionnaire (FFMQ; Baer, et al., 2006) seems like the most empirically supported and comprehensive measure among the others (Hasker, 2010).

Mindfulness practices are found to have many empirically supported benefits. According to an observational study, doing formal meditation exercises like body scan, sitting meditation or yoga at home for 8-weeks was shown to decrease psychological distress, while increasing mindfulness and psychological well-being (Carmody & Baer, 2008). Mindfulness was also found to decrease rumination, which was shown to decrease stress levels as a result (Jain et al., 2007). Moreover, higher natural levels of mindfulness- regardless of applying meditation practices—was found to pertain to less anxious and depressed feelings and more lively, inspired, hopeful and happy feelings in life (Greeson, 2009). Plus, physically active individuals were found to have better mindfulness skills and less psychological and depressive symptoms compared to physically less active adults, based on the self-reported physical activity levels (Kangasniemi, Lappalainen, Kankaanpää & Tammelin, 2014). Furthermore, some mindfulness-based treatments mentioned before were found to efficiently help several mental health conditions like recurrent major depression (MBCT), anxiety disorders (ACT, MBSR), borderline personality disorder (DBT), chronic pain (ACT, MBSR), and binge eating disorder (Mindfulness-Based Eating Awareness Training -MB-EAT; Kristeller & Hallett, 1999) (Keng, Smoski & Robins, 2011). There is an increasing body of research on the relation between mindfulness and brain too. Briefly, while open awareness meditation tends to raise flexible monitoring and redirecting attention; focused meditation seems to facilitate preservation of attention on specific items (Lutz et al., 2008). A review by Marks (2008) demonstrated that mindfulness practices are related to salutary neuroanatomical changes regarding fMRI and EEG analyses.

1.3 Acceptance and Commitment Therapy (ACT)

In this part, I'll first focus on the basics of ACT including the six chief elements of it. Next, I'll talk about a way to assess acceptance consistently. Finally, I'll review the literature on the effects of ACT. To begin with, ACT is the second component of the MAC approach and it also stems from cognitive behavioral model (Hayes, 2004). ACT differs from traditional cognitive behavioral model regarding its relation to *Relational*

Frame Theory (RFT).

RFT proposes that language and cognition function in terms of relational frames and they influence our actions within a particular context (Hayes, Barnes-Holmes, & Roche, 2001). According to the theory, people usually unconsciously connect outside things and language in their minds (Hayes, Barnes-Holmes, & Roche, 2001). However, these contextual relational frames (thought, emotions etc.) may get reinforced and replace outer reality over time (*cognitive fusion*) (Hayes, 2004). Cognitive fusion is likely to be accompanied by experiential avoidance, which tends to be experienced in the form of worry, anxiety or perfectionism (Hayes, 2004). So, cognitive fusion and experiential avoidance may result in a rule-governed and avoidant behavior pattern rather than a flexible and value-driven lifestyle. This is the point where ACT enters the equation with its 6 mottos, namely defusion, acceptance, values, committed action, focus on the present moment and self as context. In ACT, people are encouraged to detach from their relational frames -internal states- to have a more clear experience of the things surrounding themselves (*defusion*) (Harris, 2009). There is evidence that trying to control negative thoughts and emotions can increase the likelihood of experiencing more negative internal states (Wenzlaff & Wegner, 2000). So as part the *acceptance* aspect of ACT, clients are practiced to experience internal states in a non-evaluative, accepting way without putting any effort to control the content whether it is negative or positive (Harris, 2009). Moreover, people are reinforced to *commit to goals* and meaningful *values* -that are decided by themselves- instead of following rule-driven, inflexible behavioral patterns –that are not chosen by themselves (Harris, 2009). Unnecessary focus on past or future is replaced by a *focus on present-moment* (Hayes, 2004). Finally, awareness of both internal and external states is valued and practiced (self as context) (Harris, 2009).

The Acceptance and Action Questionnaire (AAQ) is used to evaluate experiential acceptance. The AAQ is a 16-item self-rating scale ranging on a seven- point likert scale. Evidence shows that the AAQ is reliable and valid (Hayes, et al., 2004).

There is a some empirical support behind ACT, although it is a rather new practice. ACT was found to be an effective treatment for depression, substance use disorders, eating disorders, chronic pain, psychosis and work-related stress (Hayes, Pistorello, & Levin, 2012). Some other benefits of ACT include increased psychological flexibility

and acceptance of negative internal states (Bond & Bunce, 2000). Finally, ACT can increase the believability of thoughts without causing a decline in the frequency of thoughts (Bach & Hayes, 2002).

1.4 Mindfulness-Acceptance Commitment Approach (MAC)

The MAC approach is a semi-structured fusion of mindfulness and ACT. Briefly, in MAC, various techniques are used to make performers (athletes and exercisers in our case) accept their internal states as they focus on the relevant stimuli and tasks in present moment to reach their meaningful values and goals (Gardner and Moore, 2007). It is a seven session program that is constituted by 5 focal points, namely: psychoeducation, mindfulness, values identification and commitment, acceptance, and finally integration and practice.

The MAC protocol in Gardner & Moore (2007) can be summarized as follows: First, the rationale and the aim of the MAC program are explained to the athletes. Then, athletes' performance experiences are discussed and are connected to the rationale of MAC. After psychoeducation, athletes are taught mindfulness techniques to aid them being more aware of external and internal states. MAC program encourages athletes to be focused on present moment nonjudgmentally. As athletes defuse from their internal states, they are expected to get more task-oriented over time. Next, athletes are guided to come up with their values and goals related to performance. At this point, they are encouraged to live a values-driven meaningful life on daily basis rather than an emotion or solely achievement-driven life. Later, obstacles over living in a values-driven way are discussed. Athletes practice experiential acceptance as opposed to experiential avoidance. Finally, all the above-mentioned elements are merged and strengthened via exercises (Gardner & Moore, 2007).

There is only a limited number of research on MAC so far, excluding the empirical evidence for the effectiveness of mindfulness and ACT separately. The chief reason for this is MAC being a very novel approach. However, the existing body of evidence seems to support MAC's efficacy on a number of performance and wellbeing-related variables. Wolanin (2005) conducted a study on the preliminary version of MAC, where the participants were eleven collegiate athletes competing in Division 1. Coach and

self-ratings on athletic performance were found to increase significantly compared to control group. Later, Lutkenhouse (2007) evaluated the effect of the program with a female lacrosse player (19-year-old) who was going through significant interpersonal and emotion regulation difficulties by the time of the study. There was evidence that the program was successful, when Wolanin's Sport Performance Questionnaire and coach and player behavioral observations were considered together. Then, Lutkenhouse (2007) conducted a larger, randomized study with 118 Division I collegiate athletes, where MAC was compared to a conventional performance skills training (PST) protocol. Coach ratings of athletic performance were found to increase significantly at posttest in comparison to the PST group (Lutkenhouse, 2007). Furthermore, the participants in the MAC group were found to have significant increases in athletic aggressiveness and in flow experiences, while having decreases in experiential avoidance (Lutkenhouse, Gardner, & Morrow, 2007). Moreover, Schwanhausser studied the efficacy of MAC with an adolescent competitive springboard diver. Objective measures of diving showed a significant increase in athletic performance, while mindfulness, experiential acceptance, and flow state experience were also found to increase significantly (Schwanhausser, 2009). Next, Hasker (2010) conducted a study, where the MAC protocol and the psychological skills training were compared with 19 collegiate athletes. There were no significant differences between the MAC and the PST groups based on the analysis of variance, however, results showed a significant increase in the ability to explain and to be non-reactive towards inner experiences combined with increased experiential acceptance and action taking towards goals in the MAC group (Hasker, 2010). Finally, non-parametric analysis in a study with 20 collegiate volleyball and field hockey players found that the MAC protocol increases performance, when the participants do not suffer from performance dysfunction (Wolanin & Scwanhausser, 2010).

Mindfulness and ACT-based interventions has been applied to individual athletes in most of the previous research attempts. However, Gardner & Moore (2007) applied the MAC protocol among 10 players of a men's professional lacrosse league team. Although it was not meant to be a formal experimental study, the average self-report ratings of performance was found to increase from 5 to 8.5 on a scale of 1 to 10 by the end of the program (Gardner & Moore, 2007). Coaching staff also acknowledged the performance gains made by many participants of the program (Gardner & Moore,

2007). Another acceptance and commitment-based program was implemented on an elite-level floorball team (Kettunen & Välimäki, 2014; Aukee, 2014). The results showed no significant difference in how the measures of performance and wellbeing-related factors changed between intervention and control groups during the three measurements (pre, post & follow-up). However, considering analysis of variance the results indicated that ACT-based intervention had a positive effect on athlete' self-confidence in experienced stress among those reporting high level of stress (Kettunen & Välimäki, 2014). According to feedback from the athletes, the intervention taught the players novel means to cope with stress and anxiety, and gave them a new understanding of the facets that affect their training and performance (Aukee, 2014).

Briefly, current literature review was aimed to serve as a reference point for the upcoming parts of the study. Considering the literature review in general, there is enough evidence supporting the use of and further research on mindfulness and acceptance-based techniques. However, there is very limited research on the implementation of the MAC program especially within group settings and by novice instructors. As a result, my thesis would be an addition to the current body of evidence on MAC with its unique aspects (different type of sample and means of delivering the program).

2 PURPOSE OF THE STUDY

The purpose of the current study was to:

- a) Adapt the original MAC protocol (Gardner and Moore, 2007) by maintaining its general features and plan a program for active exercisers and athletes within a classroom setting
- b) Implement the MAC program with the target group and to make to necessary changes to increase program efficiency during the course of the program
- c) Assess the possible changes in perceived performance, mindfulness, thought suppression, acceptance and committed action measured before and after the intervention
- d) Understand a novice instructor's and participants' experiences within such an intervention

3 METHODS

3.1 Research Design

This study can be described as an educational action research case study with a mixed method design, where the implementation of the MAC intervention program form the case of focus. Educational action research was preferred as the guiding method, because of a number of prominent reasons. Initially, action research composes description of the problem or issue, formation and implementation of an action plan and intervention, evaluation and reflection of the intervention during the implementation and finally repetition of this dynamic process, if possible (Kidd & Kral, 2005). The constant back and forth process is in line with the purposes of the current study. In addition, an educational action research tends to consist of an intervention that fosters a collaborative learning process for all the parties involved (Rovio et al., 2014). Current study also aims to understand both instructor's and participants' experiences within such an intervention. Finally, educational action research utilizes many different ways to obtain information in order to acquire in-depth information on the intervention and case (Heikkinen, Rovio, & Syrjälä, 2007). This study uses a blend of qualitative and quantitative methods of data collection (researcher's journal, learning forms and pre and post-intervention self-rating scales filled in by participants) to illuminate the topic through a broad perspective.

3.2 Participants

There were a total of 16 participants in the study. All of the participants were students in the Faculty of Sport and Health Sciences at the University of Jyväskylä during the course of the intervention program. Mean age was 26 and ranged between 22 and 34. All of the participants were active exercisers. Four of the participants were recreational athletes, seven of them were recreational athletes -who used to be competitive athletes- and five of the participants were competitive athletes (local, national or international level). There were eight participants from Finland and each of the remaining 8 participants were from other countries. Participants' main sports were very diverse and can be listed as follows: football/soccer (3), Nordic skiing (2), American football, basketball, budo, Finnish baseball, kendo, long distance running, orienteering, pole sports, tennis. There were no drop-outs in the study.

