AN EXPLORATION OF THE INTERACTION BETWEEN MENTAL TOUGHNESS, HELP-SEEKING SELF-STIGMA, AND ATTITUDE TOWARDS SEEKING PROFESSIONAL PSYCHOLOGICAL HELP, IN THE POPULATION OF RECREATIONAL ATHLETES

by

DIONYSIA IOANNOU

Deree, the American College of Greece

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Thesis Advisor: Dr Ion Beratis

COMMITTEE APPROVALS:

Dr. I. Beratis, Thesis Advisor

Dr. M. E. Koliris, Committee member

Dr. M. Jamikian, Committee member

APPROVED BY:

Dr. A. Krepapa

Dean, School of Graduate & Professional Education

An Abstract of the Thesis of for the degree of Master of Science
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Title: "An exploration of the interaction between mental toughness, help-seeking self-stigma, and attitude towards seeking professional psychological help, in the population of recreational athletes".

Background: The psychological well-being of athletes and their unique personality traits have attracted a significant amount of research, the vast majority of which has been conducted with professional or college athletes. Past research has focused on exploring and understanding the mechanisms through which the mental toughness personality trait enhances performance in sports. Limited quantitative research exists investigating mental toughness among recreational distance runners. The aim of the current study was twofold: first, to examine whether mental toughness differs in distance runners compared to non-distance runners and non-runners; second, to investigate the association between mental toughness and professional psychological support seeking attitude, in a sample of recreational runners.

Methods: The data collection is from an empirical study conducted in Greece, during July-August 2022, and is complete. The present study was conducted in a sample of 314 adult recreational athletes, with 84% having an active running status at a non-professional level. 64% of participants were males and 36% were females, and 186 respondents run at least 3 times per week for a distance of at least 5km each time. Participants answered to socio-demographic questions and completed self-report questionnaires, consisting of the Mental Toughness Questionnaire (MTQ10; Dagnall et al., 2019), Self-Stigma Of Seeking Help scale (SSOSH; Vogel, Wade, & Haake, 2006), and the Attitude Towards Seeking Professional Psychological Help – Short Form scale (ATSPPS-SF; Vogel et al., 2005).

Results: Findings indicated that distance runners have higher levels of mental toughness in comparison to less committed runners as well as those who do not engage with running recreationally. In addition, there was no interaction effect of mental toughness and help-seeking self-stigma on help-seeking attitude, meaning that these individuals have the capacity to exert to professional help, if they are in need, without compromising their mental health. However, a strong effect of help-seeking stigma on help-seeking attitude was identified in the recreational athletes.

Implications: This study contributes to the research body of positive psychology and sport psychology, by highlighting the mental aspect of running as recreational physical activity. Mental toughness is depicted as a positive personality trait, most profoundly found amongst

recreational distance runners. Mental health professionals can resort to our findings, as complimentary resource for designing interventions and action plans, with the goal to improve their clients' quality of life and wellbeing. Mental help seeking self-stigmatization may prevent recreational athletes from seeking professional psychological support, in fear of being perceived weak. This knowledge can provide useful insight for mental health professionals, to better understand resistance in therapy amongst their recreational athlete clients.

Keywords: mental toughness, self-stigma, attitude towards seeking psychological help, distance running, sport, athletes.

Approved: ___ _____

Dr. Ion Beratis,

Thesis Advisor

CURRICULUM VITAE

NAME OF AUTHOR: Dionysia Ioannou

PLACE OF BIRTH: Patras, Greece

DATE OF BIRTH: [redacted]

GRADUATE AND UNDERGRADUATE SCHOOLS ATTENDED:

Deree, The American College of Greece, Athens - Greece

Lancaster University - UK

Athens University of Economics and Business – Greece

DEGREES AWARDED:

Deree, The American College of Greece
Master's (MA), Counseling Psychology and Psychotherapy
2020 – 2022

Deree, The American College of Greece
Graduate Certificate, Psychology
2019 – 2020

Lancaster University
Master's degree, Human Resource and Knowledge Management
2002 – 2003

Athens University of Economics and Business
First degree, Marketing & Communication
1998 – 2002

WORKING EXPERIENCE:

2022-present: NATIONAL KAPODISTRIAN UNIVERSITY OF ATHENS:
Project Management Executive

2009-2020: CAMBRIDGE ASSESSMENT ENGLISH:
Commercial and Operational Manager
Marketing Manager
Business Development Manager
Marketing Assistant

2005-2007: UNIVERSITY OF CAMBRIDGE:
Product Manager
Market Research Executive
PR & Comms Assistant

2004-2005: ANGLIA RUSKIN UNIVERSITY
Communications Officer

Interests: Sport Psychology, Occupational Psychology, MBCT/MBSR

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To my father, who introduced me to the running experience

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Introduction

In the following pages, relevant published literature on the three primary constructs in the current study are being reviewed, namely, mental toughness, mental health related self-stigma, and attitude towards seeking psychological support.

The terms “physical exercise” and “sport” refer to organized forms of physical activity that take place for competitive, health, well-being, leisure, and other reasons. Even when physical exercise is taken up for leisure (and not for professional) purposes, it may require high or lower commitment, depending on the amount of time it takes up in someone’s life. When it is taken up as a serious commitment, it becomes an essential part of the individual’s routine and lifestyle. For instance, playing in a football game can be quite intense and competitive for a professional player of a national football team or a team in the national league, whereas for a non-professional football player, the whole experience has a recreational, non-competitive, and less intensive purpose. Training for a 10km running race is a very different physical and mental experience than training for a Marathon race. Training for Athens Marathon race is a different experience, demanding different levels of commitment and effort in comparison to training for an ultra-marathon race, and so on and so forth. Also, one may run consistently as part of their weekly routine, for maintaining a healthy body weight and remaining fit, but with no specific race goal.

Regardless of the motivations underlying physical exercise, its contribution for one’s physical and psychological health is undoubtfully, as evidenced by several studies comparing the physiological and psychological well-being of individuals who exercise regularly with those who don’t. In fact, records on the physiological and emotional benefits of exercise are dating back to almost 2,500 years ago. The anxiolytic and antidepressant effects of physical exercise and its gene modulating role have been evidenced from past research (Mandolesi et al, 2018; Salmon, 2001). More specifically, physical exercise enhances brain plasticity, which in turn improves cognitive functioning and well-being and prevents neurodegeneration (Mandolesi et al, 2018). The consensus across studies, is that all forms of physical exercise are associated with improved psychological and physical well-being because they enhance the notion of self-identity, self-confidence, and self-fulfillment (Edwards et al, 2015; Robinson et al, 2014).

The Psychological Profile of Athletes

The effects of physical exercise for elite athletes' physical, neurological, and mental health, are very well evidenced. The neurological benefits of physical exercise include increased availability of neurotransmitters- dopamine, serotonin, and noradrenaline - and improved brain plasticity, delaying the effects of ageing. The main psychological effects of physical exercise are elimination of mood disorder symptomatology - anxiety or depression – as well as improved self-efficacy. Physical positive effects of physical exercise are reduced risk of psychosomatic disorders and chronic illnesses, such as cancer and auto-immune diseases. (Hamer et al, 2009; Lisha & Sussman, 2010; Smith, 2004; Maffulli et al; 2011). Concerning the psychological effects of physical exercise, studies on the mental health of athletes, dating back a few decades ago, have found that successful marathon runners have an overall better mental health in comparison to non-athletes (Morgan and Pollock, 1977). Furthermore, recent studies have found physical exercise to be equally effective to antidepressant medication and cognitive-behavioral therapy (Hughes and Leavey, 2012).

All forms of physical exercise enhance self-esteem, positive feelings, sense of control, and positive social interactions, and therefore contribute to the individual's psychological well-being (Scully et al, 1998). Beyond that, physical activity enhances performance in academic, occupational, and social tasks, whilst at the same time it helps with keeping balance in one's personal life. Good mental health allows the individual to live life to its full potential and maintain an overall better quality of life.

What are the psychological factors affecting performance in sport? Emotional intelligence has been identified as one of the key predictors of performance in a wide range of sports, including endurance running (Lane & Wilson, 2011). The explanation behind this finding, is that the ability of athletes to recognize, express, and manage emotions, improves their overall emotional and intellectual functioning. This in turn enhances the sense of happiness and well-being. Another distinctive psychological factor of elite athletes (ie those who compete at international or national level), differentiating them from non-elite athletes and non-athletes, is self-efficacy. More specifically, it has been found that athletes of high caliber can cope better with emotionality as well as past and present positive time perspectives, meaning that they tend to focus more on the positively evaluated past and present (Zimbardo and Boyd, 1999, Mitic et al, 2021). Finally, it has been found that athletes of high calibre use more effective copying strategies for dealing with the pressure for excellent performance, which are improving with age (Barquin et al, 2019; Crust & Azadi, 2009).

All psychological characteristics were found to affect not only athletic performance but the individual's life in general. A piece of research (Edwards et al, 2005) conducted into students' population, found that individuals engaging in regular physical activity, in addition to performing better in sports, they displayed more autonomy, personal growth, greater sense of purpose in life, and more positive relationships.

Another psychological factor affecting athletes' performance is perception of effort. Unlike what one would think a few decades ago, contemporary researchers now believe that it is not muscle fatigue that leads an athlete to give up, but it is the perception of effort. This has been well demonstrated by scientists of physiology who have conducted experiments with endurance athletes (Sprundel, 2022). Experts from the Physiology department at the University of Kent studying the perception of exercise amongst endurance athletes attempted to answer the question whether it is the brain or the mind that play the most important role in determining the outcome in a long running race or other endurance sport. In their opinion, it is not muscle pain or exhaustion that leads athletes to stop, but the athletes' decision to give up. Therefore, making the decision to stop running is the outcome of a cognitive process, rather than an outcome of physical pain. According to the experts at the University of Kent, when a runner has kept going at a stable pace for a long time, his/her perception of effort increases, and as a result, it feels increasingly harder to continue running, even if muscles provide the same amount of power at the same speed, on an ongoing basis. Bodily pain will be experienced by distance runners, after a certain distance has been run, and when this happens it is the mind that keeps them going. We argue that the cognitive process described above is driven by the psychological effect of mental toughness.

Stated as early as in the late 19th century, by Dudley (1888), certain mental characteristics distinguish high-caliber, successful athletes from less successful ones. In terms of personality traits, marathon runners are characterized by low neuroticism, high introversion, and high levels of openness to experience. In terms of mood-related traits, they exhibit less anger, tension, and depression (Morgan, 1985), and display cognitive arousal, self-confidence, motivation, and high perception of physical state (Zabala et al, 2009). For these reasons, marathon runners are generally characterized by "positive psychology". Regarding their behaviour style, they appear more solid, strict, reserved, tough minded, forthright, and self-assured, in comparison to non-distance-runners (Nikolaidis et al, 1998).

Distance running

The concept of physical exercise and sport goes back to ancient times. It initially started as means towards warfare and rituals, and gradually became a recreational activity.

Discussing the history of running, in broad terms, could be like discussing the history of breathing or eating; existing since ancestors of humankind ran to hunt animals. In its capacity, as a sport, it originated in Ancient Greece, as the first and most important Olympic game, with the first ever recorded equivalent of a running race, a sprint from one side of the Olympic Games arena to the other, in 776BC. From 776 BC to 728 BC, "the stadion", a sprint event of about 180 m, was the only event. Jogging is recorded for the first time in history during the 16th century, when it was commonly practiced by swordsmen as a form of training, before a battle. The Marathon race was included in the first modern Olympic Games in 1896. In its contemporary format, it became more popular in the 1970s and 1980s, when expanded its presence outside the university colleges and campuses arena, to the public sphere. Before the 1960s, one would be regarded odd and eccentric, if someone was seen jogging in public, unless they were aiming to catch the bus. The first running boom happened in the 1970s, when scientific evidence on the benefits of running began to flourish, and its popularity crossed the Atlantic to Europe, with the number of people taking up jogging as a recreational activity growing up every year. Around the mid-1990s, the second running boom took place, with the number of people taking up running increasing rapidly not just in the US and Europe, but in other parts of the world too, and the commercialization of the sport beginning to flourish. Over the last decade, we have witnessed the third running boom.

Distance running is a form of aerobic exercise. Depending on speed, it can range from jogging to sprinting, with previously described as running a distance 3km or more, and up to a marathon (42,195m). In most recent years, distance running is conceptualized as running any distance beyond 5km, and with a frequency of three or more times per week (Edwards et al, 2005). In the context of the present thesis, distance runners are defined as those individuals who run recreationally (non-professionally), a distance of at least 5km, three or more times per week. According to Edwards et al (2015), any form of exercise lasting 20 minutes or more, with a frequency of three or more times per week, is considered regular exercise, therefore, the distance runners' group in our sample, is equivalent to regular exercisers.

The World Athletics Federation (IAAF) and the runrepeat.com website collaborated on a study, which provided a wealth of insightful information about running globally. Jens Jakob served as the primary researcher. More specifically, from 1986 to 2018, he examined 107,900,000 results from 70,000 races. In essence, he examined 96% of the races in the USA, 91% of the races in Europe, Canada, and Australia, as well as various races from Asia, Africa, and South America, over this period. The purpose of this study was to assess data pertaining to recreational (or hobbyist) runners; as a result, data and findings for elite runners are not included. According to the same study, Germany, Spain, the Netherlands, and France have the

most marathon runners, whilst the Czech Republic has risen to the top of the list for the half marathon. The countries with the most 10km runners are Norway and Denmark, whereas the USA, the Philippines, and South Africa are the 5 km. "champion" nations. Overall, Ireland, the Netherlands, and Great Britain are the nations with the highest population of runners. The average age of runners has increased significantly over the world, a positive development as it indicates that people's lives are improving. According to data from 1986 to 2018, the average age of runners increased from 32 to 40 years old for 5 km distances, from 33 to 39 years old for 10 km distances, from 37.5 to 39 years old for half marathons, and from 38 to 40 years old for marathons. This is also happening in our nation, particularly in the past 10 to 12 years, as both the number of runners and the variety of races have considerably expanded.

The average runner's profile has altered because of the increase in all running distances, affecting factors like age, performance, habits. Overall, however, it becomes clear that there is a strong trend toward individuals running and forging more longer-lasting connections with this kind of sport. Numerous factors contribute to this, but psychological drive and the need for daily stress relief are the key ones. The simplicity and practicality of running, together with the vastly increased number of races available, are undoubtedly key contributing factors.

“Somerset Maugham once stated that in each shave lies a philosophy,' writes acclaimed Japanese author Haruki Murakami in his book “What I Talk About When I Talk About Running”. “No matter how insignificant an action may seem, if you persist long enough, it develops into a reflective or even meditative act. Long distance running suits my mentality, though, and of all the habits I've developed over my lifetime, I'd have to say this one has been the most helpful, the most significant”, says Murakami, who has spent more than thirty years jogging 36 miles a week. “I have become stronger both physically and mentally as a result of my decades-long running”.

Benefits of running. The benefits of recreational running for one’s physical health, mental health, and overall well-being, have made it an increasingly popular form of exercise, which explains the explosion in number of city marathon and running races events organized in the Western world, including Greece, every year.

Physiological benefits include weight loss or weight maintenance, improved cardiovascular and respiratory health, and improved longevity. Running is valued as means towards maintaining a healthy lifestyle (Shipway & Holloway, 2010), as well as means towards copying with everyday problems, at home or at work.

