Examining First Responders' Knowledge and Attitudes Towards Mental Health Difficulties as Possible Barriers to Seeking Psychological Help

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Abstract

The job of a first responder requires them to provide immediate assistance in critical incidents. This means that they are routinely exposed to potentially traumatic events. The stressful nature of their occupation has been associated with poorer mental health and a higher prevalence of mental health disorders (Szeto et al., 2019). Nonetheless, studies (Erich, 2004; Royle et al., 2009) have shown that there seems to be a reluctance towards seeking psychological help. Therefore, the purpose of this study was to examine mental health knowledge and attitudes towards mental health difficulties as possible barriers to seeking psychological help in a sample of Maltese first responders. A quantitative methodology was adopted and analysis involved both explicit and implicit measures. The tools included a self-report questionnaire developed by the researcher to examine concerns and barriers towards seeking psychological help, the Mental Health Knowledge Schedule (MAKS, Evans-Lacko et al., 2010) and Community Attitudes Toward the Mentally Ill (CAMI, Taylor & Dear, 1981). Additionally, an Implicit Association Test (IAT, Greenwald et al., 1998) was administered in order to measure the implicit attitudes of the first responders towards mental health difficulties. This allowed for a more accurate understanding of the first responders' attitudes by tapping into their underlying processes (Meissner et al., 2019). The sample consisted of 253 participants and was initially split into four groups; Civil Protection Department, Armed Forces of Malta, Emergency Medical Team and Malta Police Force. The results showed that there is a difference between the four groups in their mental health knowledge and explicit attitudes. No difference was found in the implicit attitudes between the four groups. Participants were later split into two groups, those who reported that they had concerns about seeking psychological help and those who did not have any concerns.

No difference was found in the first responders' knowledge and attitudes (both explicit and implicit) towards mental health difficulties between the two groups. Results also showed that lower mental health stigma-related knowledge is associated with more negative implicit attitudes towards mental health difficulties. These findings indicated that by providing peer support networks and anti-stigma interventions, more positive attitudes towards mental health difficulties might be fostered in first responders. Frequent educational programs which specifically focus on increasing stigma related knowledge might also aid in increasing positive attitudes. Further research is warranted to identify other factors that may play a role in first responders' concerns towards seeking psychological help.

Keywords: Mental health, first responders, trauma, knowledge, explicit attitudes, implicit attitudes, IAT, barriers

Dedicated to my father who has served the Malta Police Force and the Civil Protection Department for over 33 years, and is still serving with pride.

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Chapter 1: Introduction

Preamble

This introduction chapter will present a brief background to this study, followed with the aims and rationale behind the topic. Subsequent to this, the study's methodology, significance and a general overview of the following chapters will be provided.

Background of the Study

The term 'first responders' refers to trained individuals who serve in roles that involve providing immediate assistance and aid to the community in emergency and crisis situations (Harris et al., 2018). Due to the nature of their work, first responders are repeatedly placed in potentially dangerous situations. These include motor vehicle accidents, catastrophic natural disasters, child/domestic violence and structure fire. These situations expose first responders to daily physical and psychological stressors (Galloucis et al., 1999; McCaslin et al., 2006; Jones, 2017) which have been associated with a higher risk for mental health problems (Szeto et al., 2019). An individual's perception of how others might view them if a mental health problem is identified, determines if the individual will seek help if they feel the need to (Cepedo-Benito et al., 1998). Thus, among other various factors, stigma can play a role in reducing help seeking behaviors due to potential harmful influences on one's reputation and career. First responders' occupational culture emphasizes physical and psychological strength, autonomy and saving others (Erich, 2014). For instance, the traditional image of a firefighter is that of a strong, silent hero. This image might lead to a resistance towards acknowledging and seeking psychological help for mental and emotional problems (Deppa & Saltzberg, 2016). Similarly, mental toughness

and resiliency is at the core of the military (Tanielian & Jaycox, 2008), emergency medical services (Wagner, 2005) and police officers (Bentley, 1999). Furthermore, as masculinity is at the core of these cultures, strength, courage and autonomy are qualities which tend to be endorsed (Segal et al., 2014). These qualities can lead to a further reluctance towards seeking psychological help (Segal et al., 2014).