3.3 Background of the Researcher-Instructor

Researcher-instructor's background is of importance within this study, because current study entails adaptation and application of a psychology-based intervention program within a group setting. Initially, I got my B.A. in psychology. I taught social sciences in a socioeconomically handicapped primary school for over a year during my bachelor's degree as part of a voluntary project. Consequently, I had previous experience of teaching within a classroom setting. I also hold an MSc in clinical psychology and have been working on my further Master's studies on sport and exercise psychology in JYU. I have previous experience of applying various cognitive behavioral-based techniques on clinical populations during a clinical psychology internship of four months. I also had previous experience of applying various cognitive behavioral-based techniques in non-clinical competitive sport settings during a sport psychology internship of approximately two months. Furthermore, I have taken 3 ECTS course on the clinical applications of Acceptance & Commitment Therapy to increase my knowledge and familiarity on the roots of the MAC protocol. Consequently, I can be considered to have an adequate and relevant background to administer the MAC protocol within a classroom setting. However, it should be also noted that this 1 ECTS course (intervention program) is my first teaching experience within a university setting and it is also my first time to implement the MAC protocol. As a result, I can be considered as a novice instructor. So, current research aims to describe the whole planning and intervention process through the eyes of a novice instructor by keeping in mind the inevitable pitfalls as well as some probable advantages of this fact.

3.4 Procedure

3.4.1 Participant Selection

Initial contact with participants was made both verbally and through e-mail in September, 2014. Thesis supervisor e-mailed a brief description of the program to students who took the introductory sport psychology course provided in the Faculty of Sport and Health Sciences at the University of Jyväskylä previously. She advised interested students to contact the lead researcher/instructor via e-mail to receive further

information about the program. In total 23 students contacted back. These students were informed about the details of the program (See the information on the 1st page of Appendix A) via another e-mail. They were requested to provide some basic information with regard to their involvement in sport and/or exercise to aid the selection process too. They were also further informed that only a limited number of the interested students would be able to take the course due to nature of the study. Furthermore, a timetable for the program was formed via university's course system Korppi considering the available times of the possible participants. Lastly, participants were asked to e-mail back to the instructor before a certain deadline, if they would still like to take part in the course/study. Course started with 16 students who replied back to the instructor before the deadline. All willing participants –who were active athletes or regular exercisers- were accepted to the course. The MAC program was delivered as a free elective course. Students earned 1 ECTS study credit for participation. Course was evaluated on pass/fail bases.

3.4.2 The MAC Program

MAC Protocol (Gardner and Moore, 2007) is a semi-structured program, where various techniques are used to make performers (exercisers and/or athletes in our case) accept their internal states as they focus on the relevant stimuli and tasks in present moment to reach their meaningful values and goals.

The program was comprised of seven group sessions (one session per week) of approximately 60 minutes excluding the first and last session that lasted 90 minutes. Attendance to at least five of the total seven sessions was required to get the credit. For missing sessions (regardless of the reason behind), participants were reminded on multiple occasions that they can always contact the instructor to arrange shorter meetings aiming to keep them on track. However, these shorter meetings were not supposed to substitute for the scheduled, original sessions as attendance.

All of the sessions took place in the classrooms of the Faculty of Sport and Health Sciences at the University of Jyväskylä. Seven-sessions spanned between the dates 10.10.2014 and 21.11.2014. Right at beginning of the course, informed consent (Appendix A) was obtained. English was used throughout the course, as it was the common language of all the parties involved.

The preliminary versions of the first two sessions of the program were compiled (based on the original MAC protocol) in collaboration with the thesis supervisor, other experienced researchers and practitioners in the field of sport and exercise psychology. Rest of the sessions was also prepared based on the original MAC protocol and in line with the previous feedback from experienced researchers. Observations of the instructor as well as feedback from participants were also incorporated to the following sessions. Ongoing development of the course was in line with the principles of action research (Gardner & Moore, 2007).

General overview of the MAC program can be highlighted as follows:

1st session: Preparing the Group with Psycho-Education

2nd session: Introducing Mindfulness and Cognitive Defusion

3rd session: Introducing Values and Values-Driven Behavior

4th session: Introducing Acceptance

5th session: Enhancing Commitment

6th session: Skill Consolidation and Poise— Combining Mindfulness, Acceptance, and Commitment

7th session: Maintaining and Enhancing Mindfulness, Acceptance, and Commitment

See Appendix B for a detailed overview of the MAC Program.

In each session the relevant topics were covered according to the preliminary plan and theoretical knowledge was provided in combination with practical exercises and discussions. Participants were encouraged to actively participate (make comments, ask questions and give feedback) during and after the sessions. Instructor assigned relevant between-session exercises in the end of each session. Instructor also e-mailed the slides covered in each session within the following couple of days after sessions.

3.5 Data collection

Both qualitative and quantitative methods were used to gather data in the study.

Qualitative measures involved researcher's journal where instructor reflected upon each session including participants' comments and reactions regarding the activities within the program. Instructor added to the researcher's journal an introspection of his own thoughts, feelings and perceptions as well. Furthermore, qualitative methods of data

collection comprised a form, where participants wrote down what remained in their minds in the end of each session (See Appendix C for What I have learned form).

Quantitative methods included self-rating scales (See Appendix D) that were filled in by participants prior to and after the intervention. These measures were:

Athlete's Performance Self-Rating Scale. This self-rating scale is a 10-item measure, which involves a 5-point likert scale that spans between (1) *very poor* to (5) *very good*. The scale is a direct measure of perceived athletic performance that consists basic constituents of performance like concentration, strength, competitiveness, motivation, quickness, fitness, endurance, mechanics, aggressiveness, agility, and team cohesion. A definition of each variable was also delivered with the scale itself in order to guide participants. The scale was designed by Hasker (2010) based on Wolanin's (2005) development of a similar coach's rating scale used in a preliminary study of the MAC approach.

Acceptance and Action Questionnaire. The Acceptance and Action Questionnaire (AAQ) is a self-report measure that was designed to measure experiential avoidance (Hayes et al., 2004). The 16-item version of the AAQ was used for this study. It's responses ranged on a 7- point likert scale from (1) *never true* to (7) *always true*. Higher scores correspond to greater psychological flexibility (or acceptance and commitment towards valued goals). Literature supports the reliability and validity of the scale too (Bond & Bunce, 2003; Hayes, et al., 2004).

White Bear Suppression Inventory. The White Bear Suppression Inventory (WBSI; Wegner & Zanakos, 1994) includes 15-items aiming to assess thought suppression. It can be used to assess obsessional thinking and thought suppression. Items are scored on a 5-point likert scale ranging from (1) Strongly disagree to (5) Strongly agree, where higher scores reflect greater thought suppression. The WBSI was shown to have excellent convergent validity and a very good internal consistency, with alphas spanning from .87 to .89 (Wegner & Zanakos, 1994).

Five Facet Mindfulness Questionnaire. The Five Facet Mindfulness Questionnaire (FFMQ; Baer, et al., 2006) was formed based on a previous factor analytic study of five mindfulness questionnaires, namely the Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003), the Freiburg Mindfulness Inventory (FMI: Buchheld, Grossman, & Walach, 2001), the Kentucky Inventory of Mindfulness Skills (KIMS; Baer, Smith,

& Allen, 2004), the Cognitive and Affective Mindfulness Scale (CAMS; Feldman, Hayes, Kumar, & Greeson, 2004), and the Mindfulness Questionnaire (MQ; Chadwick, Hember, Mead, Lilley, & Dagman, 2005). Mindfulness was found to be a combination of five different factors, namely observing, describing, acting with awareness, non-judging of inner experience, and non-reactivity to inner experience. The FFMQ has 39-items on a 5-point likert scale ranging from (1) *never or very rarely true* to (5) *very often or always true*. The internal consistency was found to be acceptable for the five different aspects with alphas spanning from .75 to .91. Baer et al. (2006) indicates that the FFMQ has adequate validity and internal consistency, despite the topic requiring more research.

Participants also completed an adherence check scale (at the end of the program) that was used in Hasker (2010) (Appendix D). This scale was used to get direct and anonymous feedback from participants regarding instructor's adherence to the program.

3.6 Ethical issues

Ethical issues in qualitative research have been categorized by Miller et al. (2012) as follows: non-maleficence, privacy/anonymity, confidentiality, informed consent, rapport & friendship, intrusiveness, inappropriate behavior and matters related to data. This study will be reviewed according to the above-mentioned categories. Current intervention was based on the applications in the book "The Psychology of Enhancing Human Performance: The Mindfulness- Acceptance-Commitment (MAC) Approach" (Gardner & Moore, 2007). Practices on mindfulness, acceptance and commitment were supported by empirical research, so intervention can be considered to be non-maleficent. Privacy and confidentiality of the participants were maintained carefully. Random numbers were assigned for participants not to use their names during data analysis. The data was stored in a secure office with restricted access. Only the researcher and faculty supervisor had access to this information. Upon completion of this project, all data was filed, archived, and will be destroyed after four years. All the participants signed a consent form right at the beginning of the program. It was made clear for all of the participants that they could withdraw from the study at any point they felt like it. Issues of rapport and friendship were sensitive topics with regards this study, as some participants were already friends with the instructor. Instructor has tried to

facilitate a trustworthy, friendly, but at the same time professional environment throughout the intervention. Upmost caution was given considering issues of intrusiveness and inappropriate behavior too. Intervention times were kept reasonable and arranged according to the available times of all participants. Participants were also able to miss out two of seven sessions without affecting their condition to get 1 ECTS in the end of the course/program. Although completion of some between-session exercises/forms was vital for intervention purposes and these exercises were highly recommended by the instructor, instructor never held participants accountable for not being able to do the tasks. Plus, personal space and roles within the study were respected as much as possible. Data presentation and interpretation were also performed truthfully.

3.7 Trustworthiness

The crucial topic of trustworthiness was covered under the light of four criteria put forward by Guba (1981) as follows: credibility, transferability, dependability and confirmability.

Credibility -specifically internal validity- refers to the extent to which research findings attune to reality in quantitative research. Internal validity also refers to the extent to which research measures what it was aimed at measuring concerning quantitative research qualitative research. According to Shenton (2004), credibility can be fostered through different ways. Initially, I merged credible means in terms of data collection and analysis to address the research question comprehensively. I combined qualitative ways of data collection (researcher's log and learning forms) with quantitative self-rating scales, which were mostly found to give valid measurements and used in previous studies. Furthermore, qualitative data was analyzed through narrative and content analysis, while quantitative data was analyzed via Paired Sample t-Test. Multiple types and sources of data collection and analyses were utilized to manage triangulation as well. As a result, it was aimed to reduce possible risks involved with the use of a single method in data collection and analysis.

Additionally, I reminded participants everytime they were filling in relevant forms that there were no right or wrong answers. Participants were also reminded about the issues

of privacy and confidentiality, so that they could express themselves freely. Moreover, I provided my own background previously in this chapter to demonstrate personal and professional information that might be relevant. Detailed information about participants, their selection process, the intervention program and each session were also included in the study. Readers can evaluate the validity of the results and my interpretations of the data considering above-mentioned sections. Finally, I added findings of related previous studies for the same purpose.

Transferability stands for how much the results can be applied to different situations (Simons, 2009). Naturalistic generalizations point out to the divergent roles of the researcher and reader. The researcher is responsible of providing a detailed description of the case, while it is reader's responsibility to explore facets of the findings that can be generalized to their own context (Lincoln & Guba, 1985). Consequently, I added to the study a comprehensive description of the whole processes, including information about the researcher and participants. Picking the participants carefully can also enhance transferability. Participants were of diverse cultural, sport and exercise backgrounds in the current study, which leaves the door open for wide range of applications for the readers (Shenton, 2004).

Reliability (for quantitative research) refers to the extent to which the same participants and methods would result in similar results, in case the study was replicated.

Dependability (for qualitative studies) on the other hand is whether the findings are consistent with the collected data. This study involved the application of the MAC program with a diverse group of athletes and exercisers by a novice instructor. So, the best way to facilitate reliability and dependability seemed to provide detailed and relevant information regarding all the constituents and results of the study mentioned above (Shenton, 2004). This way, it would be possible to see what kind of conditions might lead to similar results that of this study. Yet, still replicating the design on a similar sample might not guarantee validation of the results especially in this kind of an action research case study. The reason for that is the fact that every group would have its own dynamics, although all the other compartments of the intervention could be controlled for.