Psychologically, regardless of whether it is experienced in a more structured (running racing events) or unstructured way (running alone or with friends) it enhances positive emotions, such as pleasure, euphoria, also known as the "runner's high", an overall sense of well-being and life satisfaction (Sato et al, 2015). The neurological explanation behind the "runner's high" feeling, according to some scientists (Brace et al, 2020), is that running activates the endogenous opioids system (endorphins), which buffer pain and increase pain tolerance, allowing distance runners to have greater ability to withstand pain. The endogenous opioids and their receptors are widely distributed throughout the central and peripheral nervous systems, particularly the parts of these systems that regulate pain, emotion, reward, stress responses and motivation. For other scientists, based on elevated plasma levels of endorphins following exercise, the opinion that a runner's high was once thought to be related to endorphin release while running (Colt et al., 1981) is outdated. These scientists suggest an involvement of endocannabinoids (eCBs) (Dietrich and McDaniel, 2004).

Running activity helps with handling negative emotions and stress, problem solving, and mood moderation. For this reason, psychologists and psychotherapists often recommend aerobic exercise, including running, in addition to psychotherapy or medication, as part of treatment for people with clinical depression. Published personal testimonials from runners confirm that this is the case.

'*It is absolutely and unexpectedly wonderful for reducing stress and building resilience at work. I have a tough leadership role as a Faculty Dean, and there's nothing like going out for a run in the dark and rain and cold to help with that!',* Dean of the Faculty of Life Sciences at UCL (Jarett & Rhodes, 2017).

In addition to the physiological and psychological benefits of distance running, this form of physical exercise, gradually becomes a substantial aspect of one's self-identity, because it requires dedication and specific skills. Although it is traditionally considered to be a lonely sport, in recent years, it has acquired a social aspect, if someone chooses to run together with friends or join a running club. It can turn to means of formulating new social relationships or friendships (Robinson et al, 2014), with enhanced psychological benefits for those involved.

An experimental research study, by Emily Bernstein and Richard McNally at Harvard University (2016) showed that running contributes to handling negative emotion. In this specific experiment, participants were asked about their ability to handle negative emotions, then half of them were asked to jog for 30 minutes while the others rested. Afterwards, the participants watched a sad clip from the film "The Champ". Participants who said that usually

struggled to handle negative emotion were more intensely affected by the sad clip. The experience was less intense for those who had completed the jog. The researchers concluded that moderate aerobic exercise, such as going for a jog, helps attenuate negative emotions for participants who are potentially more vulnerable to emotional dysregulation.

Another study on ultra-marathon runners specifically (Roebuck et al, 2019) investigated ultra-marathon runners' resilience, personality traits, emotion regulation abilities, and found that in comparison to non-runners, ultra-marathon runners tend to be more resilient and more positive in affect. Other published studies have studied the psychological traits of professional athletes or ultra-marathon runners, as either innate personality traits or as factors affecting athletic performance.

With the exemption of studies on ultra-marathon runners, the only other study on the psychological characteristics of non-professional runners specifically, was published almost forty years ago (Callen, 1983). The study revealed that runners experience positive feelings whilst running, whereas if a typical respondent (runner) is required to stop running due to injury, he/she will experience unpleasant emotions, such as irritability, tension, and bad mood. On the other hand, whilst running at an emotional level, in 50% of the cases, he/she will experience good mood, positive energy and an overall sense of well-being.

Martinsen and Morgan (1997) support the idea that physical exercise is a natural antidepressant for many people. Further to that, demanding exercise can lead to reduction in anxiety levels, and runners specifically tend to experience an increased positive mood just after a run (Raglin, 1997). Anyone who runs regularly has experienced the sensation of euphoria and serenity following a training session, even more so, if the running distance is demanding or the training has taken place in a different location than usual. Running contributes to a healthy lifestyle, often seen as means towards maintaining a healthy body weight, without compromising on food intake. It can become addictive, with negative implications, similarly to other kinds of addiction, if the individual exaggerates with rigid, intensive training schedules, at the expense of eating healthily, getting enough rest, and enjoying social life. In such situations, the person may be found spending too much time alone, withdrawn from others (Shipway & Holloway, 2010).

Longitudinal studies comparing marathon runners with the rest of population, conclude that marathon runners display higher levels of positive psychological attributes, such as confidence, positive self- perception, highly intrinsic motivation, and lower levels of negative psychological states such as anxiety, depression, anger, and tension, a concept that is compatible with the ‘mental health model’ (Nicolaidis et al, 2018; Morgan, 1985; Raglin,

2007). These studies suggest that such characteristics are innate and predispose certain individuals towards engaging with endurance sports, such as marathon running. In other words, it is engagement with the sport itself that causes the presence of these characteristics; rather, these characteristics already exist and are further developed through training for marathons. Also, unsurprisingly, long-distance runners seem to be more resilient when it comes to pain tolerance. Therefore, we conclude that even amongst runners, psychological differences are evident, depending on the running training and racing goals, with marathon runners being more introverted, judging, serious, tough, and straightforward in comparison to other type of runners (Wilson et al, 1980; Valliant et al, 1980). One last observation following literature review is that there is lack of contemporary research evidence on personality traits of recreational distance runners.

The Construct of Mental Toughness

It is as early as the 1980s that the construct of Mental Toughness (MT) was introduced, reframed as "association", a cognitive strategy used by marathon runners, to self-regulate pain and effort whilst keeping up their pace (Raglin, 2007). Mental toughness is defined as a personality trait that includes an array of positive psychological characteristics, such as perceiving challenge as an opportunity, rather than as a threat, feeling in control of life situations, being able to commit to life goals, and having the confidence to achieve them (Rice et al, 2016). Elsewhere in literature, mental toughness is mentioned as a significant psychological construct in the context of athletics (Brace et al, 2020). Other descriptive phrases for mental toughness are "unshakeable self-belief," "the ability to rebound after failures," "persistence or refusal to quit," "coping effectively with adversity and pressure," and "retaining concentration in the face of many potential distractions" (Liew et al., 2019, p. 383).

Gucciardi et al. (2015) define mental toughness as "a personal capacity to produce consistently high levels in subjective (e.g., personal goals or strivings) or objective performance (e.g., sales, race time, GPA) despite everyday challenges, stressors and adversities". The main ingredients of Mental Toughness are a) *challenge*, defined as the ability to reframe potential threats as opportunities for self-development and growth, b) *commitment*, defined as persistence pursuing goals despite obstacles, c) *control*, one's ability to regulate emotion and control stress, and d) *confidence*, defined as the belief in self, and one's ability to achieve their goals (Clough et al, 2002). When under stress, mental toughness is thought to be a useful copying mechanism that also makes it easier to actively look for possibilities for personal development. (St Clair-Thompson et al., 2015).

An association between mental toughness and the big five personality factors has been found, with mental toughness being positively correlated to extraversion, openness to experience, agreeableness, and conscientiousness, and negatively correlated with neuroticism (Rice et al, 2016). Beyond that, mental toughness has been found to be positively associated with narcissism personality trait.

Mental Toughness has been defined as a psychological resource that has a purpose, flexibility, and efficiency, for maintaining and reinforcing goal-directed pursuits, including academic achievement (Gucciardi, 2017; Papageorgiou et al, 2018) and is positioned within a range of psychological constructs, like self-esteem. Another conceptualization of mental toughness is that of a psychological quality that increases the possibility of achieving self-actualization, enables people to fulfill their life goals, and helps them deal with obstacles they face along the way. (Gucciardi et al, 2016). It is suggested that individuals with higher levels in mental toughness exhibit greater emotional and life choices control (Stamp et al, 2017).

Prevalence of Mental Toughness in Athletes. Mental toughness affects several areas of the person's life, including the athletes' life, hence studying the construct of mental toughness is important, in the context of psychology and sport sciences as well.

The construct of mental toughness is particularly relevant in endurance sports, where positive psychology and toleration of pain and exhaustion are essential for successful performance. V. Hutter, an expert on the psychological health of elite athletes, describes mental toughness as the ability to cope with challenging and adverse situations, which require the capacity to use copying mechanisms and the mindset to convert challenges to opportunities (Sprundel, 2022).

Other studies, conducted in professional athletes' populations, college students or adolescent populations, have concluded that mental toughness is an important factor for success in other sports, such as football (Wieser et al, 2014), tennis (Cowden et al, 2016), martial arts (Chen et al, 2013), and cricket (Gucciardi et al, 2009). Mental health and wellbeing of athletes are significantly influenced by mental toughness, particularly after an injury. Compared to athletes with lower levels of mental toughness, those with higher levels frequently exhibit better compliance during rehabilitation, more emotional stability, and use more efficient coping mechanisms (Farnsworth et al, 2022). An athlete's view of their injuries can have a significant impact on their emotional reactions after becoming hurt, sometimes even leading to depression. Athletes may encounter a variety of demanding, stressful, and occasionally difficult conditions throughout their careers, which may be tempered by their individual mental toughness levels. For the runner specifically, to remain mentally strong,

they need to self-regulate, meaning that they need to adhere to a concrete and demanding training schedule and on the other hand they need to be strong enough to overcome any difficulties that come in their way and continue to focus on their goal. Therefore, the distance runner needs to exert great amount of cognitive and behavioral effort and be able to maintain it over time.

A study by Zeiger & Zeiger (2018), on mental toughness for endurance professional athletes, studied eight sub-elements of mental toughness, namely, confidence, constancy, control, determination, visualization, positive cognition, self-belief, and self-esteem, and explored how variants of mental toughness differ in endurance athletes, in comparison to others. This study found that the construct of mental toughness is higher in the population of endurance runners, with other determinants of mental toughness being male and older than 55 years old. Similar findings are documented in the research by Brace et al (2020), who concluded that ultra-marathon runners had significantly and meaningfully higher mental toughness than athletes from other sports. It is generally believed that in addition to the genetical factors underlying mental toughness, environmental factors are important, making mental toughness a psychological trait susceptible to harnessing and development (Crust & Clough, 2011). Scientists' advice on building mental toughness for athletes is to push their boundaries, by using certain strategies, for example, go for a run when they are tired, or at the end of a difficult day (Sprundel, 2022).

Training and rehabilitation programs for coaches and healthcare professionals alike emphasize the development and maintenance of mental toughness (Farnsworth et al, 2022) and researchers keep looking on ways to improve mental toughness throughout the next years. The research that is currently available points to experience learning as having a significant impact on the growth of mental fortitude (Crust and Clough, 2010). Parents and coaches of young athletes, have a vital role in creating the ideal atmosphere for athletes to thrive as well as teaching a work ethic and a competitive mentality. To build their own resources, copying mechanisms, and problem-solving abilities, athletes must be exposed to (rather than shielded from) difficult conditions throughout training and competition. Challenges based on self-referenced criteria should be present in these circumstances as well. Preliminary research findings on the value of mindfulness are very encouraging, suggesting that mindfulness or psychotherapeutic techniques encompassing mindfulness amongst athletes contribute to the development of mental toughness and psychological wellbeing (Ajilchi et al, 2022).

To the author's knowledge, with the exemption of the small-scale study in adolescent cross-country runners (Mahoney et al, 2014), the construct of mental toughness has received very little attention in quantitative studies of adult recreational runners.

Prevalence of Mental Illness in Athletes

Even though physical exercise has positive effects as previously discussed, it may cause adverse physical effects, such as body inflammation, emotional burnout, bad mood, and helplessness, if it becomes too intensive. In case of injury, the elimination of sport from the athlete's life, may have detrimental effects for his/her psychological health. Regarding gender differences, it has been found that female runners are more susceptible to nervosa anorexia and other eating disorders, in comparison to male counterparts, but still, to a lesser extent than in non-athletic females (Hulley & Hill, 2001).

A systematic review of studies in current and former elite athletes suggests that the prevalence of mental health symptoms and disorders, varies between 16% and 34%, and may be slightly higher than in the general population (BMJ, 2019). The reported prevalence of mental health symptoms and disorders among male elite athletes from team sports, such as cricket, football, and rugby, varies from 5% for burnout and alcohol misuse, to nearly 45% for anxiety and depression symptomatology. Eating disorders and risky drinking or sex behavior are not uncommon either (Hughes & Levy, 2012). Amongst college athletes, the prevalence of mental health disorders is estimated to be between 10% to 25% for depression and eating disorders.

A review of research studies on distance runners specifically, shows that running can become so addictive, that if the athlete needs to give up on it, for some reason, it is likely to cause significant distress and withdrawal symptoms, very much like those experienced by a substance user addict. Another negative aspect of physical exercise, particularly relevant amongst distance runners, is the condition caused by intensive training or overtraining, often referred to as "staleness syndrome" (Raglin, 2007), found in almost 10% of athletes, and in at least 20% of distance runners (Peluso & deAndreade 2005). This syndrome is characterized by excessive stress associated with involuntary retirement from sport, because of a musculoskeletal injury, chronic pain, or decreased sport performance. The similarities between "depression," a psychiatric illness, and "overtraining," a side effect of too rigorous athletic training, are striking in both their number and intensity, as well as the fact that many sports psychologists and doctors deny them (Kreider et al, 1998). The definition of overtraining is a long-term decline in performance, typically accompanied by a variety of physiological, immunological, hormonal, and metabolic changes that are strikingly like those

in depression. The only distinction is the nature of the dysfunctional role: athletic performance in the case of the overtrained athlete, versus social, cognitive, and work in the case of the depressed patients (Kreider et al, 1998).

All above evidence signifies the presence of mental health irregularities in athletes, including runners, and can be viewed as proof that people who regularly train are not immune to psychological problems. Besides, if indeed physical exercise was panacea, and an evidence-based positive relationship existed between frequency/intensity of sport and psychological health, there would be no need for psychological skills training for athletes, coaches, and managers in the sports field (Birrer & Morgan, 2010). On the other hand, physical exercise can play an important role in managing a pre-existing mental illness, not only because it helps alleviating symptoms, but because it helps the individual regain some sort of agency, life meaning, continuity, and coherence (Carless 2000).

Literature suggests that the extent, to which an athlete is protected from displaying mental health disorders, depends on their unique psychological traits, one of which is mental toughness. Mental toughness has been found to contribute to lower symptoms of anxiety and depression, and improved general mental health (Gucciardi et al, 2012; Mahoney et al, 2014).

When it comes to psychological difficulties, the following questions arise: Would a runner recognize and accept the presenting psychological problem, and contact a professional counselor or psychologist, for brief or long-term counseling? Does mental toughness play an inhibiting role in the process? Does self-stigmatization in relation to seeking mental health support affect one's decision to seek support?

Attitude Towards Seeking Professional Psychological Help

Attitude towards seeking professional psychological help (ATSPPH) or help-seeking attitude is the term used to describe someone's attitude towards requesting services, from a professional mental health counselor, psychologist, or psychotherapist (Rickwood et al., 2005). Attitude is a very important index, because it has long been considered a predictor of actual psychological seeking behavior (ten Have et al., 2010; Nam et al, 2013).