A lack of knowledge on a particular subject can evoke negative attitudes (Griffith et al., 2000; World Health Organisation, 2013). Indeed, individuals with greater mental health knowledge show more positive attitudes towards mental health difficulties and therefore fewer stigmas (Hogberg et al., 2012). By fostering negative attitudes towards mental health problems, one can hinder the recognition and engagement in help-seeking behaviours (Cheng et al., 2018). Nonetheless, previous studies have yielded inconclusive findings when investigating the association between the first responders' attitudes towards mental health difficulties and their help seeking behaviours (e.g. Hyland et al., 2015; Krakauer et al., 2020; Cheng et al., 2018). Most of these findings were based on self-report questionnaires measuring knowledge, attitudes and help seeking behaviours including Mental Health Knowledge Schedule (MAKS) (Krakauer et al., 2020), Intended Behaviour Scale (RIBS) (Bell & Palmer-Conn, 2018) and Mental Health Service Use Questionnaire (MHSUQ) (Krakauer et al., 2020).

By using self-report questionnaires, first responders' knowledge and attitudes towards mental health difficulties were investigated as potential barriers to seeking psychological help. Questionnaires included MAKS, CAMI and a questionnaire developed by the researcher investigating 'Concerns and Barriers towards Seeking Psychological Help'. This questionnaire was developed following review of previous similar studies (Fox et al., 2012; Wester et al., 2010) and discussions with three local experts in the field holding the occupational role of a first

responder. This allowed for the questionnaire to be more culturally sensitive to the local context. Additionally, by including an Implicit Association Test (IAT), first responders' stigma towards mental health difficulties was examined by measuring their implicit attitudes. Through this, better predictions of the first responders' discriminatory behaviours could be obtained (Stull et al., 2013).

Aims and Rationale Behind the Research Topic

The aim of this study was to examine first responders' knowledge and attitudes towards mental health difficulties as possible barriers to seeking psychological help. Data was gathered through three self-report questionnaires and an IAT. The rationale behind this study was motivated by the poor mental health and high prevalence of mental health problems among first responders resulting from the stressful nature of their work (Stanley et al., 2017; Szeto et al., 2019). While previous research examined the factors that influence first responders help-seeking behaviours, these were limited to explicit measures. Such measures are however vulnerable to social desirability with the possibility of losing honest and accurate responses (Holtgraves, 2004). Additionally, an individual's stereotypes might be so deeply-rooted in their belief system that they remain at an implicit level, inaccessible to rational thought and unaffected by one's conscious efforts (Teachman et al., 2003). Explicit measures of stigma might therefore lead to inaccurate results when measuring one's attitudes and biases (Hinshaw, 2007). Hence, this study aimed towards obtaining a more comprehensive picture of first responders' attitudes and their influence on help seeking behaviours by incorporating both explicit and implicit measures.

The research questions underlying this study were:

1. What do first responders understand by mental health difficulties?
2. What are the explicit and implicit attitudes of first responders towards mental health difficulties?
3. Is there an association between first responders' mental health knowledge and attitudes towards mental health difficulties?
4. Is there a difference in knowledge and attitudes towards mental health difficulties between first responders with concerns towards seeking help and those without?

The Chosen Methodology

In aim of answering the research questions, a quantitative methodology was adopted for data collection and analysis. This allowed for a more generalizable examination of variables and the relationships between them. The sampling method used for the recruitment of the participants was purposive sampling. First responders were split into four separate groups depending on their role as first responders, which included firefighters at the Civil Protection Department (CPD), soldiers from the Armed Forces of Malta (AFM), emergency medical team (EMT) at Mater Dei Hospital (MDH) and police officers at the Malta Police Force (MPF). Although participants were all first responders, their role differs in the type of critical incidents faced when on duty. By separating the sample into four groups, depending on their occupational role, the influence of their role on their knowledge and attitudes towards mental health difficulties could be examined. Participants were then split into two groups, those who reported that they had concerns about seeking psychological help and those who did not have any concerns. By splitting the sample in

the two groups, the difference in knowledge and attitudes towards mental health difficulties between the two groups could be investigated.