Finally, *confirmability* suggests that the results of the study should reflect the experiences of the participants rather than the presumptions of the researcher. Naturally,

it is difficult to retain such a neutral stance all the time especially in qualitative research. As a result, I took some precautions against some factors that might have impaired the confirmability of this study. Initially, I reported about my background and relevance concerning the study, where I acknowledged that I was a novice instructor. Accordingly, I actively tried to enhance my own skills as well as the learning experiences of the participants. Next, I used sources of data collection other than my own observations to even out my biases. I compared and contrasted my own observation with the learning forms filled in by the participants after each session as well as their verbal feedback to improve the program during the sessions. I encouraged them to comment on the program and give feedback on their learning experiences frequently too. Moreover, I used self-rating scales before and after the program as another more objective source of data collection (Shenton, 2004).

Succinctly, I tried to minimize the factors hampering trustworthiness by noticing and taking preventive measures against them. Providing relevant and detailed information about the study transparently was my chief strategy to maintain trustworthiness in this study.

3.8 Data Analysis

Qualitative methods are often used when the field of research is not well understood yet or unknown, while quantitative methods are frequently used for testing hypotheses and evaluating theories (Atteslander, 2003). Accordingly, both of these methods were utilized in the current study with an emphasis on the qualitative part. According to Yin (2003) there are three general analytic strategies for analyzing case study evidence, namely relying on theoretical propositions, thinking about rival explanations and developing a case description.

I initially focused on developing a detailed *case description* during analysis, because research on teaching the MAC program is still in an early stage. Furthermore, the semi-structured mode of the program caused me to incorporate different means to deliver the content. Consequently, there was a need to describe these different ways of teaching (including the responses that they have received from participants), as such novelties might have influenced the efficacy of the program directly. As a result, case description via narrative analysis was a useful way to analyze the data. Finally, detailed description of sessions would also be beneficial in terms of trustworthiness, because the perspective

and coping mechanisms (reactions) of a new instructor could be demonstrated transparently this way.

Detailed description of the sessions was followed by *content analysis*. Two substantial themes were derived out of the qualitative data, which was comprised of researcher's journal and learning forms filled in by participants.

In addition to the qualitative analyses, paired sample t-test was conducted to compare the difference between pre-intervention and post-intervention for perceived performance, acceptance, thought suppression, mindfulness and committed action.

4 RESULTS

4.1 Description of the Course

Session 1: Preparing the Group via Psycho-education

The aim of the first session was to welcome the participants and prepare them to the upcoming sessions of the program by informing them about the basics of the MAC program (i.e. psycho-education). I was at the classroom half an hour before the starting time to make the beginning of the course smooth and safe. I got the slide deck ready and arranged lighting of the room. The room was spacious, which was crucial to make an ice-breaker game (where everyone was on foot and active) possible. Some of the participants showed up earlier. I had small talk with them. Then, majority of the participants arrived and I welcomed all of the participants with a box of Turkish delight.

Ice-breaker/energizer (Pokemon game): Although some of the participants knew each other beforehand, this was a novel group that had to communicate quite actively throughout the sessions. Participants had to fill in self-rating scales (that meant a rather monotonous 20 minutes for them) right at the beginning of the program as well. As a result, I thought the first game would better be both an icebreaker and an energizer at the same time. This game also had to be short (max. 7 minutes) in order to keep up with the initial plan. Furthermore, it had to be relevant with the theme of the program.

In Pokemon game, participants could only communicate by saying their names, just like the monsters in the famous cartoon Pokemon. Participants were encouraged to say their names many times and in different (funny) ways. Moreover, I asked them to perceive the people around them mindfully, as they do the tasks in the exercise.

Most of the participants seemed to be active and having fun during the game. I noticed plenty of smiles and laughter as well. In the end, we had a group applause to mark the successful completion of the tasks together. There were only two participants who looked relatively less active and excited during this initial ice-breaker.

After the ice-breaker game I informed participants regarding the practicalities of the program. Then, participants checked out and signed the informed consent in addition to

filling in the self-rating forms. It took approximately 20 minutes to fill in the forms. Those who finished early could take a short break.

Brief centering exercise (See Appendix E) served as an effectual introduction (teaser) to the core of the first session. Brief centering exercise comprised of me reading the mindfulness script aloud, as participants sat in a comfortable position with their eyes closed. The open discussion following the centering exercise was also very useful. Many participants voluntarily shared how they felt and what they experienced during the exercise. Most of the participants expressed going through positive experiences as well as difficulty to focus on the content all the time. I reminded participants that it was their very first mindfulness exercise within this program. So, it would be very natural to be hooked up by task irrelevant thoughts and feelings. I further stated that it was already an early accomplishment to notice some distracting factors, as it requires a substantial level of awareness.

Next, the theoretical rationale for MAC was introduced. I described two cornerstones of the MAC program, namely attention and poise. I used a photograph of a famous football player as a metaphor to explain these terms. I also used another figure to illustrate the specific goals of the MAC program. This metaphor was recalled and mentioned in the learning forms by most of the participants after the session.

1st Jeopardy Game: Jeopardy games were used in all of the sessions and they consisted of some key statements/information regarding the specific session in question. In this one, the statements were about the basics assumptions held with regards sport performance in general. These statements/information (whether on performance enhancement or on MAC skills) were supposed to be delivered to the participants as part of the program anyway. However, MAC involved some content, which might have been against common held beliefs. So, I didn't want to preach or impose MAC's point of view to the participants. Instead, participants formed groups of 3 or 4, where they had a chance to think and discuss whether each statement on performance (or MAC skills) is true or false. I also added some fun facts in-between performance-relevant statements to keep the exercise more fun. I disclosed whether the statements were true or false according to MAC perspective after the sub-group discussions.

Here are performance-related conclusions of this part considering the MAC perspective:

1. Our internal states (thoughts, emotions & sensations) are not always easy to control.

2. We can perform well, even if we feel bad.
3. We don't need to control our thoughts, emotions & sensations to perform well.

Most of the participants seemed to enjoy this game. There were stimulating discussions in some groups. However, I realized that it was unduly to insert eight statements to first session's Jeopardy game considering the limited time to cover them all. Thus, this number was reduced in the following sessions for the same game.

Then, I asked participants to close their eyes and not to think of a pink elephant for a minute. We had an open discussion following this exercise targeting the question whether it is possible not to think about anything or not. Only a single participant managed to do it and he accomplished it by constantly thinking of something else. It was an exercise to show that the strategy to avoid certain internal states might even backfire and make those internal states more salient. So, it was underlined that MAC aims acceptance of internal states instead of reduction. Pink elephant exercise seemed to be effective, as many participants noted it down to the learning forms that they filled in after the session.

Next, participants were asked to think of one of their recent good and bad performances and write down the accompanying internal states during performances. Then, they were asked to come up with some common internal states within sub-groups. Speakers expressed those common themes that emerged within their sub-groups. This activity served a rather smooth shift from MAC in general to its relevance to participants' own performance experiences. During the open discussion, it turned out that most of the participants didn't really notice their internal states when the performance was good. One of the participants even coined the term flow to define this concept. At that point, we agreed that one does not need to wait for a certain set of positive internal states (even if it is flow) to happen in order to perform well. Finally, I mentioned the difference between self and task-focused attention with a sentence. I told that task-focused attention is preferred in MAC and that we would put more emphasis on this difference in the following session.

Next, I explained the idea of automated self-regulation of elite performance briefly, as there was neither enough time nor the necessity to spare extra time to talk about this concept at that point. At the end of the first session, participants were requested to fill in

learning forms. Finally, participants were given the Preparing for MAC handout (See Appendix F).

Additional points:

- There was no time and seemingly no purpose to have the Performance Rating Forms filled in. So, I have completely dropped the idea of using them during the session.

Occasionally, there was also not enough time during sub-group discussion. This point has been rectified for the impending sessions.

- Three of the participants separately approached me right after and made very positive comments about the session.

- I felt slightly anxious during the session. I sometimes lost my focus especially during the discussions. I could have moderated discussions more skillfully.

Session 2: Introducing Mindfulness and Cognitive Defusion

Second session started with the brief centering exercise. There was an open-discussion right after the exercise. Some participants stated that it was easier to focus on present moment this time compared to the first time they did the same exercise in the very first session. Some of them stated that it is still hard for them to switch their focus from physical sensations to other internal states. I reflected back that it is completely normal to have various distractions and the aim is to notice them and get back to the task in hand. I also stated that they might actually be already getting more aware that such different types of internal states co-exist in their minds.

Then, I briefly revised the previous session in accordance with the themes emerged out of the learning forms participants filled in after the first session.

Next, I used the thoughts-as-hands exercise to show this distinction. In this exercise, everyone was side by side on a line. They used their right hands to block and un-block the vision/eyes of the classmate next to them. Hands represented our thoughts in this exercise. So, as we focused more on our hands (thoughts, self), we had less vision. Oppositely, as the hands moved away from our eyesight, we got the chance to see more of our surroundings. Some participants looked excited and energized to stand up and take part in the exercise, although it was a slightly simplistic exercise.

Then, there was a section arranged to deliver the rationale and importance of mindfulness. Initially, I introduced empirically supported benefits of mindfulness exercises. I hoped that such benefits would provide an extra motivation for participants as they engage in mindfulness exercises.

2nd Jeopardy Game : This session's Jeopardy game consisted of 5 statements rather than 8. As a result, there was more time left for discussion among sub-groups. Here are performance-related conclusions of this part considering the MAC perspective:

1. Mindfulness exercises may promote a sense of calmness.
2. Mindfulness is not a trancelike state.
3. Mindfulness exercises do not aim relaxation; they aim increased attention and awareness.

Next, I introduced the idea of cognitive (de)fusion through an analogy of thoughts being the representations of reality just like cavemen drew representations of animals and hunting scenes on the walls of their caves. I tried to express that the act of thinking has been indispensable for humankind in many ways. We were all born and raised in environments where certain thinking patterns might have been preferred over others. These rule-based thinking patterns (schemas) might aid us from time to time, however, they might replace reality over time as well. Cognitive (de)fusion has been a crucial, but also possibly a slightly complex term within the program. We further discussed this term in an open-discussion till it was clear for everyone. A participant came up with an example from his sport, which seemed very helpful to demonstrate possible implications of this new concept within sport or exercise settings.

Parade metaphor: I used another metaphor to clarify cognitive (de)fusion. To this end, we have watched an interesting and fun 3-4 minute video on Youtube, where a spectator had filmed the parade in a samba festival. Cognitive fusion resembled uncomfortably trying to move within the crowd to follow a certain act. On the other hand, cognitive defusion resembled watching all of the acts (whether good or bad) from a distance comfortably. It was obvious that the second scenario (cognitive defusion) was more favorable due to the flexibility and diversity that accompanied it. Participants mostly looked entertained during this video.

Then, I assigned the first between-session exercise, namely Washing a Dish Mindfulness Exercise (See Appendix G). However, I thought that it would be more motivating for the participants to decide which daily exercise to do mindfully on their own. Consequently, I told them to pick some daily activities (like taking a shower, brushing teeth, eating etc.) they do without necessarily paying attention and perform them as mindfully as possible at least 5 minutes per day. They were also told to notice and accept any internal or external distractions and re-focus on the task at hand.

Two participants told me right after the class that they already tried to be more mindful and task-focused during their trainings. They stated that their trainings felt better and more productive.

Session 3: Introducing Values and Values-Driven Behavior

3rd session was early in the morning and that's why participants looked a bit more sleepy and tired. Most of them didn't have any other course during the rest of the day, so the session was the only reason for them to wake up early and bike to the campus on a very cold morning. This might have reduced their motivation for that specific session. It was also the first time for two of the participants to get together with the rest of the group. So, I briefly introduced them to the rest of the group.