Empirical data suggests that on average, only one out of three people who experience a mental health disorder, will eventually seek counseling, and that between 52% and 74% of people with mental health disorders in Europe and the US will prefer to cope with their problems on their own or by talking to a friend or relative (Andrews, Issakidis, & Carter, 2001; Kessler et al. 2005). A meta-analysis has shown that help-seeking attitude is influenced

by psychological characteristics, such as "approach" and "avoidance" aspects, and is influenced by demographics, such as gender, according to a meta-analysis of studies on seeking professional help (Nam et al., 2013). Social support, sharing personal experiences, and expectations of benefits are examples of "approach" factors that increase the likelihood that a person will seek psychological support. Social stigma, treatment anxieties, fear of emotion, expected usefulness and dangers, and self-disclosure are five aspects that have recently been identified as avoidance factors in the help-seeking process. (Vogel et al, 2007). In addition, at least two more factors—social norms and self-esteem—have been identified as potential barriers to obtaining help, but they haven't necessarily been addressed in that way in the professional literature on the topic. Many people view receiving psychological help as a difficult decision. Even when individuals experience mental, emotional, and bodily suffering, their unfavorable perceptions of asking for help from a stranger may seem more essential to them than the real issue. Stigma is identified as the most important psychological barrier to obtaining care.

A review of literature on the association between personality traits and attitude towards seeking professional psychological support revealed that personality traits affect the likelihood of someone asking for professional help. More specifically, research (Barwick et al, 2009), evaluated the correlation between attitude toward obtaining psychological assistance and the personality factors “self-esteem”, “trait anxiety”, and “internal/external locus of control”, and discovered that both men and women with low self-esteem, high trait anxiety, and external locus of control (believing in chance and powerful outsiders) had less favorable attitudes, with belief in chance and self-esteem occupying the most important predictor value. The same research identified gender differences, with females perceiving asking for support more favorably in comparison to males.

In the study by Kakhnovets (2011), links between personality traits, expectations for counseling, and attitudes towards requesting assistance were examined, and it was found big five personality factors are linked to attitudes toward getting help, and that expectations towards counseling act as a moderator in these interactions.

In professional sports, one's self-image is affected by how seeming "weak" or "unable" is seen by others. It is so crucial that it can take precedence over the alleged advantages of getting professional assistance. There is agreement that despite experiencing identical issues, athletes are less likely than non-athletes to seek professional psychiatric therapy because of fear of stigmatization. This is true even though all recognized studies have used study samples from communities of college students (Watson, 2005). Due to the highly

valued nature of internal resources, like mental toughness, tenacity, and self-confidence, the sociocultural context of sport may create circumstances where people are less likely to seek assistance (Gucciardi et al, 2016). Previous research has found variations according to gender, with females showing less sensitivity to seeking professional mental health help, in comparison to males (Addin et al, 2003; Martin et al, 2001).

Furthermore, it is very common for athletes to tolerate external physical pain in case of injury during training or racing, and less willing to ask for help when they are in pain, risking their health's deterioration. Similarly, they are less likely to express emotions because they perceive it as sign of weakness (Sinden, 2010). Suppressing emotional pain for a prolonged period, however, can cause significant psychological and psychosomatic problems.

To sum up, literature review revealed that the psychological constructs "mental toughness" and "attitude towards seeking professional psychological support" have not been studied in relation to each other, ever before.

The role of Help-Seeking Self-Stigma

Stigma is defined as the socio-psychological "labeling" that comes along as result of a psychological or physical characteristic that is judged as socially unacceptable (Blaine, 2000). More specifically, stigma associated with mental illness or seeking mental health services, is "a person's feeling that they are unpleasant or socially unacceptable because they seek psychological help" (Vogel et al, 2007). Although the taboos surrounding mental health support are gradually losing ground in contemporary society, there are still negative connotations of seeking psychological support. It is not therefore surprising that some people prefer not to disclose their psychological difficulties and either hide them or reveal them only to friends or relatives they feel closer to.

There are two "faces" of stigma, the first one is **social stigma**, and the second one is **self-stigma.** According to Deane & Chamberlain (1994), the first manifestation of stigma, social stigma, is the concern that others will view a person poorly if they know that he/she actively seeks help for a facing problem. The negative societal perception of seeking professional assistance has been viewed as one of the biggest impediments to therapy possibly because of the general public's propensity to paint a poor picture of those who go through mental disorder. A practical example of social stigmatization experience is having previously made use of outpatient mental health services to lead others to perceive the person in a more unfavorable light.

The second, less addressed, manifestation of stigma is self-stigma. Self-stigma is a multifaceted construct that encompasses labeling, discrimination, desire for control, social

distancing, or fear of negative perception by others, in relation to mental health disorders. It is a complex concept that includes discrimination, a need for social control or seclusion, and the worry that others would perceive mental health disturbances or illnesses negatively. Self-stigma is an internally motivated construct that is defined as the person's own idea that they will not be socially accepted, resulting in a decrease in self-esteem and self-worth if they seek psychological care from a qualified professional (Vogel et al., 2006).

Self-stigmatization can become an inhibiting factor in peoples' decisions not to engage in therapy, including athletes (BMJ, 2019). Large-scale epidemiological studies have found that less than 40% of individuals with a mental health concern seek any type of professional help (Andrews, Issakidis, & Carter, 2001; Kessler et al., 2001; Regier et al., 1993, in Vogel et al, 2006). Furthermore, as indicated in previous section of the literature review, the stigma of seeking treatment is the most common factor inhibiting individuals from seeking professional psychological help (Corrigan, 2004; Corrigan & Penn, 1999), amongst other reasons, such as the desire to avoid discussing distressing or personal information (Cepeda Benito & Short, 1998; Kelly & Achter, 1995; Vogel & Wester, 2003) and repression (Komiya, Good, & Sherrod, 2000). Studies by Vogel et al. (2007) and Clement et al (2015) seem to be the hallmarks of research in the context of this topic, establishing the theoretical framework for the role of self-stigma as mediator in the relationship between public stigma and attitudes towards counseling/psychotherapy.

The studies by Vogel et al (2006, 2007) emphasize that the construct of self-stigma differs significantly from other relevant constructs, such as social stigma and self-esteem. They found that self-stigma uniquely predicts both attitude towards seeking professional psychological help and willingness to seek professional psychological help. Their 2007 follow-up study in 676 undergraduate students' population provided for the first-time empirical evidence that self-stigma has a mediating role in the relationship between social stigma and attitude as well as willingness to ask for professional psychological support, and that social stigma has a weaker predictive power over help-seeking attitudes and willingness, in comparison to internalized stigma (self-stigma). This study also found that the associations between social stigma and self-stigma were more prominent in males than females, explaining that males may internalize social stigma more profoundly in comparison to females. This interaction model had been theorized prior to this study, but with no empirical evidence to support it. Negative stereotypes of those who seek out psychiatric assistance in society can become internalized (Corrigan, 2004; Holmes & River, 1998), leading people to perceive themselves as inferior, ashamed, inadequate, or weak, in case of mental illness, and hesitant to disclose intimate thoughts to others (Nadler & Fisher, 1986; Gucciardi et al, 2016).

Clement et al (2015), in their meta-review of quantitative studies on the impact of mental health related stigma in its general sense on help seeking, found that in adult

populations, self-stigma has a small to moderate negative impact on help-seeking for mental health illness, ranking fourth out of ten barriers, and is typically described as such by around a quarter of participants. Concerns about disclosure and secrecy were reported as the most noticeable barrier to help seeking. The synthesis of the qualitative studies from Clement et al (2015) resulted in a thorough conceptual model of the mechanisms underlying the connection between stigma and help-seeking, with five main themes: (1) dissonance between a person's preferred self-identity or social identity and prevalent stereotypes about mental health; (2) anticipation/experience of negative consequences; (3) need/preference for non-disclosure; (4) stigma-related tactics used by individuals to facilitate help-seeking; and (5) stigma-related aspects of care that facilitate help-seeking.

With regards to research conducted in the athletic population, the picture is the same. Studies in high caliber athletes – identified as those competing at professional (for instance, preparation for Olympic Games), or collegiate/university levels (Reardon et al, 2019) – show a pervasive, negative predisposition towards mental health, dating back at least 30 years (Linder, Brewer, Van Raalte, & DeLange, 1991; Van Raalte, Brewer, Brewer, & Linder, 1992). Even more than the rest of population, high calibre athletes are less likely to request psychological support, because they perceive it as a sign of weakness, also viewed as such by co-athletes, managers, and public. Additionally, the population of elite athletes perceive others who turn to professionals for psychological support, in a negative light (Bird et al, 2018; Gulliver et al, 2012; Rice et al, 2016).

The Present Study

To the best of the author's knowledge, this study constitutes the first attempt into the interplay between mental toughness and attitude towards seeking psychological support, in the population of nonprofessional athletes.

The first identified study is a meta review of mental illness stigma prevalence in Greek society and culture (Tzouvara et al, 2016), synthesizing published papers on stigma prevalence across different populations, has highlighted the presence of public stigma in moderate to high proportions. In the previously mentioned meta-review, stigma was found to relate more to social discrimination, internalized restrictiveness, and authoritarianism. However, self-stigma was not investigated in this study and the target population was not specific to athletes.

The second identified study was primary research on motivating factors of marathon runners participating in the Athens Classic Marathon race (Nikolaides et al, 2019). The aim of the latter study was to examine the motivation of recreational runners and its variation by sex, age, and performance level, and found that the most important motivations were general health and personal goal achievement, with female runners scoring higher than male runners in coping, self-esteem, and goal achievement, and the younger age groups outperforming the older age groups.

Literature review revealed that although physical exercise is beneficial for the person's mental health, it does not offer immunity to psychological distress or mental health disorders. Mental toughness, which appears in higher levels amongst professional athletes, can be an advantageous attribute for high athletic performance, but it doesn't offer protection from psychological distress and mental disorders. On the contrary, insight from past research indicates that athletes, including runners, are susceptible to mood, eating or substance disorders, under certain conditions. Therefore, one of the main questions is whether apart from its protective role, mental toughness has a help seeking inhibiting role too. Another question is whether there is a difference in the levels of mental toughness in people who run consistently and for long distances, in comparison to others. The third and final question is whether there is an interaction effect of mental toughness on the relationship between mental health help-seeking stigmatization and attitude towards seeking psychological professional support.

All three constructs - self-stigma, mental toughness, and attitude towards seeking psychological support - have been studied at some extent in the general population, with college student populations monopolizing the most recent research.

Regarding the first hypothesis of the study, to the author's knowledge, and as follows from the above literature review, the only available data on mental toughness is coming from studies into the population of professional athletes, investigating associations with success and achieving high standards in endurance sport. There is evidence suggesting that Mental Toughness is higher in ultra-marathon runners, in comparison to the rest of population, however there are no research findings from studying the population of non-professional runners, and nothing on the specific topic from Greece.

Profound associations between self-stigma and attitude towards seeking psychological help, in professional athlete populations, are evident. These findings are important for clinical interventions aiming at reducing self-stigma, therefore making the individual more positively predisposed towards seeking psychological support (Hilliard et al, 2019). Finally, although mental toughness has been theorized as a factor distinguishing athletes of high caliber to others, it has not been studied as a moderating factor in the relationship between self-stigma and attitude towards seeking psychological help.

Following from literature review in the field of topic, the present study aspires to explore research questions that have not been studied before, or if they have been studied, the target population was other than the target population of recreational athletes who live in Greece.

The first identified unique characteristic of the proposed study is that it explores mental toughness in the target group of distance runners from Greece. Previous research has explored the mental toughness construct, but in significantly different populations, namely, endurance athletes, such as marathon runners or ultra-marathon runners, long-distance runners, bicycle riders from Europe and US, and college athletes from US. If the first hypothesis of the present study is confirmed, then conclusions can be drawn about the effect of the inherent characteristic of mental toughness on one's choice of leisure activities. Alternatively, this hypothesis may initiate a discussion on the impact of preference of intensive running training vs. other forms of training on the development of the unique personality trait of mental toughness.

The second unique characteristic of the proposed study is its attempt to explore whether there is any association between the personality characteristic of mental toughness

and one's inclination to look for external psychological support. There is lack of studies providing evidence towards or against the hypothesis that mental toughness may be hindering individuals to seek professional mental health support, when in need to do so. Mental toughness is generally presented as a positive characteristic, allowing individuals to cope with challenging life situations in a calmer and more composed way, maximizing performance in sport, and chances for successful performance. However, is the enhanced feeling of control, confidence and empowerment associated with mental toughness, a deterrent from sharing problems with others?

The third, innovative characteristic of the current study is the synthesis of all three variables into a single research question. The effect of stigma on someone's help-seeking attitude has already been highlighted, however the presence or not of a moderating role by mental toughness on the effect of self-stigma on attitude towards seeking professional psychological support, has not been studied previously.

Research Hypotheses

The overall purpose of the present study is to investigate how mental toughness is associated with attitudes towards seeking psychological support and examine the moderating role of self-stigma on the relationship between mental toughness and attitude towards seeking psychological support. The main hypotheses in the present study are as follows.

Hypothesis 1. Distance runners display higher levels of mental toughness, in comparison to non-runners.

Hypothesis 2. Mental toughness is negatively correlated with attitude towards seeking professional psychological support.

Hypothesis 3. Mental Toughness and self-stigma of seeking help have an effect and an interaction effect on attitude towards seeking professional psychological support.

Research Methodology

In this section, we are discussing study participants, utilized instruments, our research variables, and ethical considerations.

Participants

Our goal was to recruit at least one hundred individuals who identify as non-professional distance runners and one hundred individuals who are not. Finally, the total number of completed responses was 333, out of which 314 responses meet the inclusion criterion (age and permanent residency in Greece). Out of the 314 respondents, 185 fall into the category of distance runners, 129 fall into the category of non-distance runners or don't run at all, so our sample goal was met.

Participants recruited through social media, namely running and psychology-related social media groups, as well as the author's personal social media accounts. Inclusion criteria were a minimum age of 18 years old and permanent residence in Greece, as well as native or high knowledge of the Greek language to fully comprehend and accurately answer the survey's questionnaires.

Instruments

The online survey was active for a period of five weeks, between 15 July 2022 and 22 August 2022. It was designed and hosted on Qualtrics platform, in the Greek language, to enhance feeling of inclusion in the community, maximize participation to the study and accuracy in reflection of the participants' experience.

The introductory part in the survey aimed at informing participants about the overall purpose of the survey, assuring participants of the confidentiality and anonymity of their data. Upon confirming their agreement with the terms and conditions for participation, respondents were first asked to answer certain demographic questions including age, gender, nationality, educational background, employment status, and family status. They were then asked to define the extent of their involvement with running and other sports, by selecting from a pre-determined list of sports. Finally, they were asked to complete the psychological scales of Mental Toughness, Self-Stigma, and Attitude Towards Seeking Professional Psychological Support.

Mental Toughness Questionnaire (MTQ10). The original, mental toughness measurement instrument is MTQ48. This instrument was developed as result of the collaboration between

Peter Clough from MMU, Dr Keith Earle from University of Hull, and Doug Strycharczyk, from AQR Ltd. Published in 2002, the MTQ48 measure has been widely recognized to provide important insights into a key aspect of personality with application across the whole range of human nature. It has also been proved to apply in all situations where performance, behavior, and wellbeing are an issue (AQR, 2017).

For the current thesis, the instrument MTQ10 (Dagnall et al, 2019), a recent version of MTQ, was used featuring ten items, on a five-point Likert scale. Regarding its reliability, MTQ-10 has demonstrated higher factor loadings and better data fit, in comparison to previous versions of the questionnaire, and is considered a superior general measure. Regarding validity, MTQ-10 is a stronger predictor of well-being (life satisfaction), with demonstrated gender invariance.