The first questionnaire 'Concerns and Barriers to Seeking Psychological Help' investigated potential concerns and barriers in first responders towards seeking psychological help, if they felt they needed it. Additionally, the MAKS questionnaire assessed the first responders' levels of knowledge on mental health. Explicit attitudes of first responders towards mental health difficulties were measured by the CAMI questionnaire. Finally, the implicit association test (IAT) was administered with the first responders in order to measure their implicit attitudes towards mental health difficulties. So far, the methods used to examine first responders' attitudes towards mental health difficulties in previous studies were limited to self-report questionnaires.

The Present Study's Significance

Given the high prevalence of mental health problems among first responders and their reluctance towards seeking psychological help, this study aims to shed light on first responders' possible barriers to help seeking behaviours. Implicit measures can "reveal unconscious attitudes and assess evaluations elicited through automatic processes" (Corneille & Hutter, 2020, p. 214). By administering an implicit measure, a closer and more accurate understanding of the first responders' attitudes towards mental health difficulties could be obtained. Therefore, this study could possibly contribute to helping professionals and policymakers develop strategies that might encourage further help seeking behaviours among first responders. In addition to this, there seems to be an apparent gap in research pertaining to this topic within our local context. Hence, this study aims towards the provision of initial data for Malta while simultaneously contributing to the current literature on this field.

Chapter Overview

This introduction chapter will be followed by a detailed review of current literature linked to this study's research question. Following this, an outline of the methodology used, including sample characteristics, data collection tools, hypothesis and the statistical tests administered, will be presented in Chapter 3. Subsequently, Chapter 4 will present the results obtained from this study in detail, underlining identified relationships between the variables. In Chapter 5, the results will be analyzed in light of the literature as to highlight the findings of this study. Finally, Chapter 6 will put forward the main findings, the limitations of the study along with the clinical implications and potential guidelines for future research on this topic.

Chapter 2: Literature Review

Introduction

This chapter presents a review of relevant literature on first responders' knowledge and attitudes related to mental health difficulties as barriers towards seeking psychological help. The first section introduces the role of first responders followed by the second section that focuses on the physical and mental illnesses in first responders. Following this, the third section explores the coping mechanisms first responders adopt when dealing with the traumatic events that they face during their work. This is followed by the fourth section that provides an overview of the differences and similarities in the culture and identity of first responders. The role of mental health knowledge and stigma in first responder's help seeking behaviours are then discussed.

The Role of First Responders

The term 'first responders' is used to describe trained individuals whose occupations involve providing immediate assistance and aid to the community in emergency and crisis situations (Harris et al., 2018). A critical incident, coined by Mitchell in 1983, refers to any instance faced by first responders that causes them to experience intense emotional reactions with the potential of impacting one's ability to function at the scene or after**.** While critical incidents are commonly thought to be extremely rare in an individual's lifespan, these are daily events for first responders (Adler-Tapia, 2014). Such events include motor vehicle accidents, catastrophic natural disasters, child/domestic violence, structure fire, burned patients, violent incidents and murder scenes amongst others (Pietrationi & Prati, 2008). These events place the first responders or those around them at risk of death or severe injury as they witness and are more likely to participate in these incidents with the aim of preventing death or severe injuries

(Haugen et al., 2012). Hence, these situations place them in daily exposure to both physical and psychological stressors (Galloucis et al., 1999; McCaslin et al., 2006; Jones, 2017). Additionally, first responders spend a significant amount of time during their professional lives working with people who are extremely distressed and/or wounded, whilst often placing their own safety at risk (Barratt et al., 2018). Other stressors that first responders might experience at their workplace include the unpredictability of shift work, instant shifting from one critical incident to another, interrupted sleep and emotional burden associated with reporting tragic news (Dowdall-Thomae et al., 2012; Sivak, 2016). Furthermore, a single critical incident exposing a first responder to a traumatic experience might increase one's vulnerability to the cumulative effect of these work stressors which might be constantly present but are not enough on their own to cause the individual to feel overwhelmed (Chapin et al, 2008).