Session started with the application of brief centering exercise. We didn't have a thorough discussion after the exercise, as participants had already shared their experiences in two different occasions after the same exercise before. I reviewed the previous session in accordance with the feedback that participants provided via learning forms. Then, participants formed two groups to share what they have experienced while they had been doing the Washing a Dish Exercise, which was the daily mindfulness activity they were recommended to do between the previous session and this one. We had open discussion after the sub-group discussions. Some common distractors were feelings of frustration, boredom and tiredness as well as some intruding thoughts. I expressed that it is very natural to have these kinds of internal states and the point of the activity (also the program in general) is not to get rid of such internal states. I also added that it was only the very first time that they did this specific mindfulness exercise, so it would take time to adjust to it just like with any novel sport skill.

We spared this part of the session for the exploration of participants' values and the difference between value-driven and emotion-driven behavior.

For Obituary exercise (See Appendix I), participants formed three groups. The exercise seemed to be beneficial in the sense that they shared with each other what matters to them in terms of performance or life in general. It was a chance for them to see some commonalities and differences people might have with regard to their values. I also observed that working with others made them realize some possible things that actually matter to them in their performance and life in general.

3rd Jeopardy Game: This Jeopardy game consisted of five statements to retain enough time for discussion among sub-groups. Here are the performance-related conclusions of this part considering the MAC perspective:

1. If goal is destination, then value is journey (Distinction between goal and value).
2. Value driven behaviors and goals are more efficient compared to emotion-driven behaviors and goals.
3. Value-driven behaviors are more likely to lead to mental toughness.

I assigned the performance related-minfulness activity in this part. This activity involved picking a performance situation, experiencing it mindfully & taking notes after. Participants were also asked to fill in the Performance Values Form (See Appendix J) and keep it in a safe place for further use. They were encouraged to apply daily mindfulness exercises as well.

Mindfulness of the Breath Exercise was applied in the end of the session. It was an exercise similar to the brief centering exercise. Participants filled in the learning forms lastly.

We were able to stick with the plan on this session without any need to rush. I didn't need to interrupt any general or sub-group discussion to keep up with the plan/timing. I decided not to use the Given Up for Emotions Form as it could have over-complicated the process. Plus, participants were already introduced a fair amount of novel material in this session.

Session 4: Introducing Acceptance

This time the session took place in a smaller class. We started the session with the Mindfulness of Breath exercise. Then, we reviewed the previous session and checked if there were any questions. Next, we formed 4 groups and discussed how was the experience like during the Relevant Mindful Activity Exercise (the between session exercise that was assigned last week). Participants looked very involved during this discussion. We talked over the experiences of 5 participants after the sub-group discussions. All of these 5 participants were involved in different kinds of sports. Three of the experiences were positive. They believed that mindful involvement in the sports that they do helped them and they felt better and more aware. Whereas two of the participants had some doubts. It turned out that one of them thought that the point of that mindfulness exercise was to focus on the internal states instead of the task. So, I took this opportunity to emphasize the point that mindfulness exercises primarily aim to mindfully focus on the task and present moment. These exercises also aim at noticing and accepting (any internal states that may arise on the way) and then refocusing back to the task. It was a nice opportunity to remind this important point for everyone. Then, another participant described experiencing feelings of frustration and anger at times as he practices his sport. We started to talk on these feelings with the whole group over an example. We concluded that it makes sense to remind ourselves our goals and values and act accordingly.

Next, we focused on finding out more specific performance values on top of some core values that we identified in the previous session. To this end, participants talked about their performance values within the same sub-groups. They covered topics like what kind of teammate would they like to be or what do they value about the sport/exercise they do. They also exchanged ideas on what matters for them in terms of trainings or games including some technical and tactical practices that they would like to do more of. After the sub-group discussions, we had a part where anyone could tell what matters for them regarding the above mentioned dimensions of performance and I typed those answers/opinions on the relevant powerpoint slide instantly. We were able to see what matters for them within performance settings more clearly through this exercise. Most of the participants looked willing to share what matters for them.

Then, I explained the difference between experiential acceptance and experiential avoidance briefly as we were running out of time. We also watched an informative and fun video that explains these concepts. Participants seemed engaged watching the video. Next, I assigned some tasks to be completed till the upcoming session. First one encompassed picking higher-level performance situations and experiencing them mindfully. The other task involved filling in the Emotion & Avoidance Form (See Appendix K). This form was aimed to figure out some experiential avoidance strategies (emotions & thoughts) that participants tended to use. Session was closed with brief centering exercise.

Session 5: Enhancing Commitment

The theme of this session was commitment. We started the session with the Mindfulness of Breath exercise. Then, we reviewed the previous session briefly. I put more emphasis on the concepts of experiential acceptance and avoidance, as these were key terms. We watched the same informative video (that we watched in the previous session) that explains these terms. I found it useful to go over these terms, because there were some participants who had to skip the previous session.

In this part, we did an exercise to spot some avoidance strategies that participants use. Participants were asked to form groups of 3-4 and come up with some thoughts, emotions or sensations that they believe preventing them reach their goals and values. It was apparent that it was a novel and rather challenging task for most of them to confront with their avoidance strategies. Participants needed some time to think about such internal states.

Then, I divided the blackboard into three parts during their discussion as follows; Before training, Before game, During training/game. I asked participants to grab a chalk and write on the board at least one avoidance strategy that they came up with during the discussion. They were also encouraged to read other avoidance strategies written on the board and mark them, in case they also experience similar internal states. This exercise was aimed to increase the awareness of the avoidance strategies that participants use. Although it seemed like a challenging task for them at the beginning, most of the participants seemed to be engaged in the exercise over time.

5th Jeopardy Game: Here are some performance-related conclusions of this part considering the MAC perspective:

1. Avoidance strategies (internal states) do not cause avoidance behavior. There are decision points before each avoidance behavior.
2. Poise and experiential acceptance are similar concepts. They refer to the ability to experience difficult internal states in the service of goals & values.
3. Motivation is the desire for something.
4. Commitment is the regular & consistent effort to act in accordance with goals & values.

Next, Committing to Performance Values Exercise (See Appendix L) was assigned to be completed till next session along with relevant mindful activity and mindfulness exercises. This exercise aims to connect values to both short and long-term goals. It also aims to connect goals and values to specific behaviors. Finally, it might help participant to regularly monitor situations that require some action in the service of the goals and values. Session was closed with a brief review and centering exercise.

Additional Points:

- Today I felt tired, so it was slightly difficult to concentrate from time to time. I could have been involved and reflected better during the discussions.
- Some participants looked puzzled during the first exercise. I tried to give some examples of avoidance strategies to make the concept clearer for them.
- One of the participants said after the session that she benefited a lot from the program.

Session 6: Skill Consolidation and Poise— Combining Mindfulness, Acceptance, and Commitment

I skipped the regular mindfulness exercises at the beginning and at the end to spare more time and focus on the other rather new exercises. We did the task-focused attention exercise at the beginning. This exercise involved participants pairing-up. In the first part, pairs stood/sat back to back as they told each other a recent event in their lives. Each pair re-told his/her partner's story as detailed as possible after. In the second part, first pairs told each other a recent or emerging stressful performance-related event,

while their partners tried to further increase their stress levels by asking some questions and making stressing comments. Then, this time in reverse order partners told each other a recent event in their lives. Each pair re-told his/her partner's story as detailed as possible after. The stressing part was aimed to function as a distractor in the second part.

Task-focused exercises at the beginning seemed to be useful. We had a chance to discuss the things they experienced during the exercises after too. Most of the participants who spoke up stated that they found it easier to focus on the task in the later trials, despite some distracting external stimuli or/and internal states. This was an appropriate point to underline that task focused attention can be enhanced by practice.

One of the participants found it hard and uncomfortable to make her pair/exercise partner uncomfortable with her questions and comments. Yet, she seemed relieved when I re-explained the point behind doing this exercise. The point of this exercise (especially the second part) could have been explained better at the beginning. I should also note that the very same participant wrote down in her Learning Form that she found the exercises very useful that day.

Then, we reviewed the concepts from previous session like avoidance strategies, commitment and poise. After that, I explained the rationale behind the exposure-based strategies that we were going to be using in the following exercise.

Participants got paired-up again for this exercise. They were asked to choose some avoidance behaviors that they thought impaired their performance and that also they would like to change the most. Participants discussed and prepared a list of alternative, proactive behaviors separately for each other. Second exercise also seemed to be fruitful. They came up with some alternative proactive behaviors for each other. At the end of the exercise, I clarified that they can handle other problematic aspects of their performance life via this (prolonged) exposure method later on as well.

Finally, I assigned the relevant exercises in the end of the session. Task-Focused Attention Exercises involved mindfully listening or watching a coach/ player, while s/he is performing. It also encompassed noting down either mentally or on paper some details and putting effort to get better. Committing to Performance Values Exercise simply included the application of those alternative proactive behaviours in real life.

Session 7: Maintaining and Enhancing MAC skills

This session was aimed to have an overall review of the whole program. We started with a brief centering exercise. I reminded them the health benefits of mindfulness exercises right after this brief exercise. Then, we had a recap of the previous session.

Next, we had a discussion based on the list of alternative behaviors that they came up with in the end of the last session. They were supposed to come up with some alternative approaching behaviors and do more of those behaviors between the sessions. Three participants shared their experiences. One participant had a problem with focusing on the certain parts of her game. She shared that she got less distracted when she tried to focus on some key game-specific cues in the environment. Two other participants also shared their experiences. The punch line was that it was not usually easy to apply these alternative, approaching behaviors. It usually took extra effort. It might also feel uncomfortable to face those difficult thoughts and emotions. Yet, this prolonged exposure tended to help us increase our poise over time.

Final Jeopardy Game: We continued with the ultimate Jeopardy game. Participants formed groups of 3-4 for this exercise. This specific Jeopardy game involved a blend of statements highlighting important points in MAC and fun statements regarding the participants. Each participant chose and e-mailed me one statement about them previously. It was a fun and effective way of remembering some important points and concepts we covered throughout the program. Participants looked active during the exercise.

After Jeopardy, we checked out some MAC skills that we have been working on throughout the program. I shared the idea (with some examples) that these skills were not only related to performance. These were also life skills that improved the quality of our lives.

We then talked about some practical ways to make those skills more permanent.

Then, I asked if they have any questions before we end the program with a final mindfulness exercise. A participant asked how much I make use of these exercises and if I benefited from it. I gave an honest answer. Some participants asked if I would recommend any other sources to learn more on this topic. As a response, some participants recommended others two different books. I have also added a few Internet sites where they can find useful videos and practical exercises. Participants' willingness

to learn further more about the topic after the program was a good example displaying their inherent motivation towards the topic. It might also indicate that the program was not perceived as an end point, but more as a catalyst on their interaction with mindfulness based applications of sport performance. Next, we had the last mindfulness exercise and participants filled in the questionnaires. The program/course was officially over at this point.

Additional Points:

-Most of the participants thanked me for the program after. A few told me that this was one of the best courses they had so far at the university. I got feedbacks indicating that they especially enjoyed the practical exercises.

-One competitive athlete told me that she really benefited a lot from the program. She talked about the program with her coach too. Her coach also shared her excitement and they were planning to apply some exercises with other athletes as well.

-Mean score of participants on Clinician's Adherence Scale for Athletic Performance Program (See Appendix D) was found to be 4.09 over a likert scale of 0 to 5 (0 being poor, 5 being excellent). This score indicates that participants were happy about the instructor on overall.

4.2 Content Analysis

Reviewing Participants' Progress and Exercise Completion within Group Setting

MAC program requires completion of many between-session forms and exercises to improve performance-related skills. However, it would probably be impossible to check this out separately for each participant within the sessions. A simple solution could have been asking the participants whether they managed to do the recommended exercises or not. Yet, this method could have eroded the internal motivation, as it involves exposing participants in front of fellow participants. It could have even caused polarization within the participants over time. Instead, I preferred to spare the first part of each session to an elaborate discussion of between session activities.