Overall, MTQ-10 has been described as a superior unidimensional measure of mental toughness. MTQ10 authors state *"The MTQ-10 provides a brief, easy to administer measure that lends itself to regular completion. Hence, the MTQ-10 will enable researchers to readily assess temporal stability, investigate the effect of intervening factors (i.e., training), and test MT levels across multiple time points and settings."* (Dagnall et al, 2019)

MTQ-10 has an average completion time of five minutes with responses to its ten items given on a five-point Likert scale anchored at 1 = strongly disagree and 5 = strongly agree. Three items are reverse coded. The MT score represents the average score of ten items. Finally, we found that past studies conducted in the sports science field, have used an adapted for professional athlete populations version of this measurement scale, namely the Sport Mental Toughness Questionnaire (SMTQ10). We decided not to use this version for the purpose of the present research, because our sample is drawn from populations who are engaging with sport recreationally, not professionally.

Self-Stigma Of Seeking Help scale (SSOSH). Self-stigmatization is an important factor in people's decisions not to engage in counseling or psychotherapy. The SSOSH instrument (Vogel, Wade, & Haake, 2006) was used to measure the perception that seeking professional psychological help would threaten one's self-confidence and self-worth as a person. It comprises of ten items, on a five-point Likert scale, exhibiting strong internal consistency and validity (Efstathiou et al, 2018).

The interpretation of scores ranging from 10 to 30 is that the participant is characterized by low levels in self-stigma, whereas scores ranging from 31 to 50 signify that the participant is characterized by high levels in self-stigma. The items within the scale have

been constructed in such as way so that they evaluate concerns about the loss in self-esteem and overall sense of worth a person would feel if they decided to seek support from a mental health professional.

Reliability and validity studies have confirmed that SSOSH instrument uniquely predicted attitudes toward and intent to seek psychological help, as well as the instrument's unidimensional factor structure. The most recent study found that SSOSH differentiated those who sought psychological services from those who did not across a two - month period (Vogel et al, 2006). As far as the Greek version of the SSOSH scale is concerned, the study by Efstathiou et al (2018) found that it has internal consistency (a=0.77), in comparison to the original study (Vogel et al, 2006).

Attitude Towards Seeking Professional Psychological Help – Short Form scale (ATSPPS-SF). The short version of the instrument "Brief Version of the Attitudes Toward Seeking Professional Psychological Help" is the most established assessment tool of mental health attitudes. It comprises of ten items, assessing an individual's attitudes and beliefs regarding seeking professional help by a mental health professional (Vogel et al, 2005).

ATSPPH-SF scale has been utilized with a wide range of samples into consideration, as well as in diverse settings, including college students and patients in primary care (Elhai et al., 2008). It is the short version of the original twenty-nine item scale (Fischer & Turner, 1970). Responses are rated on a four-point Likert scale ranging from 1 (disagree) to 4 (agree). Some questions are reverse coded, so that higher scores are indicative of more positive attitudes toward seeking professional help. Scores ranging from 10-25 points, reflect more positive attitudes towards seeking professional support, whereas scores ranging from 26-40 reflect more negative attitudes.

Ethical considerations

Complying with a high level of ethical responsibility, this study was reviewed by the Institutional Review Board of Deree, the American College of Greece. Data collection begun only after gaining approval. Adding to this, special care was taken in relation to study's participants. More specifically, no names, email addresses or other unique and private information was collected during the data collection process. The thesis author had exclusive access to raw data ensuring the confidentiality and anonymity of the collected data. Anonymity and confidentiality were also ensured through the consent form (see Appendix A) and debriefing statement (see Appendix B).

Results

The main independent variable in the study is running status, with two groups represented in our sample – those defined as 'distance runners' and those defined as 'non-distance runners'. Distance runners group comprises of individuals is our sample who run at least 3 times per week and for at least 5km each time. They may or may not participate in running races. Non-distance runners group comprises of individuals in our sample who run less frequently than 3 times per week or for less than 5 km each time. These individuals may or may not participate in races. We identified a third group of individuals, named "non-runners'. These individuals may engage in other kinds of sport, but they do not run. Other independent variables include age, age group gender, and family status. Dependent variables include a) Mental Toughness representing the score in MTQ10 scale, b) Self-Stigma of Seeking Help representing the score in SSOSH scale, and Attitude Towards Seeking Professional Psychological Support, representing the score in the ATSPPS-SF scale.

The Statistical Package for Social Sciences (SPSS v20) was used for data analysis. Descriptive statistics analysis was conducted for categorical (gender, age group, employment status, family status, exposure to psychotherapy) as well as continuous variables (running distance, running frequency, race distance). Our sample comprised of 314 participants, 200 (64%) of whom are males, and 113 (36% are females). In terms of age, our sample ranged from 18 to 74 years old. Regarding educational status, 41% of the sample are university/college degree holders, 35% are master's holders, and 18% are high school graduates. In terms of family status, 60% are married, 10% are in a relationship, 21% are single. Finally, regarding employment status, 37% work in the private sector, 31% work in the public sector, whilst 22% are freelancers/own their own business (see Table 1).

In the whole sample, 264 individuals (84%) run, and 50 (16%) don't (see Table 2). Regarding active running status, out of those who run, 196 individuals (74%) run at least 3 times per week, 48 individuals (18%) run 1-2 times per week, and 20 people (7.5%) run sometimes, but not necessarily every week. Regarding distance runners, the vast majority (86%) run at least 5km each time, whereas 14% run less than 5km each time. 215 respondents (68%) take part in races, with a mean distance of 33,71 (SD=35.8) (see Table 3).

Regarding the group of distance runners, it comprises of 186 respondents (59%). These individuals run at least 3 times per week, for a distance of at least 5km each time. Digging deeper into the group of distance runners, we see that 74% of participants are males and 26% are females, with 44% belonging to the 40-50 age group, 29% belonging to the 26-39 group, 22% to the 51-60 age group, and remaining participants belonging to the 18-25 and 61-80 age groups. Out of 157 individuals who participate in races from this group, 35 individuals (22%) have run a maximum distance of 21km, whereas 59 individuals (38%) have run a maximum distance of 42-43km (marathon). This means that almost 60% of respondents

in the distance runners' group, have a running race experience of a half-marathon or full marathon (see Tables 2 and 4).

Regarding the group of non-distance runners, it comprises of 78 individuals (24.8%). These individuals are either running less than 3 times per week or are running distances shorter than 5km each time (see Table 2).

Finally, the group of non-runners comprises of 50 individuals (60%). These individuals do not engage with running as a recreational activity. In terms of age profiling, 48% are between 40-50 years old, 30% are between 26-39 years old, 16% are between 51-60 years old, and remaining 6% are from the remaining age groups.

Regarding engagement with other means of sport, 83 participants (26%) go to the gym, 10% do bicycle riding, 9% go swimming, 9% practice yoga or pilates and 13% do other sport. A total number of 65 respondents (21%) don't do any physical exercise, but this number includes those who only run (44) and don't engage with other kinds of sport. Crosstab statistical analysis of the "running status" and "other sports" variables indicates that only 19 individuals, who represent 6% of our sample, do not engage with any kind of sport. This means that 94% of our sample is recreational athletes. Regarding frequency of engagement with other sport, 34% report that they do sport other than running at least 3 times per week, 39% do sport other than running 1-2 times per week, and 20% do other sport sometimes, but not necessarily every week (see Table 4).

Concerning exposure to professional mental health services, 110 respondents (35%), have been exposed before and 204 (65%) have not been exposed before. 97 out of 110 respondents (31% of the whole sample), who have been in contact with a mental health professional, attended counselling or psychotherapy sessions, whilst 13 respondents (4% of the whole sample) did not. Regarding respondents' health status at present, 32 (10%) respondents are currently diagnosed with a physical disorder, and 10 (3.3%) are diagnosed with a psychological disorder.

Descriptive statistics showed that the composite mental toughness score amongst participants ranged from 1.90 to 5.00, with a mean value of 3,60 (SD=0.56). Scores in Attitude Towards Seeking Professional Psychological Support in our sample ranged from 13.00 to 40.00, with a mean value of 31,74 (SD=4.57), demonstrating a rather negative attitude towards seeking. Scores in the Self-Stigma scale in our sample, ranged from 10.00 to 46.00, with a mean value of 21.89 (SD=6.07), demonstrating low levels in self-stigmatization in relation to mental health support seeking (see Table 5).

Although measures of variability (skewness, kurtosis) and normality tests (Kolmogorov Smirnoff) statistics indicate issues with normality, due to the large size of the sample, normality is assumed. More specifically, minor departure from normality for MT (skewness= 0.78/ kurtosis= 0.354), high levels of negative skewness (-1.105), and positive

kurtosis (1.954) for ATSPPS, and some positive skewness (0.587) and positive kurtosis (1.057) for SSOSH. Kolmogorov Smirnoff normality tests shows that there is lack of normality for all outcome variables (MT, ATSPPS, and SSOSH), p <0.05, however, because of the large size of the sample (N=314), we can assume normality.

As far as reliability analyses are concerned, Cronbach Alpha coefficient was used as indicator of reliability and internal consistency, signifying how closely related the set of scale items is as a group. For the Mental Toughness scale, Cronbach alpha coefficient is 0.786. For the ATSPPS scale, Cronbach alpha coefficient is 0.818. For the SSOSH scale, Cronbach alpha coefficient is 0.796. Therefore, for all three scales, alpha coefficient is found to be satisfactory (see Table 6).

Hypothesis 1

We used independent samples t-test, to find out whether there is statistically significant difference in the means scores of mental toughness between the two groups. Regarding normality, Q-Q plots show normal distribution of mental toughness levels across the groups. Also, the size of the two groups is big enough to secure normality, according to the central limit theorem.

Mental Toughness is an interval variable, the two groups (distance runners and non-distance runners) are independent to each other, and assumption of homogeneity is met, because Levene's Test for Equality of Variances is significant (p=0.667>0.05). The 2-tailed p value is 0.007< 0.05, therefore, difference in the means between the two groups is significant and our hypothesis is confirmed.

An independent t-test analysis was applied to compare mental toughness levels of distance runners (M=3.67, SD=0.57) and non-distance runners (M=3.49, SD=0.55). The analysis showed a significant difference in mental toughness in distance runners, in comparison to mental toughness in non-distance runners t (312) =2.67, $p = 0.07$ <0,05, with distance runners displaying slightly higher levels of mental toughness, in comparison to non-distance runners. The confidence interval (95%) indicates that the mean difference between the two groups for the entire population is likely to be between 0.05 and 0.30 (see Table 7).

In addition to the groups of distance runners and non-distance runners, in our study we have identified a third group, which includes individuals who are not running at all, although they might practice some other sport (N=50). Normality is assumed because of the size of the groups and assumption of homogeneity is met, because Levene's Test for Equality of Variances is significant (p=0.999>0.05). We conducted independent t-test analysis to find out whether there is statistically significant difference in the means scores of mental toughness between the group of distance runners (M=3.67, SD=0.57) and non-runners (M=3.46, SD=0.60). The analysis showed a significant difference in mental toughness in

distance runners, in comparison to non-runners, t (234) = 2,208, p =0.028<0.05. The confidence interval (95%) indicates that the mean difference between the two groups for the entire population is likely to be between 0.22 and 0.38 (see Table 8).

We run independent t-test, with gender as the independent variable, and mental toughness as the dependent variable, to explore whether there are differences in the means scores of mental toughness between males (M=3.63, SD=0.53) and females (M=3.53, SD=0.61). The sample sizes are quite different with 200 males and 113 females, so there is lack of homogeneity in the sample. Independent t-test analysis showed that there is no significant difference in mental toughness amongst males and females, t (204) =1.49, p=0.139 > 0.005. Independent t-test analysis was applied separately to the group of distance runners, with gender as the independent variable. Again, so significant differences were found. More specifically, in the group of distance runners, there was no statistically significant difference in the means scores of mental toughness in males (M=3.68, SD= 0.56) in comparison to females (M=3.64, SD=0.57), t (182) = 0.378, p=0.706 > 0.05 (see Table 9).

An additional test to validate outcome related to this hypothesis, is one-way ANOVA test. The application of one-way ANOVA test shows that running status has a significant effect on mental toughness. *F* value is 3.521>1, p= 0.031 < 0.05, which according to statistical theory, indicates that the experimental manipulation had some effect above and beyond the effect of individual differences in performance. This test does not tell us which exact groups differ from each other; however, the outcome of one-way ANOVA is in line with the outcome of the independent t-test, confirming the hypothesis that distance runners display higher levels of mental toughness, in comparison to non-distance runners (see Table 10).

Hypothesis 2

To explore research objective two, we tested the hypothesis that mental toughness is negatively correlated with Attitude Towards Seeking Professional Psychological Support in the whole sample. Pearson's bivariate, one-tailed correlation was selected, because our hypothesis is directional, suggesting a negative correlation between the variables of interest. The relationship between mental toughness and help-seeking attitudes, both of which are interval variables, was investigated with the use of Pearson correlation coefficient. Our sample is large (N=314), so normality is assumed. Statistical analysis showed that there is no significant relationship between MT (M=3.59, SD=0.56) and ATSPPS (M=31.75, SD=4.57); r (313) = 0.096, p = 0.089 > 0.005. Our hypothesis is rejected. Personality trait "mental toughness" doesn't seem to interfere with someone's decision to seek professional mental health support.

To test our hypothesis specifically in the group of distance runners, we performed 'split file' in our data and run Pearson correlation statistical analysis. The analysis showed a non-significant relationship between Mental Toughness (M=3.67, SD=0.57) and ATSPPS (M= 31.33, SD=4.86), r (184) = 0.77, p >0.05 in the group of distance runners.

Additionally, simple linear regression was computed to test if Mental Toughness significantly predicts Attitude Towards Seeking Professional Psychological Support. The fitted regression equation model is: 28.953 + 0.778 * (score in mental toughness). We found that the overall regression is not statistically significant R^2 = 0.009, F (1, 312) = 2.91, p >0.05. The regression model confirms that Mental Toughness has no predicting power over ATSPSS (b= 0.778, p>0.05).

Hypothesis 3

For research objective three, we investigated the interaction effect of MT and SSOSH on the levels of ATSPPS. Initially, simple linear regression was used to test if SSOSH significantly predicts ATSPPS. The fitted regression equation model is: 41,921– 0.465 *(score in SSOSH). We found that the overall regression is statistically significant, R^2=0.381, F (1, 312) = 192.06, p<0.001.

A two-way ANOVA was performed, to analyze the average effect of mental toughness and help-seeking self-stigma on help-seeking attitude. For the two-way ANOVA model, mental toughness and self-stigma are the independent variables, and attitude towards seeking psychological support is the dependent variable. With two-way ANOVA, we aimed to explore a) the main effects of the two independent variables -mental toughness and self-stigma of help-seeking - on the levels of the dependent variable, help-seeking attitude. That is, we asked whether the main effect means associated with mental toughness and help-seeking self-stigma respectively are further apart from each other, than would be expected by chance alone, b) the interaction effect of mental toughness and help-seeking self-stigma on help-seeking attitudes. An interaction between mental toughness and self-stigma would be present in two-way ANOVA, if the effect of the levels of one factor is not the same across the levels of the other factor (or vice versa). Two-way ANOVA will show whether there is statistically significant difference between the means of three independent groups (Low, Medium, High) that have been split on two variables (mental toughness and help-seeking self-stigma). According to our hypothesis, the interaction effect will be present, if the effect of self-stigma on help-seeking attitude depends on mental toughness.