This occupational group commonly includes police officers (Cardozo et al., 2005), search and rescue personnel (Brandt et al, 1995), firefighters (Tak et al., 2007) and ambulance personnel including emergency medical technicians and paramedics (Weiss et al., 1995). For the purpose of this study, the military service will be included under the term 'first responders' as specific units within this occupation provide immediate assistance in various critical incidents. These incidents include; dealing with illegal trafficking of immigrants, providing search and rescue services, civil emergency protection support, military aid to the police and security service and engaging in explosive ordinance disposal (EOD) amongst others (Ministry for Home Affairs, Law Enforcement and National Security, 2020).

Emergency Medical Services

A job with the Emergency Medical Services (EMS) is inherently stressful as it requires the individual to provide medical assistance in critical and unidentified situations where patients could be at risk of death if appropriate care is not provided (Essex & Scott, 2008). Emergencies range from motor vehicle collisions and natural disasters to small wounds and illnesses (Essex & Scott, 2008). The emotional and physical stress experienced by EMS personnel has also been attributed to stabilizing patients, soothing frightened victims and their relatives (Van Der Ploeg & Kleber, 2003). Further to this, these individuals frequently face events where scared relatives or bystanders are present at the scene observing their performance. These chronic stressors, which are not experienced by other health service settings, further exacerbates the stressful environment of this job (Van der Ploeg & Kleber, 2003).

Firefighters

The nature of firefighting exposes firefighters to fire-related death and injuries, structural collapses and vehicle accidents (Deppa & Saltzberg, 2016). Normal duties of fire fighters can also include exposure to hazardous materials and contaminants from products of combustions, and medical emergencies (Deppa & Saltzberg, 2016). Apart from fighting fires and providing prevention services such as fire investigations and public education, firefighters provide other specialized emergency responder services (Deppa & Saltzberg, 2016). These include vehicle extrication, technical rescue where specific skills and equipment is used to resolve complex rescue situations (National Fire Protection Association, 2004) and hazardous materials response (United States Fire Administration, 2015b). Furthermore, firefighters' role includes being present in the aftermath of natural disasters, environmental catastrophes, terrorist attacks and mass

casualties (Deppa & Saltzberg, 2016). Adding on to this, as first responders, firefighters may be exposed to domestic violence, murders, suicides and other similar catastrophes (Deppa & Saltzberg, 2016). While firefighters are highly trained for the physical toll of their job, the psychological toll resulting from emergency response tends to get less attention (Deppa & Saltzberg, 2016). Some of the most common consequences include absenteeism, burnout, depression, sleep disturbance, anxiety, alcohol abuse and PTSD (Wilmot, 2014).

Military Service

Military personnel work under different conditions depending whether they are at peace or at war (Brand et al., 2016). The military training provided to service personnel in peacetime is intended to prepare the individual for combat situations. Hence, basic military training has been found to be a biopsychosocial stressor to military personnel (Clow et al., 2006; Taylor et al., 2007). This training aims towards teaching and preparing personnel to perform under adverse situations similar to military operations. Such adverse situations might include; lack of sleep, physical exhaustion or exposure to unfamiliar situations. These situations put the person under extreme stress, with their performance being extremely critical for a successful mission (Orasanu & Backer, 1996). Basic military training includes learning the military lifestyle and culture consisting of specific military customs, courtesies, discipline, values and ethics, and learning to function in a military chain of command. These skills are imperative in order to prepare the military personnel's potential exposure to dangerous and uncertain situations during their military career (Substance Abuse and Mental Health Services Administration, 2010). The military therefore expects its service members to be disciplined in their actions and words as well as constantly maintaining control over their emotions and physical selves. These adverse conditions provide the soldier with little control and flexibility (Orasanu & Backer, 1996).