Participants formed groups of three or four at the beginning of these discussions, where they would all have a chance to share their experiences of between-session exercises. I observed that groups of three or four were more productive than pairs or bigger groups

throughout the program. I noticed that pairs –especially if they already know each other well- might get distracted from the task and start talking on other issues. On the other hand, bigger groups were likely to be dominated by certain participants. Participants also seemed to have more chance to take on different perspectives and express support to their peers, when the group size was kept small.

Completion of some between-session exercises/forms was vital for intervention purposes and these exercises were highly recommended by me. However, I never held participants accountable for not being able to do the tasks. Contrarily, I reminded at the beginning of each discussion that participants should feel free to contribute to the discussions even if they were not be able to do these tasks. They could share the reasons why they could not do the exercises and possibly come up with some ways to rectify this situation during the discussions.

On overall, I tried to plan and implement sessions in such a way that all those who could not do the between-session exercises could still benefit. I observed during the discussions that most of the participants had put effort to do the between-session exercises. I noticed that participants were more willing to do active tasks like various mindfulness exercises as opposed to paper-based exercises like spotting avoidance strategies. Task adherence also seemed to increase, when there were fewer tasks to be done for that week.

Use of Metaphors and Other Additional Ways of Teaching

MAC is a semi-structured program that gives plenty of freedom to instructors with their mode of communication and teaching. Practice in acceptance and commitment also has a tradition of capitalizing on various metaphors to deliver its message. I used a number of metaphors during the course of the program as well. In addition to metaphors, I used some additional activities like games and videos as part of the program. All in all, I observed that these extra efforts were likely to have positive impact on participants' learning processes. Such activities were likely to change the common mode of communication within classroom, where teacher is the provider and student is the passive listener. I was able to notice the expression of surprise and excitement on some participants' faces, as we were engaging in such novel activities. I also realized that participants had different reactions to especially various metaphors. For example, once

one of the participants seemed to be bored and was eager to move on to the next topic, as he grasped what a specific metaphor represented faster than majority of the participants. He didn't disrupt the order in the classroom; however, it was clearly a loss of time to further discuss this issue for him. In the end, we discussed what the metaphor stood for with the rest of the group at the expense of his boredom.

I also sometimes had to explain what some metaphors represented -before we even had a chance to discuss them with the participants- due to time constraints. This way, I observed that participants tend to gain more, when they have a chance to discuss rather than being imposed to a ready-made explanation.

4.3 Paired Samples t-Test

Paired-Sample t-Test (See Table 1) was conducted to compare pre-intervention and post-intervention scores for acceptance and committed action (via AAQ), perceived performance, thought suppression and mindfulness.

There was a significant increase from pre-intervention to post-intervention in conditions of AAQ ($t(15)=-3,35$, $p =,004$) and perceived performance ($t(14)=-2,98$, $p =,010$).

There was a marginally significant decrease from pre-intervention to post-intervention in conditions of thought suppression ($t(15)=2,07$, $p =,056$).

There was an increase from pre-intervention to post-intervention in conditions of mindfulness, however, this increase was not statistically significant ($t(15)=-1,83$, $p =,088$).

Table 1. Mean (M) and standard deviation (SD) before and after the MAC intervention

	Pre-MAC		Post-MAC		t	Sig
	M	SD	M	SD	(df=15)	(p)
Perceived Performance	3.29	0.37	3.68	0.44	-2.98	0.01
Mindfulness (FFMQ)	135.19	18.89	142.81	19.03	-1.83	0.088
Thought Suppression (WBSI)	46.13	10.47	41.88	10.47	2.07	0.056
Acceptance & Committed Action (AAQ)	75.44	9.76	81.69	10.54	-3.35	0.004

Paired-Sample t Test.

5 DISCUSSION

The initial purposes of this study was to adapt the original MAC protocol (Gardner and Moore, 2007) by maintaining its general features and plan a program for active athletes and exercisers within a classroom setting. Second, it aimed at implementing the MAC program with the target group (by making necessary changes to increase program efficiency during the course of the program). Thirdly, I wanted to assess the possible changes in perceived performance, mindfulness, thought suppression, acceptance and committed action measured before and after the intervention. In addition, it was aimed to describe and understand the learning processes during the course. The last objective was to describe a novice instructor's and participants' experiences within such an intervention. The results of the study are discussed in the light of prior research on MAC by taking on an action research-oriented perspective. Some limitations and suggestions for future research were also added in the end.

Planning and Implementation of the MAC Program

It can be seen in the detailed case description that the current program was planned and implemented by preserving all the key features of the original MAC protocol (Gardner and Moore, 2007). As it was planned before, the exact structure and material presented in the original protocol was utilized most of the times. MAC protocol was transferable timewise, in this case, to a diverse group setting involving athletes and exercisers. There were only a few cases, where suggested material has not been able to be used primarily due to time constraints. It was made sure that crucial content was not overlooked even in these few cases. However, there were also a few instances, where the suggested material could have impaired the learning experience of the participants by unnecessarily repeating the content to be delivered. I approached such cases carefully (just like with the rest of the program) by considering the basic action research routine to enhance practice. I simply reviewed the suggested procedure, evaluated possible efficacy ahead and planned my implementation strategy accordingly (Stringer, 2007). I found this basic method useful and learning forms filled in by participants also indicated that the content was delivered successfully most of the times.

Although I tried to maintain the core elements of the original MAC protocol, current implementation had its very own dynamics given that MAC was implemented within a

group setting. Small groups (groups of 3-4) were observed to facilitate more effective communication between participants during discussions and group exercises, which was also observed in the form of high levels of peer support, perspective taking and no drop-outs. MAC is also a semi-structured program that gives plenty of freedom to instructors on their communication and teaching styles (Gardner and Moore, 2007). So, I used some additional activities like various group work, metaphors, games, and videos as part of the program. These are essential parts of student centered action oriented teaching and learning methods. They are also grounded in social-cognitive theory, where personal experiences and values are emphasized (Lintunen & Kuusela, 2007). All in all, I observed (on top of the direct and written feedback I got from the participants) that these extra efforts were likely to have a positive influence on their learning experiences. Such activities were also in line with the idea behind action research. They were likely to be innovative, active and participatory, instead of mechanistic, impersonal and passive styles of teaching (Stringer, 2007). However, I also observed that such additional modes of teaching should be kept “to the point” and used considering interpersonal differences and contextual dynamics.

Assessment of the Changes Before and After the Program

In addition to qualitative results, pre-intervention and post-intervention scores of participants were compared for perceived performance, acceptance and committed action, thought suppression and mindfulness. This was one of the first studies to use valid and reliable scales within a group setting in a MAC intervention to measure possible changes in performance-related measures. So, it must be noted that MAC program was implemented individually in all of the previous research that will be mentioned below -except for the group intervention that were presented in Kettunen & Välimäki (2014) & Aukee (2014).

In the current study, participants were found to perceive their performance significantly better in the end of the intervention. This is in line with a previous study that found a significant increase (compared to control group) in coach and self-ratings of athletic performance of eleven collegiate athletes (Wolanin, 2005). We also found participants to be more accepting of their internal states and engaging in more committed action significantly in the end of the program. Various studies also found an increase in

acceptance of negative internal states after a MAC intervention (Lutkenhouse, 2007, Schwanhausser, 2009 & Hasker, 2010). Furthermore, participants were found to have a marginally significant decrement in thought suppression after the program. This result is also in line with our expectations, because thought suppression is linked with the concept of acceptance. Lastly, participants' mindfulness levels also increased on five different aspects of mindfulness, however, this change was not found to be significant. This result is also in line with previous literature, where changes in mindfulness levels were divergent. These results show that the program was likely to have a positive impact on key measures of performance and wellbeing.

Lack of a significant change in mindfulness skills is an important result that can be interpreted in different ways. It shows that mindfulness exercises didn't cause any significant positive change in mindfulness levels in this study. This might have a few reasons behind. First, participants might not have been engaged in mindfulness exercises outside the classroom sufficiently, although they were highly advised to do so to benefit more from the program. Second, mindfulness exercises used within classroom might not have been efficient enough to cultivate improvement. However, the original MAC protocol was taken as a reference point during this intervention. So, the number and type of mindfulness exercises within the original program should be scrutinized and perhaps diversified for further use in this case. Lastly, it requires substantial practice to improve mindfulness skills just like with many other cognitive and performance skills (Gardner & Moore, 2007). Seven weeks of practice might not be long enough to obtain a significant change in terms of mindfulness. As a final point, this result also indicates that it is possible to have a positive change in perceived performance and other performance and wellbeing-related skills, despite the lack of a significant change in mindfulness.

Plus, the above-mentioned significant improvements (on perceived performance, thought suppression, acceptance and committed action) are novel results, considering previous group interventions of ACT-based programs within sport settings. In the group intervention that were presented in Kettunen & Välimäki (2014) & Aukee (2014), no significant differences were found in how the measures of performance and wellbeing-related factors changed between intervention and control groups during the three measurements (pre, post & follow-up). Although the current study did not include a control group, the significant improvements on performance and wellbeing-based

measures still imply that there might have been some factors that made it more effectual than the other ACT-based group intervention presented in Kettunen & Välimäki (2014) & Aukee (2014). One factor can be the differences in samples and group dynamics of the two interventions (elite Finnish female floorball team vs. international novel group of active athletes & exercisers of diverse sport backgrounds). Another factor can be the difference in the ways that mindfulness and ACT-based programs were implemented in the two interventions (program and instructor-related reasons). The above-mentioned factors as well as further possible reasons can be studied in future research.

5.1 Limitations and Future Direction

The program was organized only in one group. So, a future intervention might involve more groups by keeping the group size optimal. The group was also very heterogeneous with regards their sport backgrounds in this study, which would limit the generalizability and transferability of the results. Such a program could also be implemented with a sport team, which are expected to have more commonalities concerning the backgrounds of its members. Moreover, current study didn't have any control group, which makes it possible that the observed quantitative changes were not due to the intervention. Future research should include a control group and use randomized design.

In addition to limitations about sample and design, there were also some other important topics that should be considered for future studies. Future research can focus on coming up with a model to explain the direction of relationships and possible causality between measured variables. In addition, measuring sport performance was particularly challenging, as participants were involved in many different sports on varying levels of competitiveness. So, although most of the self-rating scales had acceptable values of validity, there was no way to obtain detailed statistics about participants' performance other than their perceived levels of performance. Coach's ratings of athletes' performance can be a good addition for future research.

Most of the participants looked motivated and there were no dropouts during the intervention. However, motivation to participate could have been measured specifically to see its relationship with other measures. There is also evidence that mindfulness training may lead to various positive changes in psychological well-being (Keng, Smoski and Robins, 2011). So, scores on some other related measures like anxiety, self-

esteem and subjective well-being could have been measured before and after the intervention and compared.

In addition to instructor's observations and his direct contact with participants, learning forms that were filled in after each session was utilized to monitor the efficacy of the sessions. However, other additions could have been made to obtain more information about the efficacy of the program as well. For instance, interviews could have been arranged after the intervention to have more in depth information from participants about the program.

The perceived amount of benefits (high, medium, low, none) of program's different aspects (eg. group discussions, metaphors, mindfulness exercises, between session exercises etc.) could have been asked in paper-format during and after the intervention. This way which aspects of the intervention mattered the most would be able to be seen. Furthermore, a list of possible benefits of the program could have been given and participants could have been asked whether there were any improvements in these areas. Additionally, in future implementations specific learning outcomes can be determined beforehand the program to maintain a more effectual planning and to track the progress of the participant better.

To sum up, future research can study MAC-based interventions on specific sports in more homogeneous samples. A randomly selected sample with a control group would be useful to draw more valid and reliable conclusions about the efficacy of the MAC program. Future studies would also benefit from the addition of other relevant measures. Plus, research can also be conducted on other heterogenous groups to get a chance to observe and test if the current results would be supported in other groups as well.