The two-way ANOVA revealed that there is a non-significant interaction between the effects of mental toughness and self-stigma of seeking help, F (4, 305) = 0.474, p = 0.755,

partial η^2=0.006. The lack of an interaction effect is reflected in the profile plots, through the presence of almost parallel lines. Descriptive statistics in the two-way ANOVA test suggest that 'medium' level scores in MTQ10 scale, with 'medium' level scores in the SSOSH scale (N=68), have a mean of 31.90 and SD of 3.38.

Simple main effects analysis showed that MT did not have a statistically significant effect on help-seeking attitude, F (2, 305) = 0.017, p = 0.983, partial η^2=0.000. This means that if we ignore help-seeking self-stigma, mental toughness does not have effect on help-seeking attitudes. Finally, simple main effects analysis showed that SSOSH had a statistically significant effect on ATSPPS, F (2, 305) = 52.42, p<0.000, partial η^2=0.256. This means, that if we ignore mental toughness, help-seeking self-stigma alone, has an effect on help-seeking attitude.

Additional research findings

During the data analysis, we run statistical tests with results that do not directly connect with our primary hypotheses, but they were deemed useful for the purpose of our discussion.

We run an independent samples t-test to explore possible differences in mental toughness between males (M= 3.63, SD=0.53) and females (M=3.53, SD=0.62) in the whole of our sample. The analysis showed that there are no significant differences in the means between males and females in our sample, t (311) = p> 0.05.

Pearson correlation analysis was conducted, to find out whether there is significant association between mental toughness and help-seeking self-stigma. The outcome of the analysis was that there is a statistically significant negative association between mental toughness (M= 3.59, SD=0.56) and help-seeking self-stigma (M=21.89, SD=6.07), r (313) = -0.203, p<0.000.

Furthermore, Pearson correlation analysis was conducted to explore the association between help-seeking self-stigma and help-seeking attitude. We found that there is a significant negative association between self-stigma of seeking help scale means score (M=21.89, SD=6.07) and attitude towards seeking professional psychological support (M=31.75, SD=4.57), r (313) = - 0.617, p <0.001. The negative correlation is quite strong as indicated from the value of the Pearson coefficient (r = -0.617).

We also tested for differences in the average levels of ATSPPS and SSOSH, in the group of distance runners in comparison to non-distance runners. An independent t-test analysis was applied to compare attitude (ATSPPS) of distance runners (M=31.33, SD=4.86) with attitude of non-distance runners (M=32.35, SD=4.06). The analysis showed that there are no significant differences in ATSPPS between the two groups t (313) = -1.95, p>0.05.

Similarly, an independent t-test analysis was applied to compare SSOSH between distance runners (M=22.30, SD=6.02) and non-distance runners (M=21.30, SD=6.12). The analysis showed that there are no significant differences in SSOSH amongst distance runners in comparison to non-distance runners t (312) =1.45, p>0.05.

Discussion

The aim of this thesis was to explore the interactions amongst the psychological constructs of mental toughness, self-stigmatization regarding mental health support seeking, and likelihood of seeking professional psychological help, in the population of non-professional athletes. Our intention was to explore how these constructs interact within the population of athletes, with a specific focus on distance runners. No quantitative research has specifically focused on non-professional distance runners and associated psychological factors. Furthermore, most studies have focused on the association of the psychological factor of mental toughness with success in sports. The first main differentiating point of this piece of research, is that it concerns non-professional or recreational runners, that is individuals who take up running as a hobby, and therefore do not compete in national or international track and field events. The second differentiating point of this piece of research is that it has been undertaken in adult population in Greece, unlike several other studies on the topic conducted in student/college populations.

We chose to define and select the group of distance runners according to frequency of running and running distance, to differentiate them from other people who run for leisure, but in a less committed and intensive manner. The population of distance runners was chosen as target population because distance running is a lonely, timely physical activity, psychologically requiring more inward driven motivation and goals. Unlike team sports, where athletes depend on each other, and collaborate to achieve a certain goal, in running, the person is on his/her own, and can only depend to their own resources for motivation, support, and encouragement. Therefore, the runner's unique personality traits and copying mechanisms are very important for continuing training, even under difficult circumstances, and constitute his/her only support system.

Mental Toughness is a construct introduced in recent decades and is associated with positive psychology, because it helps people maintain control in challenging situations, build resilience, and cope more effectively with anxiety and stress. Firstly, it is reflected in the way people treat daily life situations or **challenges**; whether they view them as opportunities or threats; the extent to which they allow unpleasant incidents affect their mood and appetite for life and self-improvement. For a distance runner, this is reflected in the way they deal with bad days, pain, exhaustion and adverse weather conditions. Secondly, mental toughness is depicted in the levels of **commitment** towards achieving goals, both general life goals and sport related goals. Individuals displaying high levels in mental toughness tend to be goal oriented, and this applies to their athletic perspectives. Mental Toughness has received significant attention amongst professional athletes, mainly because of its role for maintaining positive psychology, enduring an intensive training program, and achieving high performance

in sport. The third element of mental toughness is **control**, which manifests itself in the way the runner manages their bodily sensations or physical pain, the extent to which they allow other things interfere with their training schedule. Beyond running, this element of mental toughness extends to the way one faces life, manages emotions, and interacts with others. The fourth element of mental toughness is **confidence** and is reflected in the individual's attitude towards sport related and non-sport related activities.

Statistical analysis showed that means score of mental toughness (M=3.67) in distance runners, differs significantly ($p<0.05$) to the means score of mental toughness in non-distance runners (M=3.49), as well as to the means score of mental toughness in non-runners (M=3.46). The difference in the means scores is evident not only between the distance runners' group and the non-distance runners' group, but also and even more profoundly between the distance runners' group and non-runners. If we bear in mind that only 38% (19 out of 50) of non-runners in our sample do not do any other physical exercise, and 62% do other sports, we may infer that other kinds of physical exercise do not have the same effect as running. We also tested whether there is statistically significant difference in the means score of mental toughness between males and females, and we found that there isn't, so the finding by Zeiger and Zeiger (2018) is not confirmed in the present study. The odds of displaying high mental toughness do not depend on gender.

This research finding adds value to scientific research, because not only does it reinforce previous findings, but also because, it confirms the finding's validity regardless of nationality, and because it extends its validity into the population of recreational runners. Our findings confirm earlier findings, suggesting that certain positive psychological characteristics attributed to long distance runners (Brace, 2020; Zeiger and Zeiger, 2018), are not attributed to other athletes. Equipped with mental strength, these people are better than others in committing and delivering goals, maintaining self-confidence, copying more effectively with challenging situations, and retaining emotional stability.

Even though studying the reasons behind the difference in mental toughness amongst individuals is not amongst the objectives of this study, the confirmation of this hypothesis requires further exploration. The question arising following this finding is whether mentally strong individuals have a genetic predisposition or whether they have the chance to develop and harness it through intensive training. So far, we know that the mental toughness trait may genetically exist, but it can be further developed and practiced during lifetime.

It would be rather simplistic to suggest that the harder one is training, the more mentally tough they become, however our findings confirm the idea that running is not just a

kind of physical exercise, but a form of mental exercise as well. Our findings suggest that people who train harder display higher mental toughness than those who train less, and even higher mental toughness than those who don't train at all. In other words, through running training, one can increase their mental toughness. As Sprundel (2022) puts it *"There is more to running than just training your muscles and improving your stamina. It is also a mental sport, and maybe even more so than previously believed"*. Similarly, Amby Burfoot, winner of the 1968 Boston Marathon has stated "*Motivation is a skill. It can be learned and practiced"*.

Almost 60% of participants from the sample distance runners' group have participated in a half-marathon race, if not a marathon race, which demonstrates that they are committing significant amount of time on training, preparing for running races, even though they are not professional athletes. Preparation and participation in a half-marathon or marathon race imply that those concerned, are holding the necessary levels of energy and inner strength to tolerate the challenges of intensive training and physical exhaustion.

Going forward, what implications does mental toughness have for individuals who hold this trait more than the rest of us? It surely gives them certain advantages in life. They most likely have confidence in their own strengths and capabilities, a characteristic that helps boosting their performance academically, professionally, socially, and makes them more attractive to others. As a result, these people have more confidence in their capabilities, recognize their strengths, and feel proud of their achievements and successes. In terms of behavioral tendencies, and since the psychological construct of mental toughness is associated with setting high goals, such as running a marathon or ultra-marathon, or improving average race finishing time, individuals belonging to this group are often obsessed with tracking activities, measuring heart rate, and running speed through running applications. They can become quite competitive towards each other, and may push themselves beyond their limits, often at the expense of family members and friends. Most importantly, and according to the literature review, mental toughness has a protective role over anxiety and depression, which makes it a rather positive trait with significant psychological attributes (Gucciardi et al, 2012; Mahoney et al, 2014).

In our first objective, we learnt that mental toughness is generally a positive trait attributed more to distance runners, in comparison to rest of population. Although it protects them from mood disorders, however, it is not a panacea against all mental health disorders.

Unlike the first research objective, objectives 2 and 3 in the present study concern all 314 participants, 94% of whom are engaging with sport, at a non-professional level.

In our second research objective, we wish to investigate whether, in the whole population, mental toughness is an inhibiting factor for turning to a mental health professional for help. If mental toughness is an inhibiting factor, then when mental toughness increases, ATSPPS decreases. But before we move on to the discussion of the result, we believe it is important to explain the reasons why we came up with this hypothesis in the first place. Firstly, the association between certain personality traits and ATSPPS, such as self-esteem and anxiety trait, has been identified in past research (Barwick et al, 2009). Secondly, mental toughness encompasses the ability to control and cope with challenge, with higher mental toughness reflecting a profound drive towards controlling one's emotions, and overcoming challenges, which could possibly lead to overcoming life difficulties on their own or being more reluctant to share personal information with others. Thirdly, it has been suggested in previous research, that athletes are less likely to see professional psychological support, in comparison to non-athletes (Watson, 2005).

To confirm this hypothesis statistically, we should be able to observe in the results that when one variable deviates from the mean, the other variable deviates from its mean in an opposite way. Calculating the covariance was the way to assess whether MT and ATSPPS are related to each other. Bivariate Pearson correlation revealed a non-significant relationship between MT and ATSPPS in our sample, with Pearson coefficient $r = 0.096$, and significance value $p > 0.005$. The regression model obviously showed that there is no predictor-outcome relationship between the two variables.

Furthermore, 35% of our sample (110 people) has contacted a mental health professional (counselor, psychotherapist, or psychiatrist), and almost all of them (97 people, 31%) had at least one psychotherapy/counseling session with a mental health professional. The fact that more than 1 in 3 people have make the next step to book an appointment with a mental health professional, demonstrates that they are most likely positively inclined, or at least not negatively inclined towards requesting professional psychological support.

Based on the above findings, we argue that personality trait "mental toughness", unlike other personality traits indicated in past scientific research, is not associated – positively or negatively - with an individual's decision to request help from a mental health professional.

Upon revisiting definitions and earlier findings on correlation between mental toughness and personality factors, particularly, the attribution of self-actualization and achievement of life goals elements (Gucciardi et al, 2016) to mental toughness, and its positive correlation to openness to experience (Rice et al, 2016), we argue that individuals

who are equipped with mental toughness are striving for better quality of life. In this process, they are emotionally mature to not hesitate to turn to a counselor, psychotherapist, or psychiatrist, if there is need to do so. Our second research hypothesis supporting a negative or "dark" side of mental toughness is not approved and its positive attribute to the athlete's life is retained and reinforced.

On the other hand, the Bivariate Pearson correlation between SSOSH and ATSPPS shows a significant strong negative association between the two variables, with r (313) = -0.617, p <0.001. This result signifies that the more an individual perceives mental health issues and asking for help as stigmatization, the less likely they are to request professional psychological support. The fact that r has a value greater than 0.5, indicates that there is a large effect of self-stigmatization on attitude. This finding builds on findings from earlier research, on the significance of social stigma – rather than self-stigma - as a help seeking predictor.

This statistical finding is a bridge between the second and third objective of this thesis. The goal of the third research objective was to investigate the interaction effect of mental toughness and self-stigma of seeking psychological help on the attitude towards seeking professional psychological support. The third hypothesis was designed following from the second hypothesis, and the association between mental toughness and help-seeking attitude, by bringing along the construct of self-stigma, which has been described as an inhibiting factor for help-seeking attitude and willingness. The two-way ANOVA analysis showed that there is no presence of interaction effect of mental toughness and help-seeking self-stigma on help-seeking attitude.

As far as the effect of each factor is concerned, as expected, following from the outcome of the second hypothesis, there is no effect of mental toughness on help-seeking attitude. However, on two-way ANOVA output, we observe an effect of help-seeking social stigma on help-seeking attitude. This finding alongside the predictive power of help-seeking self-stigma over help-seeking attitude (R^2=0.381, p<0.001) confirms previous research findings. The extent to which an individual has internalized stigma in relation to requesting assistance for mental health matters predicts the extent of their positive or negative predisposition towards help-seeking (Clement et al, 2015, Vogel et al, 2007). The correlation, as demonstrated in Pearson correlation (r= - 0.617, p <0.001) is strong, reinforcing the presence of this association in the population of recreational athletes.

It seems that the population of recreational athletes are not an exemption to the trend observed in the population of professional athletes as well as adult and student populations. According to the review of the available data published in a special edition of the British

Journal of Sports Medicine devoted to the subject (MBJ, 2019), stigma is the primary barrier preventing professional athletes with mental health concerns from receiving the care they require. Further barriers identified in the studies on professional athletes included gender stereotyping, younger age, nationality, and certain personality factors such as conscientiousness and lack of openness to experience. It would be worth investigating the predictive power of each of these barriers in help-seeking attitudes amongst the population of recreational athletes.

Implications and Future Directions

In this section, will present our views on the implications of this thesis for further academic research and clinical practice.

The first suggestion for future research would be to consider using the extended version (MTQ-48) or the sports-specific version (SMTQ-10) of the Mental Toughness instrument to test the same hypothesis in populations with similar characteristics.

In the present study, mental toughness was depicted as a positive characteristic, most profoundly found in the population of recreational distance runners, in comparison to other population groups, including those who run but at lower frequency and intensity, as well as those who don't run, but do other type sport instead. This is the first research study in the population of recreational distance runners, contributing to the existing body of research on the prevalence of the personality trait "mental toughness" in recreational (non-professional) athletes. Future investigations could explore further the reasons behind the presence of higher levels of mental toughness in the group of distance runners.

Follow up quantitative as well as qualitative research on those who although made the initial contact with the mental health professional, eventually did not book a counseling appointment to find out the specific barriers that hindered them from proceeding to the next step would be of research and practical value. Semi structured interviews with participants who although made the initial contact with the mental health professional, eventually did not continue with counseling/psychotherapy, could shed some light on the specific features of the self-stigmatization experience that prevented these individuals from continuing. Finally, future research models could focus on the willingness to ask for professional psychological support in the population of recreational athletes and provide insight into the interplay between help-seeking self-stigma, attitude, and the willingness to ask for professional help.