Police Officers

The everyday situations that a police officer might face when on duty elicits a stress loaded environment which they are required to handle (Chapin et al., 2008). Police work involves exposure to shootings and other violent scenes (Chapin et al., 2008). Apart from these critical incidents which put officers to evident traumatic exposure, police work also entails duties that induce a high level of stress. These duties can include entering homes where domestic violence had been reported, crime scenes involving homicides or suicide victims, and dealing with motor vehicle accidents and deaths, which might eventually take a toll on the police officer (Chapin et al., 2008). Additionally, policing involves a large amount of interaction with the public resulting in public officers experiencing what is known as 'emotional labour' where they are expected to manage particular feelings as part of their work (Ballard & McGlone, 2017). Police work may also require officers to have the ability to control their emotions when provoked, to carry the responsibility of having a firearm in their possession and to protect the lives of the citizens whom are having a significant level of distress (National Institute of Justice, 2000).

While the four groups of first responders were presented individually in this section, these will be presented together for the rest of the chapter due to the similarities between their roles.

Mental and Physical Health Difficulties in First Responders

By definition, a traumatic event involves exposure with either direct or indirect experiences of real threatened death, serious injury or sexual violence (American Psychiatric Association, 2013). Previous studies have indicated that the stressful nature of the occupation of

first responders is associated with poorer mental health and a higher prevalence of mental health disorders (e.g. Szeto et al., 2019). Over the last two decades, there has been an increase in research interest on examining the prevalence rate for the development of PTSD in first responders following exposure to work-related traumatic events (Kolkow et al., 2007). Around 7% to 12% of adult individuals in the United States develop PTSD sometime during their lifetime (Kessler, 2000; Kolkow et al., 2007). Conversely, the prevalence rate at which police officers develop PTSD ranges from 6% to 32%, for EMT 9% to 22% and 17% to 32% in fire fighters (Lewis-Schroeder et al., 2018). Jones (2017) conducted a systemic review of 27 international studies addressing mental and behavioural health of first responders included firefighters (volunteers, professionals and urban) as well as EMT and paramedics including ambulance workers, rural, urban and paramedic students. These studies found an increased risk in first responders for depression and suicidality (Jones, 2017). 37% of fire fighters and emergency medical teams met the criteria for PTSD (Jones, 2017). A similar prevalence rate was found in military veterans (10%-31%). Both prevalence rates were much higher than that amongst the general population (8.7%, Meyer et al., 2012; American Psychiatric Association, 2013; National Institutes of Health [NIH], 2009). The comorbidity of major depressive disorder (MDD) and PTSD in first responders is most often predicted by the severity of a person's exposure to trauma (Spinhoven et al., 2014).

Vicarious trauma refers to harmful changes in the way persons perceive themselves, others and the rest of the world, resulting from exposure to vivid and/or traumatic matter (Baird & Kracen, 2006). A number of studies have found vicarious trauma in first responders (Greinacher et al., 2019). Although, in certain situations, the first responder might not be exposed to direct personal threat, they often have indirect exposure as they experience the details

of the incidents. For instance, a police officer might spend a whole working shift writing witness statements from victims of child abuse. Continuous vicarious exposure might lead to the person experiencing a cumulative impact, potentially resulting in the development of traumatic stress symptoms (Barratt et al., 2018).

Along with mental health difficulties, first responders are also at a higher risk for developing a chronic health issue and/ or an injury. These might include hypertension, cardiac crises, obesity and diabetes resulting from shift work (Adler et al., 2014). Although first responders experience regular periods of extensive physical stress when engaging in incidents like fires and arrests, they also experience extended periods of inactivity between duty calls (Parsons, 2004). This shift from extended periods of activity to inactivity can further increase the risk for physical injuries and chronic pain (Carleton et al., 2017). In addition to this, many first responders work within aggressive environments very often characterized by high levels of heat (Smith, 2011) and smoke (Swiston et al., 2008) while having altered sleep patterns (Wolkow et al., 2015) and a potential risk of sustaining a physical injury (Koren et al., 2005). Moreover, these work tasks often involve prolonged strenuous physical activities such as long hours patrolling (soldiers) for instance. Taken together, these factors can give rise to experienced fatigue and exhaustion, which can play a role in developing a state of chronic low-grade systemic inflammation and/or an altered immune system (Walker et al., 2016). Such inflammatory changes following prolonged occupational exposures can predispose first responders to the development of PTSD when exposed to successive traumatic incidents (Walker et al., 2016).