All in all, current study provided crucial new information regarding the application of the MAC program by a novel instructor within a group of active athlete and exercisers. There was previous evidence that individualizing the intervention would be essential in mindfulness and acceptance based programs (Bernier, Thienot, Codron & Fournier, 2009), while group interventions possibly being economically more feasible and providing different learning opportunities due their social and interactive structure compared to individual implementations. This study demonstrated that the MAC

program might have a significant positive impact on performance and wellbeing-related measures, when it was tailored for and applied within an international group setting by a novice instructor. On a broader perspective, this study also suggested that the MAC-based interventions can be a viable addition to traditional control-based PST within group settings.

6 REFERENCES

- Anderson, N. D., Lau, M. A., Segal, Z. V., & Bishop, S. R. (2007). Mindfulness based stress reduction and attentional control. *Clinical Psychology and Psychotherapy*, 14, 450-462.
- Aukee, H. (2014). *Acceptance-, mindfulness- and value-based psychological coaching for elite female floorball players* (Master's thesis, University of Jyväskylä, Jyväskylä, Finland). Retrieved from <https://jyx.jyu.fi/dspace/handle/123456789/44645>
- Bach, P., & Hayes, S. C. (2002). The Use of Acceptance and Commitment Therapy to Prevent the Rehospitalization of Psychotic Patients: A Randomized Controlled Trial. *Journal of Consulting and Clinical Psychology*, 70 (5), 1128-1140.
- Baer, R., Smith, G., & Allen, K. (2004). Assessment of mindfulness by self-report: The Kentucky Inventory of Mindfulness Skills. *Assessment*, 11, 191-206.
- Baer, R., Smith, G., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment*, 13, 27-45.
- Bandura, A. (1977). Self-efficacy: Towards a unifying theory of behavioral change. *Psychological Review*, 84, 192-215.
- Birrer, D. & Morgan, G. (2010). Psychological skills training as a way to enhance an athlete's performance in high-intensity sports. *Scandinavian Journal of Medicine & Science in Sports*, 20: 78–87.
- Birrer, D., Röthlin, P., & Morgan, G. (2012). Athletic Performance: Theoretical Considerations and Possible Impact Mechanisms. *Mindfulness*, 3, 235-246.
- Bishop, S. R., Lau, M., Shapiro, S. L., Carlson L., Anderson, N. D., Carmody, J., Segal, Z. V., Abbey, S., Speca, M., Velting, D. & Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice*, 11, 230-241.
- Bond, F. W. & Bunce, D. (2000). Mediators of change in emotion-focused and problem focused worksite stress management interventions. *Journal of Occupation*

Health Psychology, 5, 155-164.

Brown, K. W., & Ryan, R. M. (2003). The benefits of being mindful: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology, 84, 822-848.*

Carmody, J., & Baer, R. A. (2008). Relationships between mindfulness practice and levels of mindfulness, medical and psychological symptoms and well-being in a mindfulness based stress reduction program. *Journal of Behavioral Medicine, 31, 23-33.*

Cohen, A., Pargman, D., & Tenenbaum, G. (2003). Critical elaboration and empirical investigation of the CUSP catastrophe model: A lesson for practitioners. *Journal of Applied Sport Psychology, 15, 145-158.*

Craft, L. L., Magyar, T. M., Becker, B. J., & Feltz, D. L. (2003). The relationship between the competitive state anxiety inventory-2 and sport performance: A meta-analysis. *Journal of Sport & Exercise Psychology, 25(1), 44-65.*

Eysenck, M. W., and Calvo, M. G. (1992). Anxiety and performance: The processing efficiency theory. *Cognition and Emotion, 6, 409-434.*

Feldman, G., Hayes, A., Kumar, S., Greeson, J., & Laurenceau, J. P. (2007). Mindfulness and Emotion Regulation: The Development and Initial Validation of the Cognitive and Affective Mindfulness Scale-Revised (CAMS-R). *Journal of Psychopathology and Behavioral Assessment, 29 (3), 176-190.*

Gould, D., Flett, M. R., & Bean, E. (2009). Mental preparation for training and competition. In B. W. Brewer (Ed.), *Sport psychology. Handbook of sports medicine and science* (pp. 53-63). Oxford, UK: John Wiley & sons.

Greeson, J. M. (2009). Mindfulness Research Update. *Complementary Health Practice Review, 14, 10-18.*

Guba, A. G. (1981). Criteria for Assessing the Trustworthiness of Naturalistic Inquiries. *Educational Communication and Technology, 29(2), 75-91.*

- Hardy, L., Jones, G., & Gould, D. (1996). *Understanding psychological preparation for sport: Theory and practice of elite performers*. New York: Wiley.
- Harris, R. (2009). *ACT Made Simple: An Easy-to-Read Primer on Acceptance and Commitment Therapy*, Oakland: New Harbinger Publications.
- Hasker, S. M. (2010). Evaluation of the Mindfulness-Acceptance-Commitment (MAC) Approach for Enhancing Athletic Performance. (Doctoral dissertation, Indiana University of Pennsylvania, 2010). Retrieved from <http://www.cahperd.ca/eng/journal/index.cfm>
- Hayes, S. C., Strosahl, K., & Wilson, K. G., (1999). *Acceptance and commitment therapy: An experiential approach to behavior change*. New York: Guilford Press.
- Hayes, S. C., Strosahl, K., Wilson, K. G., Bissett, R. T., Pistorello, J., Toarmino, D., Polusny, M. A., Dykstra, T. A., Batten, S. V., Bergan, J., Stewart, S. H., Zvolensky, M. J., Eifert, G. H., Bond, F. W., Forsyth, J. P., Karekla, M., McCurry, S. M. (2004). Measuring experiential avoidance: A preliminary test of a working model. *Psychological Record*, 54(4), 552-578.
- Hayes, S. C., Pistorello, J. & Levin, M. E. (2012). Acceptance and Commitment Therapy as unified model of behavior change. *The Counseling Psychologist*, 40 (7), 976-1002.
- Jain, S., Shapiro, S. L., Swanick, S., Roesch, S. C., Mills, P. M., Bell, I., et al. (2007). A randomized controlled trial of mindfulness meditation versus relaxation training: Effects on distress, positive states of mind, rumination, and distraction. *Annals of Behavioral Medicine*, 33, 10-21.
- Kabat-Zinn, J. (1990). *Full Catastrophe Living: The program of the Stress Reduction Clinic at the University of Massachusetts Medical Center*. New York: Delta.
- Kangasniemi, A., Lappalainen, R., Kankaanpää, A., & Tammelin, T. (2014). Mindfulness skills, psychological flexibility, and psychological symptoms among physically lessactive and active adults. *Mental Health and Physical Activity*, 7 (3), 121-127.

- Keng, S., Smoski, M. J., & Robins, C. J. (2011). Effects of mindfulness on psychological health: A review of empirical studies. *Clinical Psychology Review*, 31, 1041–1056. doi: <http://dx.doi.org/10.1016/j.cpr.2011.04.006>
- Kettunen, A. & Välimäki, V. (2014). *Acceptance and value -based psychological coaching intervention for elite female floorball players* (Master's thesis, University of Jyväskylä, Jyväskylä, Finland). Retrieved from <https://jyx.jyu.fi/dspace/handle/123456789/44346>
- Kristeller, J. L., & Hallett, C. B. (1999). An exploratory study of a meditation-based intervention for binge eating disorder. *Journal of Health Psychology*, 4, 357–363.
- Kyllo, L. B., & Landers, D. M. (1995). Goal setting in sport and exercise: A research synthesis to resolve the controversy. *Journal of Sport and Exercise Psychology*, 17, 117-137.
- Lau, M. A., Bishop, S. R., Segal, Z. V., Buis, T., Anderson, N. D., Carlson, L., Shapiro, S., & Carmody, J. (2006). The Toronto Mindfulness Scale: Development and Validation. *Journal of Clinical Psychology*, 62(2), 1444-1468.
- Lincoln, Y.S. & Guba, E.G. (1985). *Naturalistic Inquiry*. London: Sage Publications.
- Linehan, M. M. (1993). *Skills training manual for treating borderline personality disorder*. New York: Guilford Press.
- Lintunen, T. & Kuusela, M. (2007). Promoting of Social Skills for Life. In J. Liukkonen, Y. Auweele, B. Vereijken, D. Alfermann, & Y. Theodorakis (Eds.), *Psychology for Physical Educators Student in Focus* (pp. 75-85). USA: Human Kinetics.
- Lutkenhouse, J. M. (2007). The case of Jenny: A freshman collegiate athlete experiencing performance dysfunction. *Journal of Clinical Sport Psychology*, 1, 166-180.
- Lutkenhouse, J., Gardner, F. L., & Morrow, C. (2007). *A randomized controlled trial comparing the performance enhancement effects of Mindfulness-Acceptance*

Commitment (MAC) performance enhancement and psychological skills training procedures. Manuscript in preparation.

- Marks, D. R. (2008). The Buddha's extra scoop: Neural correlates of mindfulness and clinical sport psychology. *Journal of Clinical Sport Psychology*, 2, 216-241.
- Meichenbaum, D. (1977). *Cognitive behaviour modification: An integrative approach*. New York: Plenum.
- Mellalieu, S. D., Hanton, S., & Fletcher, D. (2006). A competitive anxiety review: Recent directions in sport psychology research. In S. Hanton & S. D. Mellalieu (Eds.), *Literature reviews in sport psychology* (pp. 1-45). New York: Nova Science Publishers, Inc.
- Miller, T., Birch, M., Mauthner, M., & Jessop, J. (Eds.) (2012). *Ethics in qualitative research* (2nd ed.). London, UK: Sage.
- Moore, Z. E. (2003). Toward development of an evidence based practice of sport psychology: A structured qualitative study of performance enhancement interventions (Doctoral dissertation, La Salle University, 2003). *Dissertation Abstracts International-B*, 64, 5227.
- Schwanhausser, L. (2009). Application of the Mindfulness-Acceptance-Commitment (MAC) Protocol with an Adolescent Springboard Diver: The Case of Steve. *Journal of Clinical Sports Psychology*, 3, 377-396.
- Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. (2002). *Mindfulness-based cognitive therapy for depression*. New York: Guilford Press.
- Shenton, A. K. (2004). Strategies for Ensuring Trustworthiness in Qualitative Research Projects. *Education for Information*, 22, 63–75.
- Simons, H. (2009). *Case Study Research in Practice*. London: Sage Publications.
- Tod, D., Hardy, J., & Oliver, E. (2011). Effects of self-talk: A systematic review. *Journal of Sport & Exercise Psychology*, 33(5), 666-687.

- Wells, A. (2002). GAD, metacognition, and mindfulness: An information Processing Analysis. *Clinical Psychology: Science and Practice*, 9, 94-100.
- Wenk-Somaz, H. (2005). Meditation can reduce habitual responding. *Advances in Mind-Body Medicine*, 21(3), 34-50.
- Wenzlaff, R. M., & Wegner, D. M. (2000). Thought suppression. *Annual Review of Psychology*, 51, 58-92.
- Wolanin, A. T. (2005). Mindfulness-Acceptance-Commitment (MAC) based performance enhancement for Division I collegiate athletes: A preliminar investigation (Doctoral dissertation, La Salle University, 2003). *Dissertation Abstracts International-B*, 65, pp. 3735-3794.
- Wolanin, A. T., & Schwanhausser, L. A. (2010). Psychological functioning as a moderator of the MAC approach to performance enhancement. *Journal of Clinical Sport Psychology*, 4, 311-323.

APPENDIXES

Appendix A: Consent Form

**Faculty of Sport and Health Sciences
Department of Sports Sciences****Mindfulness-based Performance Enhancement Program/Study**

This free elective course is formed of a **7-session** (one session per week) program called Mindfulness-Acceptance-Commitment (MAC). MAC is a new approach in performance enhancement with preliminary support. Briefly, we aim -through sessions and exercises- to make you focus in present moment (the task in hand), accept your negative internal states and pursue your meaningful values and goals.