Results contribute to the already established list of benefits of running for those people who take it up systematically and add to the existing literature on the positive psychological effects of physical exercise. A natural next step for clinical practitioners and the wider community is designing specific methods to harness the presence of mental toughness amongst people who do not wish or do not have the time and resources to commit to rigid running training schedules.

Preliminary research findings suggest that mindfulness or psychotherapeutic techniques encompassing mindfulness amongst athletes contribute to the development of

mental toughness and psychological wellbeing (Ajilchi et al, 2022). Mindfulness can eliminate the effects of pain and can harness positive self-talk, and self-acceptance techniques. Given the mental strain of competition in sport, regardless of whether it is recreational or professional, mindfulness aids in the development of adaptive reactions to demands, circumstances, and events that may be favorable or unfavorable. Mindfulness training can lessen unhelpful responses to stress, enhance psychological health, and provide a better understanding of nonjudgmental emotions, harnessing in this manner individuals' self-assurance in their capacity to handle obstacles and maintain emotional control. Additionally, it can improve cognitive flexibility and adversity tolerance, which reduces avoidant behavior motivated by emotions.

The findings from the present study can contribute to the tank of research in the fields of positive psychology, and sport psychology. Counselors and therapists who service clients with active running status, can resort to our findings as a complimentary resource for designing interventions and action plans, with the goal to improve their quality of life and wellbeing for their clients.

With regards to avoidance factors for seeking professional psychological support, our discussion hopefully provides more insight for counselors to better understand more the challenges, intentions and motivations of individuals who are seeking help. An improved understanding of the significance of avoidance factors like help seeking self-stigma is of paramount importance for designing psychoeducational programs and targeted interventions to eliminate the barriers to requesting counseling or psychotherapy services. Therefore, the need to raise awareness amongst the wider community and increase access to care for recreational athletes, alongside professional athletes is evident. Anti-stigmatization programs, services and practitioners could focus on counteracting maladaptive stereotypes, such as weakness and 'weirdness' to eliminate feelings of shame and embarrassment and reinforce wider participation in mental health improvement programs. Also, coaches, sport/health psychologists, and sport management staff in running clubs, could work towards minimizing help-seeking self- stigmatization, through psychoeducation and brief counseling interventions. The availability of reliable and valid measurement instruments enables assessment and monitoring of progress towards this direction.

Understanding how recreational athletes perceive seeking psychological support, can provide useful knowledge for mental health professionals in sport-related psychology and non-sport related psychology fields, who encounter recreational athletes as clients in their

private or family practice. Our findings in relation to help-seeking stigma and attitudes, may offer explanations for resistance in therapy.

Knowledge of barriers to positive attitudes towards seeking professional psychological support, can lead to the development of targeted and efficient solutions designed to overcome these barriers and increase willingness to ask for psychological help. This is a hopeful but still ambitious endeavor, which requires combination of individual and collective efforts. Individual mental health professionals (counselors, psychotherapists, and psychiatrists) may assist in this direction, by finding effective ways to encourage and convince people overcome the internalized negative effects of stigma. In parallel with systematic efforts to reduce self-stigma amongst professional athletes, sport coaches and psychologists are essential agents for supporting more open-minded attitudes, including fostering an environment of mental health treatment-seeking.

Local and central governmental organizations may contribute fundamentally, by introducing psychoeducational programs in schools and universities, to increase awareness of the benefits of mental health support services from an early age. Specifically for the target group of recreational runners and athletes in general, informative seminars and psychoeducational programs can be introduced within athletic clubs, to increase access to information about the early warnings of common psychiatric disorders, and the prevalence of such disorders can be very effective. Sharing from individuals who despite initial hesitations, eventually made the step to request help and make a positive change for themselves can be an effective way to transfer knowledge too.

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Limitations

There are limitations to the present research that should be noted. First, the sample consisted, mostly (84%) of runners who may be active in other sports (80%), therefore observations regarding comparisons in self-stigmatization between populations of recreational athletes of different sports, were not possible. Second, participants were required to select the most preferred sport from a pre-populated list of sports, which means that the profiling of athletes was not possible. Third, the Greek version of the scales "Attitude Towards Seeking Professional Psychological Help- SF" and "Self-Stigma of Seeking Help Scale" have been tested for reliability and internal consistency in student populations (Efstathiou et al, 2018), with limited testing in adult populations.

Conclusions

The present thesis showed that distance runners display higher levels in mental toughness personality trait, in comparison to less dedicated runners and non-runners, and that there is no association between mental toughness personality trait and attitude towards seeking professional psychological support. Additionally, there was no interaction effect of mental toughness and help-seeking self-stigma on help-seeking attitude. Finally, and in line with previous research, stigma associated with requesting help, was found to have a significant impact on the help-seeking attitude of recreational athletes.

This study adds to the body of research in positive psychology and sport psychology by emphasizing the psychological benefits of running as a leisure activity. The positive personality attribute of mental toughness is shown as being most prominently present in recreational long-distance runners. Our findings can be used as a supplementary tool by mental health professionals when creating interventions and action plans aimed at enhancing their patients' quality of life and wellbeing. Recreational athletes may be discouraged from obtaining professional psychological support out of self-stigma and fear of coming out as weak. This information can help mental health providers better understand the reasons why some of their clients who are recreational athletes may not respond well to therapy.

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Figure 1 *Normal Q-Q Plot Mental Toughness*

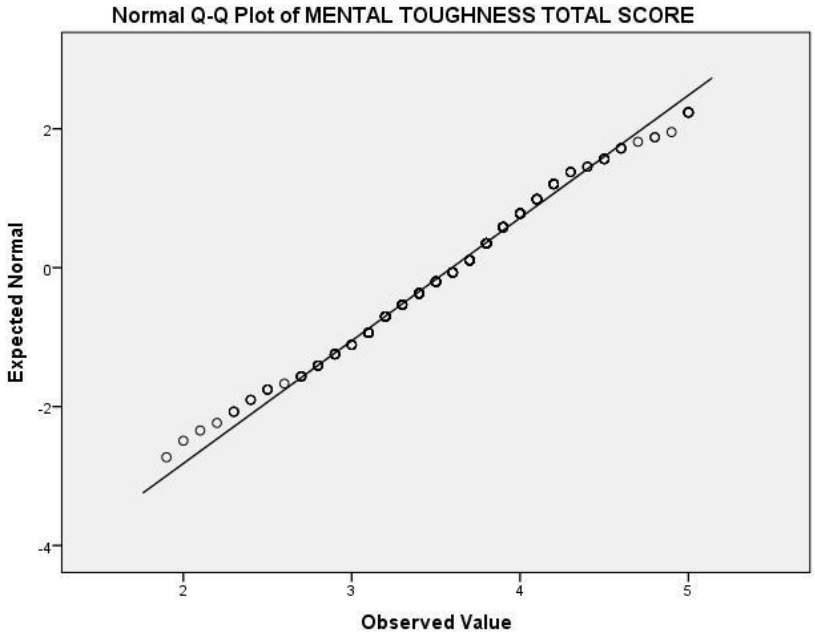

Figure 2 *Normal Q-Q Plot Self-Stigma*

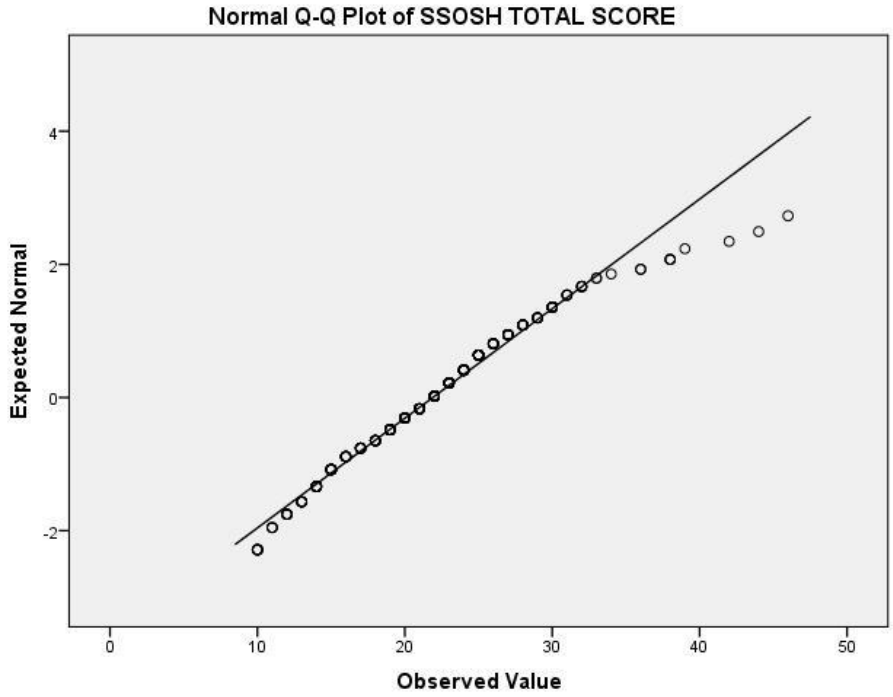

Figure 3 *Help-Seeking Attitude*

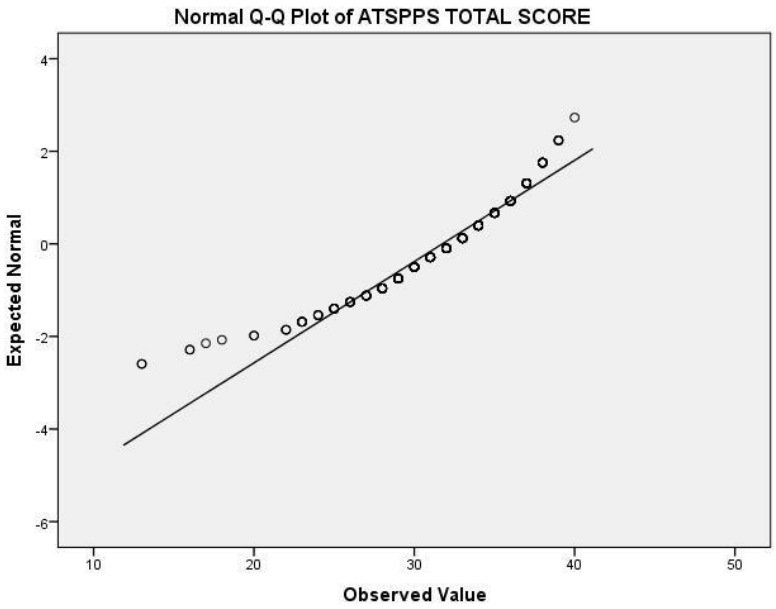

Figure 4 *Interaction effect of Mental Toughness and SSOSH on ATSPPS*

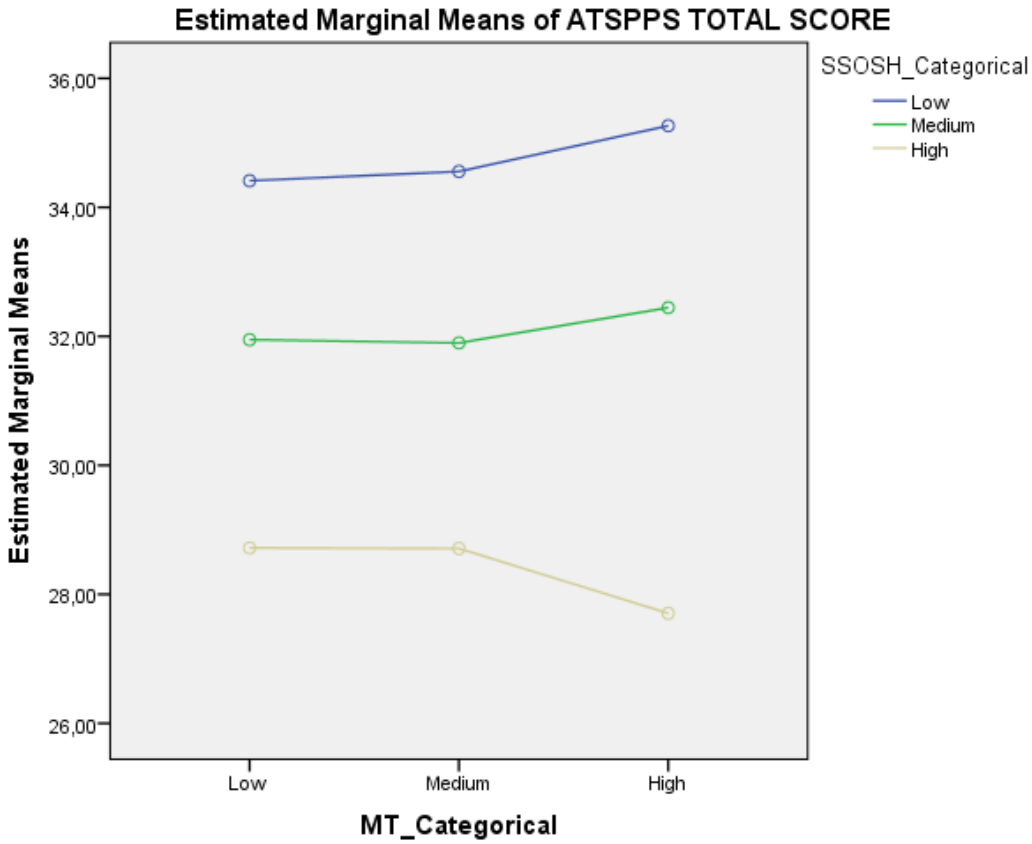

Table 1 *Socio-demographic Profile of Sample*

	N (%) (*n*=314)	Mean	SD
Gender			
Male	63.9% (200)		
Female	36.1% (114)		
Age		43.47	9.89
Age group			
18-25	2.2 (8)		
26-39	29.4 (92)		
40-50	46.0 (144)		
51-60	19.8 (62)		
61-80	2.6 (8)		
Family Status			
Single	21% (66)		
In relationship	10% (32)		
Married	60% (190)		
Divorced	8,3% (26)		
Educational Level			
High school certificate	18.5% (58)		
University/College Degree	41.1% (129)		
Master's	34.7% (109)		
PhD	3.5% (11)		
Other	2.2% (7)		
Employment Status			
Private sector	36.9% (116)		
Public sector	30.9% (97)		
University student	2.5% (8)		
Freelancer / Own business	21.7% (68)		
Unemployed	3.5% (11)		
Retired	4.5% (14)		
Exposure to prof. mental health services			
Yes	(35%) 110		
No	(65%) 204		

Table 2 *Frequencies: Running Status of Participants*

	N (%) (*n*=314)
Running status	
distance runners	59.2% (186)
non-distance runners	24.8% (78)
non-runners	15.9% (50)
Running	
Yes	84.1% (264)
No	15.9% (50)

Table 3 *Frequencies: Runners' Profile*

	N (%) (*n*=264)
Running frequency	
At least 3 times per week	74% (196)
1-2 times per week	18% (48)
Sometimes	7.5% (20)
Running distance	
At least 5km each time	86% (226)
Less than 5km each time	14% (38)
Participation in races	
Yes	81% (215)
No	19% (49)