Instructor holds an MSc in clinical psychology and is currently doing a master's on sport and exercise psychology in JYU. This course is part of his Master's thesis, so participants would automatically be participating in the study, if they would like to attend the program.

Credits: 1, Pass/Fail (Attendance to at least 5 of the 7 sessions is required).

All the information will be kept confidential, and the data will be stored in a secure office with restricted access. Only the researcher and faculty supervisor mentioned above will have access to this information. Upon completion of this project, all data will be filed and archived, and destroyed after 4 years.

You can contact the researcher and the supervisor of the study anytime via information provided below:

Researcher

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+358414984508
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Supervisor

Taru Lintunen
Department of Sports Psychology, University of Jyväskylä
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Participant's Agreement:

I am aware that my participation in this program and study is voluntary. If, for any reason, at any time, I wish to stop participating, I may do so without having to give an explanation. I understand the intent and purpose of this research.

The researcher has reviewed the individual and social benefits and risks of this project with me.

I am aware that the data will be used for a research paper and a class presentation. I have the right to review, comment on, and/or withdraw information prior to the paper's submission and class presentation. The data gathered in this study are confidential and anonymous with respect to my personal identity unless I specify/indicate otherwise.

I have read the above form, and, with the understanding that I can withdraw at any time, and for whatever reason, I consent to participate in the Mindfulness-based Performance Enhancement Study.

Participant's Signature

Place/Date

Appendix B:

General Overview of the MAC Program

1st session: Preparing the Group with Psycho-education

2nd session: Introducing Mindfulness and Cognitive Defusion

3rd session: Introducing Values and Values-Driven Behavior

4th session: Introducing Acceptance

5th session: Enhancing Commitment

6th session: Skill Consolidation and Poise— Combining Mindfulness, Acceptance, and Commitment

7th session: Maintaining and Enhancing Mindfulness, Acceptance, and Commitment

Detailed Overview of the MAC Program**Outline of Module 1** (*Preparing the Group via Psycho-education*)

1. Introduction (Welcoming, Who are we?, Practicalities)
2. Self-rating forms
3. Introduce the Brief Centering Exercise
4. Theoretical Rationale for MAC (Attention, Poise)
5. Connect the Rationale to Participants' Personal Performance Experiences (Open-discussion)
6. Explain Automated Self-Regulation of Elite Performance
7. Specific Goals of the MAC Training Program (3 pillars)
8. What I have learned & form

Outline of Module 2 (*Introducing Mindfulness and Cognitive Defusion*)

1. Brief Centering Exercise
2. Discussion of the What I Have Learned Form, What I've Applied Form
3. Check for and Respond to Questions or Uncertainties Regarding the Previous Session
4. Rationale and Importance of Mindfulness
5. Discussion of Between-Session Exercises: Brief Centering Exercise, Washing a Dish and Shower Mindfulness Exercises
6. Review Session
7. What have I learned Form
8. Brief Centering Exercise

Outline of Module 3 (*Introducing Values and Values-Driven Behavior*)

1. Brief Centering Exercise
2. Discussion of the What I Have Learned Form
3. Check for and Respond to Questions or Uncertainties Regarding the Previous Session
4. Discussion and Exploration of Values and Values-Driven Versus Emotion-Driven Behavior
5. Additional Home Mindfulness Exercise: Relevant Mindful Activity

6. Discussion of Between-Session Exercises: What I Have Learned Form, Performance Values Form, Given Up for Emotions Form, and Mindfulness Exercises
7. Introduction to the Mindfulness of the Breath Exercise

Outline of Module 4 (*Introducing Acceptance*)

1. In-Session Mindfulness Practice
2. Discuss the What I Have Learned Form, Check for and Respond to Questions or Uncertainties Regarding the Previous Session, and Discuss Reactions to the Relevant Mindful Activity Exercise
3. Review the Performance Values Form and Given Up for Emotions Form and Pursue Discussion of Obvious and Subtle Avoidance Strategies
4. Experiential Acceptance as an Alternative to Avoidance and the Connection Between Willingness and Values-Driven Committed Behavior
5. Extending the Relevant Mindful Activity Exercise
6. Brief Centering

Outline of Module 5 (*Enhancing Commitment*)

1. Self-rating forms
2. In-Session Mindfulness Practice
3. Review of Previous Session
4. Enhancing Commitment: Connecting Values, Goals, and Behaviors
5. Review and Assign Performance-Relevant Mindfulness Homework
6. Session Review and Brief Centering Exercise

Outline of Module 6 (*Skill Consolidation and Poise— Combining Mindfulness, Acceptance, and Commitment*)

1. In-Session Mindfulness Exercises
2. Review of Previous Session
3. Putting It All Together: Enhancing Poise Through Exposure-Based Activities
4. Review and Assign Performance-Relevant Mindfulness and Task-Focused Attention Exercises
5. Brief Centering Exercise and Review of Between-Session Forms

Outline of Module 7 (*Maintaining and Enhancing MAC skills*)

1. Review Previous Session and Overall MAC Program
2. Brief Centering Exercise
3. Task-Focused Attention Exercise
4. Review of Current Level of Experiential Acceptance, Willingness, and Commitment to Values
5. Plan for Future Practice: Self-Reflection and Self-Correction

Appendix C:

What I Have *Learned* About Performance & Myself**Initials:****Date:****Age:****Sport/Exercise:**

During each session of the MAC training program, you are likely to learn a variety of new things (knowledge, skills, techniques etc.) about yourself and performance. I would like you to complete this form **in the end of each session**. The purpose of this is to ensure that you are learning and remembering the important concepts from each of our sessions together. This allows me to make sure that you are developing all the necessary performance enhancement skills included in the MAC program.

1.....

2.....

3.....

4.....

Appendix D:

Self-Rating of Athletic Performance

Name _____

Date _____

Sport _____

Please rate your current athletic performance using the scale below for all of the dimensions.
Please use the descriptions of athletic dimensions form to aid in your evaluation.

- 1- Very Poor
- 2- Poor
- 3- Adequate
- 4- Good
- 5- Very Good

Overall Athletic Performance _____

Aggressiveness..... _____

Concentration..... _____

Strength..... _____

Endurance..... _____

Motivation..... _____

Quickness..... _____

Agility _____

Fitness _____

Mechanics _____

Team Cohesion..... _____

Descriptions of Athletic Dimensions**Aggressiveness-**

Degree of effort; display of energy towards a goal, will to succeed; competitiveness

Concentration-

Degree of focus or attention on the task at hand

Strength-

Demonstrates muscular abilities related to the sport

Endurance-

Degree of withstanding physical challenges; preserving or continuing while under distress

Motivation-

Ability to utilize skills and talent to achieve a particular goal; display will, drive, and actions in favor of goals

Quickness-

Acting with swiftness, responsive

Agility-

Graceful, nimble, flexible movement; ease of movement

Fitness-

Good physical condition, ability to meet physical demands of sport

Mechanics-

Execution of skills and techniques necessary to perform the sport

Team Cohesion-

Ability to work well with others; to collaborate on team goals

Name _____

The Acceptance and Action Questionnaire – I

Below you will find a list of statements. Please rate the truth of each statement as it applies to you. Use the following scale to make your choice.

1-----2-----3-----4-----5-----6-----7
 never very seldom seldom sometimes frequently almost always always
 true true true true true true true

- _____ 1. I am able to take action on a problem even if I am uncertain what is the right thing to do.
- _____ 2. When I feel depressed or anxious, I am unable to take care of my responsibilities.
- _____ 3. I try to suppress thoughts and feelings that I don't like by just not thinking about them.
- _____ 4. It's OK to feel depressed or anxious.
- _____ 5. I rarely worry about getting my anxieties, worries, and feelings under control.
- _____ 6. In order for me to do something important, I have to have all my doubts worked out
- _____ 7. I'm not afraid of my feelings.
- _____ 8. I try hard to avoid feeling depressed or anxious
- _____ 9. Anxiety is bad.
- _____ 10. Despite doubts, I feel as though I can set a course in my life and then stick to it.
- _____ 11. If I could magically remove all the painful experiences I've had in my life, I would do so.
- _____ 12. I am in control of my life
- _____ 13. If I get bored of a task, I can still complete it.
- _____ 14. Worries can get in the way of my success.
- _____ 15. I should act according to my feelings at the time.
- _____ 16. If I promised to do something, I'll do it, even if I later don't feel like it.

WBSI

This survey is about thoughts. There are no right or wrong answers, so please respond honestly to each of the items below. Be sure to answer every item by circling the appropriate letter beside each.

A = Strongly disagree
 B = Disagree
 C = Neutral or don't know
 D = Agree
 E = Strongly agree

- | | | | | | | |
|-----|--|---|---|---|---|---|
| 1. | There are things I prefer not to think about. | A | B | C | D | E |
| 2. | Sometimes I wonder why I have the thoughts I do. | A | B | C | D | E |
| 3. | I have thoughts that I cannot stop. | A | B | C | D | E |
| 4. | There are images that come to mind that I cannot erase. | A | B | C | D | E |
| 5. | My thoughts frequently return to one idea. | A | B | C | D | E |
| 6. | I wish I could stop thinking of certain things. | A | B | C | D | E |
| 7. | Sometimes my mind races so fast I wish I could stop it. | A | B | C | D | E |
| 8. | I always try to put problems out of mind. | A | B | C | D | E |
| 9. | There are thoughts that keep jumping into my head. | A | B | C | D | E |
| 10. | There are things that I try not to think about. | A | B | C | D | E |
| 11. | Sometimes I really wish I could stop thinking. | A | B | C | D | E |
| 12. | I often do things to distract myself from my thoughts. | A | B | C | D | E |
| 13. | I have thoughts that I try to avoid. | A | B | C | D | E |
| 14. | There are many thoughts that I have that I don't tell anyone. | A | B | C | D | E |
| 15. | Sometimes I stay busy just to keep thoughts from intruding on my mind. | A | B | C | D | E |

Name: _____

Date _____

5-FACET Mindfulness Questionnaire**Please rate each of the following statements using the scale provided.****Write the number in the blank that best describes your own opinion of what is generally true for you.**

1	2	3	4	5
never or very rarely true	rarely true	sometimes true	often true	very often or always true

- _____ 1. When I'm walking, I deliberately notice the sensations of my body moving.
- _____ 2. I'm good at finding words to describe my feelings.
- _____ 3. I criticize myself for having irrational or inappropriate emotions.
- _____ 4. I perceive my feelings and emotions without having to react to them.
- _____ 5. When I do things, my mind wanders off and I'm easily distracted.
- _____ 6. When I take a shower or bath, I stay alert to the sensations of water on my body.
- _____ 7. I can easily put my beliefs, opinions, and expectations into words.
- _____ 8. I don't pay attention to what I'm doing because I'm daydreaming, worrying, or otherwise distracted.
- _____ 9. I watch my feelings without getting lost in them.
- _____ 10. I tell myself I shouldn't be feeling the way I'm feeling.
- _____ 11. I notice how foods and drinks affect my thoughts, bodily sensations, and emotions.
- _____ 12. It's hard for me to find the words to describe what I'm thinking.
- _____ 13. I am easily distracted.
- _____ 14. I believe some of my thoughts are abnormal or bad and I shouldn't think that way.
- _____ 15. I pay attention to sensations, such as the wind in my hair or sun on my face.
- _____ 16. I have trouble thinking of the right words to express how I feel about things
- _____ 17. I make judgments about whether my thoughts are good or bad.
- _____ 18. I find it difficult to stay focused on what's happening in the present.
- _____ 19. When I have distressing thoughts or images, I "step back" and am aware of the thought or image without getting taken over by it.
- _____ 20. I pay attention to sounds, such as clocks ticking, birds chirping, or cars passing.
- _____ 21. In difficult situations, I can pause without immediately reacting.
- _____ 22. When I have a sensation in my body, it's difficult for me to describe it because I can't

find the right words.

- _____ 23. It seems I am “running on automatic” without much awareness of what I’m doing.
- _____ 24. When I have distressing thoughts or images, I feel calm soon after.
- _____ 25. I tell myself that I shouldn’t be thinking the way I’m thinking.
- _____ 26. I notice the smells and aromas of things.
- _____ 27. Even when I’m feeling terribly upset, I can find a way to put it into words.
- _____ 28. I rush through activities without being really attentive to them.
- _____ 29. When I have distressing thoughts or images I am able just to notice them without reacting.
- _____ 30. I think some of my emotions are bad or inappropriate and I shouldn’t feel them.
- _____ 31. I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow.
- _____ 32. My natural tendency is to put my experiences into words.
- _____ 33. When I have distressing thoughts or images, I just notice them and let them go.
- _____ 34. I do jobs or tasks automatically without being aware of what I’m doing.
- _____ 35. When I have distressing thoughts or images, I judge myself as good or bad, depending what the thought/image is about.
- _____ 36. I pay attention to how my emotions affect my thoughts and behavior.
- _____ 37. I can usually describe how I feel at the moment in considerable detail.
- _____ 38. I find myself doing things without paying attention.
- _____ 39. I disapprove of myself when I have irrational ideas.

Appendix B

Clinician's Adherence Scale for Athletic Performance Program

Clinician _____

Rater _____

Date _____

Session # _____

Program/Group Type (check one): Olympic Training Manual Group
 Mindfulness-Acceptance-Commitment Group

Please rate the clinician on the following:

1. To what extent did the clinician convey the program rationale to group members?

Poor Fair Good Very Good Excellent N/A

1.....2.....3.....4.....5

2. To what extent did the clinician facilitate skill develop among group members?

Poor Fair Good Very Good Excellent N/A

1.....2.....3.....4.....5

3. To what extent did the clinician provide focus and structure (i.e. establish session goals, redirect group members as necessary)?

Poor Fair Good Very Good Excellent N/A

1.....2.....3.....4.....5

4. To what extent did the clinician facilitate skill-building exercises (i.e. mindfulness exercises, worksheet completion)?

Poor Fair Good Very Good Excellent N/A

1.....2.....3.....4.....5

5. To what extent did the clinician provide support to group members to encourage their participation and understanding of skills?

Poor Fair Good Very Good Excellent N/A
 1.....2.....3.....4.....5

6. To what extent did the clinician hold group members accountable for lack of participation or exercise completion?

Poor Fair Good Very Good Excellent N/A
 1.....2.....3.....4.....5

7. To what extent did the clinician review assigned homework and/or assign homework to group members?

Poor Fair Good Very Good Excellent N/A
 1.....2.....3.....4.....5

8. To what extent did the clinician integrate and convey program concepts to group members?

Poor Fair Good Very Good Excellent N/A
 1.....2.....3.....4.....5

Rate the clinician's...

9. Knowledge of athletic enhancement program

Poor Fair Good Very Good Excellent N/A
 1.....2.....3.....4.....5

10. Skill in delivering program

Poor Fair Good Very Good Excellent N/A
 1.....2.....3.....4.....5

11. Appropriate application of program protocol within the context of the session.

Poor	Fair	Good	Very Good	Excellent	N/A
1.....	2.....	3.....	4.....	5.....	

12. Overall Performance

Poor	Fair	Good	Very Good	Excellent	N/A
1.....	2.....	3.....	4.....	5.....	

Appendix E:

Brief Centering Exercise

This brief exercise will help you focus on the immediate moment. You will also begin the process of developing the skill of mindful attention. This exercise should take you about 5 minutes to complete. As with any other exercise or activity, before you start, remember that success requires the development of specific skills, and a commitment to working on the development of these skills is the first step to success.

Please find a comfortable sitting position. Notice the position of your feet, arms, and hands. Allow your eyes to close gently. [pause 10 seconds] Breathe in and out gently and deeply several times. Notice the sound and feel of your own breath as you breathe in and out. [pause 10 seconds]

At this time, focus your attention on your surroundings. Notice any sounds that may be occurring. What sounds are occurring inside the room? What sounds are occurring outside the room? [pause 10 seconds] Now focus your attention on the areas where your body touches the chair in which you are sitting. Notice the physical sensations that occur from this contact. [pause 10 seconds] Now notice the spot where your hands are touching the front of your legs. [pause 10 seconds] Now notice any sensations that may be occurring in the rest of your body and notice how they may change over time without any effort on your part. [pause 10 seconds] Don't try to alter these sensations; just notice them as they occur. [pause 10 seconds]

Now, let your thoughts focus on why you have chosen to pursue this program. [pause 10 seconds] See if you can notice any doubts or other thoughts without doing anything but noticing them. Just notice your reservations, concerns, and worries as though they are elements of a parade passing through your mind. [pause 10 seconds] See if you can simply notice them and acknowledge their presence. [pause 10 seconds] Don't try to make them go away or change them in any way. [pause 10 seconds] Now allow yourself to focus on what you want your performance life to be about. What is most important to you? What do you want to do with your skills? [pause 10 seconds]

Remain comfortable for a few more moments and slowly let yourself focus once again on any sounds and movements occurring around you. [pause 10 seconds] Once again notice your own breathing. [pause 10 seconds] When you are ready, open your eyes and notice that you feel focused and attentive.

Appendix F:

Preparing for MAC

Now that you have learned about human performance and the MAC training program for performance enhancement, it is time to prepare yourself for our work together. Changing the way we respond to what our mind tells us (our thoughts) and what we feel (our emotions and physical sensations) is not easy, but not impossible either. You have already achieved things that others told you were not possible. As you know, it helps to approach developing new skills with the correct attitude and mind-set. **Here are some tips** to keep in mind as you begin the journey of mental skill development, the MAC way.

- Developing the mental skills of mindful attention, mindful awareness, and poise requires an **active effort and commitment**, both in our sessions and between our sessions. Think of this as equivalent to physical training or physical rehabilitation. In many respects, the saying, “no pain, no gain” is appropriate to what you are about to undertake.
- Remain curious and **keep an open mind** about what you hear and what you are being asked to do. Many of the concepts are different from what you have been taught to believe. See the MAC program as an opportunity to experiment and learn something new.
- To increase the likelihood of success, **keep your expectations reasonable** and choose areas to work on that are manageable and realistic.
- Accept the idea that enhancing your performance is an **evolutionary** process and not a single revolutionary event.
- **Don’t be overly hard on yourself** for slips, errors, or inconsistent success with the program. Your skills will develop in the same way that all previous skills have developed in your life— with hard work, repeated practice, and gradually over time.
- Most importantly, remember that your presence here is not because you have failed or because there is something wrong with you. The attitude, “just do it,” is not enough... if it was, everyone would be an elite performer!

Appendix G:

Washing a Dish Mindfulness Exercise

Choose a relatively quiet moment to select a dish and place it in an empty sink. Just look at the dish for a moment and become aware of the color, shape, and texture of the dish. You may become aware that other thoughts come into your mind while performing this exercise. This is inevitably going to happen because numerous thoughts come and go in our head all day, every day. Simply notice them, notice the tendency to fight them, and let them be. Gently bring yourself back to the task of focusing on the physical aspects of the dish.

Now, pick up the dish and allow comfortably warm water to pass over it. Notice the sensations of the water, its temperature, and the feel of the dish as the water passes over it. Once again, you are likely to notice a variety of thoughts unrelated to this task. If so, please notice without judging them as good or bad, right or wrong, but simply an activity in your mind that comes and goes like waves intermittently hitting a shore. The specific thoughts you are having do not matter, just your ability to notice and focus on the feelings and sensations that the water and the dish create. Allow yourself to feel the sensations in more and more detail. In this way, you continually strengthen your concentration.

Now, wash the dish with whatever mild detergent you normally use and become aware of the additional sensations of smell and touch that emerge from this activity. As you continue to mindfully wash this dish, notice any external sounds and any internal thoughts as though they are simply words or symbols on a ticker tape and gently bring your attention back to the task of washing the dish. Having a variety of thoughts is normal; be patient with yourself. The fact of the matter is the mind will always tend to wander. Remain in the moment with washing the dish and you will increasingly enhance your attention.

After about 5 minutes, wipe off the dish, stop the water, sit down and briefly describe the experience you just had in the space provided below. Include all thoughts, reactions, and actions that you took during this exercise.

Initials:

Date:

Time:

Place:

Appendix H:

Mindfulness of the Breath Exercise

This brief exercise will help you expand your mindfulness skills and will allow for further development of mindful awareness and attention. This exercise should take no more than 20 minutes to complete. It is suggested that this exercise be completed at a slow pace.

Please find a comfortable sitting position. Notice the position of your body, particularly your legs, hands, and feet. Allow your eyes to close gently. [pause 10 seconds] Take several deep breaths and notice the air going in and out of your body. Notice the sound and feel of your own breathing as you breathe in [pause] and out [pause]. Allow your focus of attention to be on your abdomen rising and falling with each breath. [pause 10 seconds]

As you continue to breathe in and out, imagine that there is a pencil in your hand and that you are drawing a line upward with each inhale, and then a line downward with each exhale. [pause 10 seconds] Imagine the picture that these lines would create. [pause 10 seconds]

As you slowly continue to breathe in and out, notice that you may become aware of a variety of thoughts and emotions that enter and leave your mind. Simply notice them as though they are part of a parade, gently allow them to pass, and once again focus on your breathing and all the sensations that come. [pause 10 seconds] Having a variety of thoughts and emotions is not incorrect or in any way a problem, but simply reflects the reality of the human mind. There is no need to change, fix, or attempt to control these experiences. Simply note the parade of thoughts in your mind and refocus on your own breathing. [pause 10 seconds]

Allow yourself to continue to breathe gently in and out, focusing your thoughts on the physical sensations of each breath that you take. Whenever you are ready, slowly open your eyes, become fully aware of your physical surroundings, and continue your day.

Appendix J:

Performance Values Form

Initials _____ Date _____ Age _____ Occupation _____ Gender _____

The following is a list of performance values that may help direct your actions on a daily basis. After each value is recorded, please identify the barriers to, and the actions that must be taken in pursuit of, those values.

Teammate/coworker: What type of teammate/coworker do you want to be? What does it mean to be a good teammate/coworker? Why is being a solid team member/coworker important to you?

Barriers and Necessary Actions:

Sport/Work/Performance Activity: What do you value about your activity? The challenge? Prestige? Enjoyment? Getting to interact with teammates? Helping people?

Barriers and Necessary Actions:

Training: Is developing your skill important to you? Why is working at getting better meaningful to you? Are there any skills you'd like to learn or develop more fully?

Barriers and Necessary Actions:

Technical Skills: What issues or behaviors related to technical skill development do you care about (e.g., working on golf swing, sales presentation skills, etc.)? What would you like to do more of?

Barriers and Necessary Actions:

Tactical Skills: What issues or behaviors related to tactical skill development do you care about (e.g., planning a sales or presentation strategy, developing greater understanding of pitch or club selection, play, etc.)? What would you like to do more of?

Barriers and Necessary Actions:

Recreation/Fun: What type of activities do you enjoy? Why do you enjoy them?

Barriers and Necessary Actions:

Appendix L:

Committing to Performance Values Exercise

Initials____ Date_____ Age____ Occupation_____ Gender_____

<p>Performance Value (PV):</p> <hr/>
<p>Short-Term Goal Associated With PV:</p> <hr/>
<p>Long-Term Goal Associated With PV:</p> <hr/>
<p>Behavior To Be Added or Changed To Achieve PV:</p> <hr/>
<p>Situation:</p> <hr/> <hr/>
<p>Action Taken:</p> <hr/> <hr/>
<p>Situation:</p> <hr/> <hr/>
<p>Action Taken:</p> <hr/>