Table 4 *Frequencies: Other Sports*

	N (%) (*n*=314)
Type of sport	
Basketball	1% (3)
Bike Riding	10.5% (33)
Football	6.1% (19)
Gym	26.5% (83)
No PE	20.8% (65)
Other sport	13.4% (43)
Swimming	8.6% (27)
Tennis	3.5% (11)
Yoga/Pilates	8.9% (28)
Volleyball	0.6% (2)

Table 5 *Descriptive statistics of outcome variables*

Variables	Min	Max	Mean	SD	Skewness		Kurtosis	
					Statistic	St Err	Statistic	St Err
Mental Toughness	1.90	5.00	3.59	0.56	-0.78	0.138	0.354	0.274
Self-Stigma of Seeking Help	10	46	21.89	6.07	0.587	0.138	1.057	0.274
Attitude of Seeking Help	13	40	31.75	4.57	-1.105	0.138	1.954	0.274

Table 6 *Cronbach Alpha Coefficient of Main Variables*

Variables	Cronbach Alpha Coefficient
Mental Toughness Questionnaire (MTQ10)	0.786
Self-Stigma of Seeking Help (SSOSH)	0.796
Attitude Towards Seeking Professional Psychological Help (ATSPPH)	0.818

Table 7 *Independent Samples t-test exploring differences in mental toughness between distance runners and non-distance runners: Statistically Significant results*

Variables	Distance Runners		Non-Distance Runners		t-test analysis	
	Mean	*SD*	*Mean*	*SD*	*t*	*p*
Mental Toughness	3.67	0.57	3.49	0.55	2.67	0.007

Table 8 *Independent Samples t-test, exploring differences in mental toughness between distance runners and non- runners: Statistically Significant results*

	Distance Runners		Non- Runners		t-test analysis	
Variables	*Mean*	*SD*	*Mean*	*SD*	*t*	*p*
Mental Toughness	3.67	0.57	3.46	0.60	2.208	0.028

Table 9 *Independent Samples t-test exploring differences in mental toughness between males and females: Statistically Non-Significant results*

	Male		Females		t-test analysis	
Variables	*Mean*	*SD*	*Mean*	*SD*	*t*	*p*
Mental Toughness	3.63	0.53	3.53	0.61	1.49	0.139

Table 10 *One-way ANOVA exploring the effect of running status (distance runners, non-distance runners, runners) on mental toughness: Statistically Significant results*

Variables	*Df*	*F*	*p*
Mental Toughness	2	3.521	0.031

Table 11 *Pearson Correlation between Mental Toughness and Attitude Towards Seeking Professional Psychological Support: Statistically Non-Significant results*

	Mean	*SD*	*Pearson correlation*	*Sig. (2-tailed)*
Mental Toughness	3.59	0.56		
ATSPPS	31.75	4.57	0.096	0.089

Table 12 *Pearson Correlation between Mental Toughness and Help-Seeking Self-Stigma: Statistically Significant results*

	Mean	*SD*	*Pearson correlation*	*Sig. (2-tailed)*
Mental Toughness	3.59	0.56		
SSOSH	21.89	6.07	0.203	0.000

Table 13 *Pearson Correlation between Attitude Towards Professional Psychological Support and Help-Seeking Self-Stigma: Statistically Significant results*

Variables	*Mean*	*SD*	*Pearson correlation*	*Sig. (2-tailed)*
ATSPPS	31.75	4.57		0.000
SSOSH	21.89	6.07	-0.617	

Table 14 *Simple Linear Regression exploring the predictive power of mental toughness over ATSPPS: Statistically Non-Significant results*

Variables	*p*	*β*	*F*	*df*	R^2
Mental Toughness ATSPPS	0.089	0.778	2.91	1	0.009

Table 15. *Two-way ANOVA exploring the effect of Mental Toughness and Help-Seeking Self-Stigma as well as their interaction effect on Attitude Towards Seeking Professional Psychological Support*

Variables		*Df*	*F*	η^2	*p*
Mental Toughness Categorical		2	0.017	0.000	0.983
SSOSH Categorical		2	52.42	0.256	0.000
Mental Toughness * SSOSH		4	0.474	0.755	0.006
Error	305				

Appendices

Appendix A

Informed Consent Form for participation in research

Welcome to the research on the effect of mental fortitude and stigmatization, on the formation of the person's attitude towards the possibility of seeking professional psychological help. This research is carried out in the context of the thesis, towards the Master's in Counseling Psychology and Psychotherapy, at the American College of Greece. The purpose of the study is to explore whether mental toughness is associated to attitudes and beliefs regarding seeking professional psychological help, in a sample of people engaging with running.

Please try to complete the questionnaire as soon as you begin, because it is not possible to go back to where you left off. Answer as honestly and spontaneously as possible. At the beginning, you will be asked to answer demographic-type questions. You will then be asked to answer questions corresponding to certified, for reliability and validity, scales of measurement of specific aspects of personality.

Data collection
Your participation is strictly voluntary and completely anonymous, and all information collected will be used exclusively for this research. The information you provide will remain confidential and will be used only for the purposes of this study, in a coded and quantitative way.

Questions & Contact
If you have any questions, please contact the responsible researcher, Ioannou Dionysia, via e-mail: dionysia.ioannou@acg.edu.By selecting "YES", you declare that you are over 18 years of age, that you have read and understood the information provided above, and that you willingly agree to participate.

ΦΟΡΜΑ ΣΥΓΚΑΤΑΘΕΣΗΣ ΓΙΑ ΣΥΜΜΕΤΟΧΗ ΣΤΗΝ ΕΡΕΥΝΑ

Καλώς ήρθατε στην έρευνα πάνω στην επίδραση που έχουν το ψυχικό σθένος και ο στιγματισμός, στη διαμόρφωση της στάσης του ατόμου απέναντι στο ενδεχόμενο να αναζητήσει επαγγελματική ψυχολογική βοήθεια. Η έρευνα αυτή πραγματοποιείται στα πλαίσια της διπλωματικής εργασίας, του Μεταπτυχιακού στη Συμβουλευτική Ψυχολογία και Ψυχοθεραπεία, στο Αμερικάνικο Κολλέγιο Ελλάδος.

Σκοπός της έρευνας
Η μελέτη του κατά πόσο το ψυχικό σθένος, συνδέεται με τη στάση και τις πεποιθήσεις αναφορικά με την αναζήτηση επαγγελματικής ψυχολογικής βοήθειας, στην πληθυσμιακή ομάδα ανθρώπων που ασχολούνται με το τρέξιμο συγκριτικά με όσους δεν ασχολούνται.

Διαδικασία
Θα χρειαστείτε 5-10 λεπτά για να απαντήσετε σε όλες τις ερωτήσεις. Προσπαθήστε να ολοκληρώσετε το ερωτηματολόγιο αφού το ξεκινήσετε, διότι δεν είναι εφικτό να επιστρέψετε εκεί όπου είχατε μείνει. Απαντήστε όσο το δυνατόν πιο ειλικρινά και αυθόρμητα. Στην αρχή, θα σας ζητηθεί να απαντήσετε σε ερωτήσεις δημογραφικού τύπου. Στη συνέχεια, θα σας ζητηθεί να απαντήσετε σε ερωτήσεις που αντιστοιχούν σε πιστοποιημένες, για την αξιοπιστία και εγκυρότητα, κλίμακες μέτρησης συγκεκριμένων πτυχών της προσωπικότητας.

Συλλογή δεδομένων
Η συμμετοχή σας είναι αυστηρά εθελοντική και εντελώς ανώνυμη, και όλες οι πληροφορίες που συλλέγονται θα χρησιμοποιηθούν αποκλειστικά για αυτήν την έρευνα. Οι πληροφορίες που θα δώσετε θα παραμείνουν εμπιστευτικές και θα χρησιμοποιηθούν μόνο για τους σκοπούς αυτής της μελέτης, με κωδικοποιημένο και ποσοτικό τρόπο.

Ερωτήσεις & Επικοινωνία
Εάν έχετε οποιεσδήποτε απορίες, επικοινωνήστε με την υπεύθυνη ερευνήτρια, Ιωάννου Διονυσία, μέσω e-mail: dionysia.ioannou@acg.edu.

Επιλέγοντας "ΝΑΙ", δηλώνετε ότι είστε άνω των 18 ετών, ότι έχετε διαβάσει και κατανοήσει τις πληροφορίες που παρέχονται παραπάνω, και ότι συμφωνείτε πρόθυμα να συμμετάσχετε.

Appendix B

Debriefing Statement

I would like to thank you for your time and your participation in the study entitled "The interactions between mental toughness, help-seeking self-stigma, and attitude towards seeking professional psychological help, in the population of recreational athletes".

The purpose of this study is to investigate how mental toughness is linked to the attitude regarding the search for psychological support in people who are systematically engaged in running, compared to those who are not engaged, and consider the role of self-stigmatization in this connection. This is the first research that studies the specific parameters in population groups living in Greece. The main hypotheses of the research are the following:

Hypothesis 1: Distance runners show higher levels of mental toughness, compared to non-runners.
Hypothesis 2: Mental toughness is negatively correlated with the attitude towards seeking professional psychological support. If this hypothesis is confirmed and the first hypothesis is confirmed, we conclude that runners are less likely, compared to non-runners, to seek professional psychological support.
Hypothesis 3: Self-stigmatization regarding mental health seeking can mitigate the relationship between mental fortitude and attitude towards the search for professional psychological support, if needed.
However, whether this happens will depend on the extent of the self-stigma that governs the individual. If our hypothesis is confirmed, namely that self-stigma of seeking psychological help has some effect on the relationship between mental toughness and attitudes regarding seeking professional psychological help, this study may be another step in the pathway towards highlighting the need to develop interventions,to improve awareness about the benefits of taking care of our mental health, for well-being and quality of life. De-stigmatization programs in population groups engaged in running, can be enhanced to eliminate the negative emotions of people who believe that facing the challenges - training and racing - in running (and in other sports), is sufficient to face the inevitable difficulties of life. The results of the study are expected to be available in December 2022. If you wish to receive a report on them, please contact the researcher. Thank you again for your valuable contribution to the conduct of this research.

Take care
Dionysia Ioannou

ΔΗΛΩΣΗ ΕΝΗΜΕΡΩΣΗΣ

Θα ήθελα να σας ευχαριστήσω για τον χρόνο σας και τη συμμετοχή σας στη μελέτη με τίτλο "Ο μεσολαβητικός παράγοντας του αυτο - στιγματισμού, στη σχέση ανάμεσα στο ψυχικό σθένος και στη στάση αναφορικά με την αναζήτηση επαγγελματικής ψυχολογικής βοήθειας, στους δρομείς αποστάσεων".

Ο σκοπός της μελέτης αυτής είναι να διερευνήσει πώς το ψυχικό σθένος συνδέεται με τη στάση αναφορικά με την αναζήτηση ψυχολογικής υποστήριξης σε ανθρώπους που ασχολούνται συστηματικά με το τρέξιμο, σε σύγκριση με όσους δεν ασχολούνται, και να εξετάσει τον ρόλο του αυτο - στιγματισμού στη σύνδεση αυτή. Πρόκειται για την πρώτη έρευνα που μελετά τις συγκεκριμένες παραμέτρους σε πληθυσμιακές ομάδες που ζουν στην Ελλάδα.

Οι κύριες υποθέσεις της έρευνας είναι οι εξής:

Υπόθεση 1: Οι δρομείς απόστασης εμφανίζουν υψηλότερα επίπεδα ψυχικού σθένους, σε σύγκριση με τους μη δρομείς.

Υπόθεση 2: Το ψυχικό σθένος συσχετίζεται αρνητικά με τη στάση απέναντι στην αναζήτηση επαγγελματικής ψυχολογικής υποστήριξης.

Εάν επιβεβαιωθεί αυτή η υπόθεση και επιβεβαιωθεί και η πρώτη υπόθεση, συμπεραίνουμε ότι οι δρομείς είναι λιγότερο πιθανό, σε σύγκριση με τους μη δρομείς, να αναζητήσουν επαγγελματική ψυχολογική υποστήριξη.

Υπόθεση 3: Ο αυτο-στιγματισμός αναφορικά με ζητήματα ψυχικής υγείας, μπορεί να μετριάσει τη σχέση μεταξύ του ψυχικού σθένους και της στάσης απέναντι στην αναζήτηση επαγγελματικής ψυχολογικής υποστήριξης.

Παρότι η ψυχική αντοχή μπορεί θεωρητικά να ενισχύσει την επίδοση των δρομέων, ενδεχομένως να λειτουργήσει ανασταλτικά στην αναζήτηση ψυχολογικής υποστήριξης από ειδικό, εάν και εφόσον χρειαστεί. Ωστόσο, το κατά πόσο αυτό συμβαίνει στην πραγματικότητα, θα εξαρτηθεί από την έκταση του αυτο-στιγματισμού που διέπει το άτομο. Εάν επιβεβαιωθεί η υπόθεσή μας, ότι δηλαδή οτι ο εκ των έσω προερχόμενος στιγματισμός σχετικά με την προσφυγή σε επαγγελματική ψυχολογική βοήθεια, έχει κάποια επίδραση στη σχέση ανάμεσα στο ψυχικό σθένος και στη στάση αναφορικά με την αναζήτηση βοήθειας, αυτή η μελέτη μπορεί να είναι ένα ακόμη βήμα στο μονοπάτι προς την επισήμανση της ανάγκης ανάπτυξης παρεμβάσεων, για τη βελτίωση της ευαισθητοποίησης σχετικά με τα οφέλη της φροντίδας της ψυχικής μας υγείας, για την ευημερία και την ποιότητα ζωής. Προγράμματα απο - στιγματισμού σε πληθυσμιακές ομάδες που ασχολούνται με το τρέξιμο, μπορούν να ενισχυθούν για να εξαλειφθούν τα αρνητικά συναισθήματα των ανθρώπων που πιστεύουν ότι η αντιμετώπιση των προκλήσεων - προπονητικά και αγωνιστικά - στο τρέξιμο (και σε άλλα αθλήματα), είναι επαρκής για την αντιμετώπιση των αναπόφευκτων δυσκολιών της ζωής. Τα αποτελέσματα της μελέτης αναμένεται να είναι διαθέσιμα τον Δεκέμβριο του 2022. Εάν επιθυμείτε να λάβετε μια αναφορά σχετικά με αυτά, επικοινωνήστε με την υπεύθυνη ερευνήτρια.

Σας ευχαριστώ και πάλι για την πολύτιμη συμβολή σας στη διεξαγωγή αυτής της έρευνας.

Να είστε όλοι καλά.

Διονυσία Ιωάννου

Appendix C
Introductory Questions

1.Do you currently live in Greece?

☐Yes ☐ No

2.What is your nationality?

☐Greek ☐ Other

3.Please state your gender by ticking the appropriate box:

☐Male ☐ Female

4. Please indicate your current age (years) ……

5. Please state your highest educational level:

☐ High-school diploma

☐ First Degree

☐ Master's

☐ PhD

6. Please state your family status (please choose one answer):

☐ Single

☐ Not married / In a relationship

☐ Married

☐ Divorced

7.Which of the following best describes your current employment status? (please choose one answer)

☐ I work in the public sector

☐ I work in the private sector

☐ I am a freelancer / I own my own business

☐ I am unemployed

☐ I am a University/College student

☐ I am retired

8. Do you currently engage in running, as means of sport?

☐Yes ☐No

9. If you answered "Yes" in question 8, indicating that you run as means of sport, please specify how often you run.

☐ Rarely

☐ Sometimes, but not necessarily every week

☐ 1-2 times per week

☐ 3 times per week or more

10. How far do you usually run each time?

☐ less than 5km

☐ 5km or more

11. Do you participate in races?

☐ Yes, I do ☐ No, I don't

12. Please state what is the longest distance you have run in a race

.....

13. Do you engage with other sports? If yes, please specify the sport that applies to you the most.

☐football ☐basketball ☐volleyball ☐gym ☐yoga/pilates ☐tennis ☐other ☐none

14.Are you currently diagnosed with a physical or mental health condition?

Physical

☐Yes ☐ No

Mental

☐Yes ☐ No

15.Have you ever contacted a mental health professional concerning receiving psychological support?

☐Yes ☐ No

16. If yes, did you start a counseling/psychotherapy cycle?
☐Yes ☐ No
17. If yes, how long did the counseling/psychotherapy cycle last?
More than 1 year
Up to 12 months
Approximately 6 months
Approximately 3 months
Up to 1 month
18. Are you currently diagnosed with a physical or psychiatric illness? (you have the option to not answer this question, if you do not wish).

ΕΙΣΑΓΩΓΙΚΕΣ ΕΡΩΤΗΣΕΙΣ/ΔΗΜΟΓΡΑΦΙΚΑ

1. Διαμένετε στην Ελλάδα;
   Ναι Όχι
2. Ποια είναι η εθνικότητά σας;
   Ελληνική Άλλη
3. Ποιο είναι το φύλο σας
   Άνδρας Γυναίκα
4. Πόσο ετών είστε;
5. Ποιο είναι το ανώτερο μορφωτικό σας επίπεδο;
   Απολυτήριο Λυκείου
   Πτυχίο Πανεπιστημίου/Κολλεγίου
   Μεταπτυχιακό
   Διδακτορικό
   Απολυτήριο Δημοτικού/Γυμνασίου
   Άλλο
6. Ποια είναι η οικογενειακή σας κατάσταση;
   Ανύπαντρος/η
   Σε σχέση
   Παντρεμένος/η
   Διαζευγμένος/η
7. Ποιο από τα παρακάτω περιγράφει ακριβέστερα την παρούσα εργασιακή σας κατάσταση;
   Εργάζομαι στο δημόσιο τομέα
   Εργάζομαι στον ιδιωτικό τομέα
   Είμαι ελεύθερος επαγγελματίας/ Έχω δική μου επιχείρηση
   Είμαι άνεργος/η
   Είμαι φοιτητής/φοιτήτρια
   Είμαι συνταξιούχος
8. Ασχολείστε με το τρέξιμο ως σωματική άσκηση στον ελεύθερο χρόνο σας;
   Ναι
   Όχι
9. Πόσο συχνά πηγαίνετε για τρέξιμο;
   Μερικές φορές, αλλά όχι απαραίτητα κάθε εβδομάδα
   1-2 φορές την εβδομάδα
   Τουλάχιστον 3 φορές την εβδομάδα
   Σπάνια
10. Τι απόσταση τρέχετε συνήθως στις προπονήσεις σας;
    Λιγότερο από 5 χμ
    Περισσότερο από 5χμ
11. Συμμετέχετε σε αγώνες τρεξίματος;
    Ναι
    Όχι
12. Ποια είναι η μεγαλύτερη απόσταση (σε χιλιόμετρα) που έχετε τρέξει αγωνιστικά;
13. Ασχολείστε με κάποιο άλλο είδος σωματικής άσκησης στον ελεύθερο χρόνο σας; Αν ασχολείστε με περισσότερα από ένα είδη σωματικής άσκησης, παρακαλώ επιλέξτε αυτό το οποίο προτιμάτε περισσότερο.
    Μπάσκετ
    Βόλευ
    Ποδόσφαιρο
    Γυμναστήριο
    Γιόγκα/Πιλάτες
    Τένις

Ποδηλασία
Κολύμβηση
Άλλο άθλημα

14. Πόσο συχνά ασχολείστε με τη σωματική άσκηση που επιλέξατε στην προηγούμενη ερώτηση;
Σπάνια
1-2 φορές την εβδομάδα
Τουλάχιστον 3 φορές την εβδομάδα
Μερικές φορές, αλλά όχι απαραίτητα κάθε εβδομάδα
15. Έχετε ποτέ απευθυνθεί σε επαγγελματία ψυχικής υγείας (σύμβουλο ψυχικής υγείας/ψυχοθεραπευτή/ψυχίατρο);
Ναι Όχι
16. Έχετε ποτέ πραγματοποιήσει ψυχοθεραπευτικές συνεδρίες με κάποιον επαγγελματία ψυχικής υγείας;
Ναι Όχι
17. Τι διάρκειας ήταν ο ψυχοθεραπευτικός κύκλος που πραγματοποιήσατε;
Περίπου 1 μήνα
Περίπου 3 μήνες
Περίπου 6 μήνες
Μέχρι 12 μήνες
Περισσότερο από 1 έτος
18. Στην παρούσα φάση της ζωής σας, έχετε διαγνωστεί με κάποιο σωματικό ή ψυχιατρικό νόσημα; (Έχετε την επιλογή να μην απαντήσετε σε αυτήν την ερώτηση, εάν το επιθυμείτε).

Appendix D

Mental Toughness Questionnaire 10 (MTQ10)

Please indicate your response to the following items by circling one of the numbers, which have the following meaning; 1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree
Please answer these items carefully, thinking about how you are generally. Do not spend too much time on any one item.

	Disagree				Agree
1) Even when under considerable pressure I usually remain calm	1	2	3	4	5
2) I tend to worry about things well before they actually happen	1	2	3	4	5
3) I usually find it hard to summon enthusiasm for the tasks I have to do	1	2	3	4	5
4) I generally cope well with any problems that occur	1	2	3	4	5
5) I generally feel that I am a worthwhile person	1	2	3	4	5
6) "I just don't know where to begin" is a feeling I usually have when presented with several things to do at once	1	2	3	4	5
7) When I make mistakes I usually let it worry me for days after	1	2	3	4	5
8) I generally feel in control	1	2	3	4	5
9) I am generally able to react quickly when something unexpected happens	1	2	3	4	5
10) I generally look on the bright side of life	1	2	3	4	5

Παρακαλώ επιλέξτε την απάντηση σας κυκλώνοντας έναν από τους αριθμούς που έχουν την παρακάτω σημασία 1= διαφωνώ απολύτως 2 = διαφωνώ 3= ούτε συμφωνώ ούτε διαφωνώ 4= συμφωνώ 5= συμφωνώ απολύτως Παρακαλώ απαντήστε σε κάθε πρόταση προσεκτικά, σκεπτόμενοι πώς είστε γενικά. Μην αφιερώνετε πολύ χρόνο σε κάθε πρόταση.

		Διαφωνώ				συμφωνώ
1	Ακόμη και κάτω από σημαντική πίεση παραμένω ψύχραιμος	1	2	3	4	5
2	Έχω την τάση να ανησυχώ για τα πράγματα πολύ πριν συμβούν (R)	1	2	3	4	5
3	Το βρίσκω δύσκολο να είμαι ενθουσιώδης για τα πράγματα που πρέπει να κάνω (R)	1	2	3	4	5
4	Γενικά αντιμετωπίζω καλά όποια προβλήματα προκύψουν	1	2	3	4	5
5	Γενικά πιστεύω ότι είμαι ένα αξιόλογο άτομο	1	2	3	4	5
6	"Απλώς δεν ξέρω από που να αρχίσω" είναι ένα αίσθημα που έχω συνήθως όταν έχω να κάνω αρκετά πράγματα ταυτόχρονα (R)	1	2	3	4	5
7	Όταν κάνω λάθη, το αφήνω να με ανησυχεί για πολλές μέρες μετά (R)	1	2	3	4	5
8	Γενικά νιώθω ότι έχω τον έλεγχο	1	2	3	4	5
9	Γενικά μπορώ να αντιδράσω αρκετά γρήγορα όταν συμβεί κάτι απροσδόκητο	1	2	3	4	5
10	Γενικά βλέπω τη χαρούμενη πλευρά της ζωής	1	2	3	4	5

Appendix E

Self-Stigma of Seeking Help scale (SSOSH)

People at times face problems for which they are thinking of seeking help. This can cause reactions about what it might mean to seek help. Please use the five-point scale to evaluate each sentence to the extent that it describes how you would probably react to such a situation. 1 = Disagree strongly, 2 = Disagree, 3 = Disagree and Agree equally, 4 = I agree, 5 = I strongly agree

1. I would feel inadequate if I went to a therapist for psychological help.
2. My self-confidence would NOT be threatened if I sought professional help.
3. Seeking psychological help would make me feel less intelligent.
4. My self-esteem would increase if I talked to a therapist.
5. My view of myself would not change just because I made the choice to see a therapist.
6. It would make me feel inferior to ask a therapist for help.
7. I would feel okay about myself if I made the choice to seek professional help.
8. If I went to a therapist, I would be less satisfied with myself.
9. My self-confidence would remain the same if I sought help for a problem I could not solve.
10. I would feel worse about myself if I could not solve my own problems.

Οι άνθρωποι κάποιες στιγμές αντιμετωπίζουν προβλήματα για τα οποία σκέφτονται να αναζητήσουν βοήθεια. Αυτό μπορεί να προκαλέσει αντιδράσεις σχετικά με το τι μπορεί να σημαίνει η αναζήτηση βοήθειας. Παρακαλώ, χρησιμοποιείστε την πεντάβαθμη κλίμακα για να αξιολογήσετε την κάθε πρόταση στο βαθμό που περιγράφει το πως θα αντιδρούσατε πιθανώς σε μια τέτοια κατάσταση. 1 = Διαφωνώ έντονα, 2 = Διαφωνώ, 3 = Διαφωνώ και Συμφωνώ εξίσου, 4 = Συμφωνώ, 5= Συμφωνώ έντονα

Θα ένιωθα ανεπαρκής αν πήγαινα σε έναν σύμβουλο για ψυχολογική βοήθεια.	1	2	3	4	5
Η αυτοπεποίθησή μου ΔΕΝ θα απειλούταν αν αναζητούσα βοήθεια από κάποιον επαγγελματία ψυχικής υγείας.	1	2	3	4	5
Η αναζήτηση ψυχολογικής βοήθειας θα με έκανε να νιώθω λιγότερο έξυπνο.	1	2	3	4	5
Η αυτοεκτίμησή μου θα αυξανόταν αν μιλούσα σε κάποιον σύμβουλο.	1	2	3	4	5
Η άποψη που έχω για τον εαυτό μου δεν θα άλλαζε μόνο επειδή έκανα την επιλογή να δω έναν σύμβουλο.	1	2	3	4	5
Θα με έκανε να αισθανθώ κατώτερος το να ζητήσω τη βοήθεια ενός συμβούλου.	1	2	3	4	5
Θα ένιωθα καλά με τον εαυτό μου αν έκανα την επιλογή να ψάξω για ψυχολογική βοήθεια.	1	2	3	4	5
Αν πήγαινα σε κάποιον σύμβουλο, θα ήμουν λιγότερο ικανοποιημένος με τον εαυτό μου.	1	2	3	4	5
Η αυτοπεποίθησή μου θα παρέμενε ίδια αν αναζητούσα βοήθεια από έναν επαγγελματία της ψυχικής υγείας για ένα πρόβλημα που δεν θα μπορούσα να λύσω.	1	2	3	4	5
Θα ένιωθα χειρότερα για τον εαυτό μου αν δεν μπορούσα να λύσω τα προβλήματά μου.	1	2	3	4	5

Appendix F
Attitude Towards Seeking Professional Psychological Support (ATSPPS)

Attitudes Toward Seeking Professional Psychological Help–Short Form
Read each statement carefully and indicate your degree of agreement using the scale below. In responding, please be completely candid. 0 = Disagree 1 = Partly disagree 2 = Partly agree 3 = Agree

_____ 1. If I believed I was having a mental break down, my first inclination would be to get professional attention.

_____ 2. The idea of talking about problems with a psychologist strikes me as a poor way to get rid of emotional conflicts.

_____ 3. If I were experiencing a serious emotional crisis at this point in my life, I would be confident that I could find relief in psychotherapy.

_____ 4. There is something admirable in the attitude of a person who is willing to cope with his or her conflicts and fears without resorting to professional help.

_____ 5. I would like to get psychological help if I were worried or upset for a long period of time.

_____ 6. I might want to have psychological counseling in the future.

_____ 7. A person with an emotional problem is not likely to solve it alone; he or she is likely to solve it with professional help.

_____ 8. Considering the time and expense involved in psychotherapy, it would have doubtful value for a person like me.

_____ 9. A person should work out his or her own problems; getting psychological counseling would be a last resort.

_____ 10. Personal and emotional troubles, like many things, tend to work out by themselves.

Σε ποιο βαθμό συμφωνείτε ή διαφωνείτε με τις παρακάτω δηλώσεις; Παρακαλώ εκφράσετε τη γνώμη σας βαθμολογώντας τις δηλώσεις. Δεν υπάρχουν σωστές ή λανθασμένες απαντήσεις.

	Διαφωνώ	**Διαφωνώ μερικώς**	**Συμφωνώ μερικώς**	**Συμφωνώ**
1.Αν πίστευα ότι παθαίνω νευρικό κλονισμό, η πρώτη μου σκέψη θα ήταν να ζητήσω τη βοήθεια ειδικού.	1	2	3	4
2. Θεωρώ ότι η ιδέα να μιλήσω σε ψυχολόγο για τα προβλήματά μου, είναι ένας κακός τρόπος να ξεπεράσω τις συναισθηματικές μου δυσκολίες.	1	2	3	4
3. Αν αντιμετώπιζα μία σοβαρή συναισθηματική κρίση σε αυτή τη φάση της ζωής μου, θα ένιωθα σίγουρος/η πως θα μπορούσα να βρω ανακούφιση στην ψυχοθεραπεία.	1	2	3	4
4. Υπάρχει κάτι το άξιο θαυμασμού στη στάση ενός ατόμου που σκοπεύει να αντιμετωπίσει δυσκολίες και τους φόβους του *χωρίς* να καταφύγει σε επαγγελματική ψυχολογική βοήθεια.	1	2	3	4
5. Θα ήθελα να λάβω ψυχολογική βοήθεια αν ήμουν ανήσυχος/η ή αναστατωμένος/η για μεγάλο χρονικό διάστημα.	1	2	3	4
6. Μπορεί να θελήσω να λάβω ψυχολογική συμβουλευτική στο μέλλον.	1	2	3	4
7. Ένα άτομο με ψυχολογικό πρόβλημα δεν είναι πιθανό να το λύσει μόνο του. Είναι πιθανό να το λύσει με επαγγελματική ψυχολογική βοήθεια.	1	2	3	4
8. Λαμβάνοντας υπόψη το χρόνο και τα έξοδα της ψυχοθεραπείας, θα είχε αμφίβολη αξία για μένα.	1	2	3	4
9. Ένα άτομο θα πρέπει να επιλύει τα προβλήματά του˙ το να λάβει ψυχολογική βοήθεια είναι η έσχατη λύση.	1	2	3	4
10. Τα προσωπικά και συναισθηματικά προβλήματα, όπως και πολλά πράγματα, έχουν την τάση να επιλύονται από μόνα τους.	1	2	3	4