Sleep can be described as a biological process that is vital for an individual's optimal health as it plays a crucial role in brain function and systemic physiology (Medic et al., 2017). By definition, sleep deprivation is less than four to six hours of sleep in 24 hours (Jones et al.,

2019). Sleep deprivation can result in the person experiencing fatigue, reduced alertness and poor attentiveness (Jones et al., 2019). It can also lead to cognitive impairments, mood disturbances and a poorer quality of life (Vargos de Barros et al., 2013). Sleep deprivation is another common factor amongst first responders. This is due to the long hours of work, shift work and the nature of the occupation itself (Carey et al., 2011). In Vargos de Barros et al.'s (2013) study, 51% of 303 Brazilian fire fighters reported sleep disturbances. Similarly, 70 % of 148 Australian paramedics reported sleeping problems as well as chronic fatigue and depression (Courtney et al., 2013). This association between sleep quality and depression with chronic fatigue was also reported in a group of U.S. fire fighters where fire fighters who reported experiencing symptoms indicative of depression also reported sleep deprivation and hazardous drinking behaviours (Carey et al., 2011).

Common Coping Mechanisms in First Responders

Coping is a multifaceted process often described as a person's attempt to address current stressors in their life which exceeds existing resources (Lazarus & Folkman, 1984). Hence, coping methods aid in reducing potential psychological and/or emotional repercussions resulting from experiencing stressors (Snyder & Dinoff, 1999). According to the theory of threat appraisal and coping (Lazarus & Folkman, 1984), individuals who face stressors may engage in both healthy and unhealthy coping mechanisms. While both coping mechanisms may help the person feel better immediately, unhealthy ones increase the risk for future problems (Can & Hendy, 2014). Healthy coping mechanisms include sufficient sleep, healthy dieting, spirituality or religion and social support. Studies have emphasized the protective role of social support against the development of PTSD in first responders (Regehr et al., 2000). Thereby, first responders who feel supported and esteemed may experience lower levels of distress (Kleim & Westphal, 2011).

On the other hand, unhealthy coping mechanisms can include smoking tobacco, eating food with a high amount of fat or sugar, bottling up or suppressing anger, angry outbursts and drinking caffeinated drinks or alcohol (Can & Hendy, 2014).

Excessive consumption of alcohol is a common means of coping in first responders as they attempt to reduce stress and improve their psychological well-being (Arble & Arnetz, 2019). In a study conducted by Piazza-Garnder et al. (2014) with 954 fire fighters, up to 89% had reported alcohol consumption. Across three other studies conducted with firefighters, a prevalence rate of binge drinking ranging from 34% and 58% was identified, with 14% reporting hazardous drinking in a group of 112 participants (Carey et al., 2011; Haddock et al., 2015; Piazza Gardner et al., 2014). A study conducted with police officers found that alcohol consumption and repressed emotions were the most common mechanisms, both of which are classified unhealthy coping mechanisms (Gershon et al., 2009). These coping mechanisms were linked with officers who reported experiencing anxiety and/or professional burnout (Gershon et al., 2009). Such findings demonstrate that the most prevalent coping mechanisms amongst stressed law enforcement personnel maybe unhealthy coping mechanisms, which in turn increases their risk for future negative outcomes (Anderson & Lo, 2011; Regehr et al., 2013; Yun et al., 2013). Contrary to this however, a study conducted by Selic et al. (2012) with soldiers from the Slovenian Armed Forces showed that the most common coping strategies amongst these soldiers included problem solving, a positive re-evaluation of the situation and seeking for social support. Avoidance methods and distancing were less frequently used (Selic et al., 2012).

A study examining coping mechanisms used by EMS personnel showed that they engage more in emotion-focused coping rather than problem-focused coping methods (Minnie et al., 2014). Mental disengagement and denial are rarely used as coping methods, with alcohol and

drugs being the least coping methods used (Minnie et al., 2014). On the other hand, informal debriefing was reported in 45% of the participants. This involves talking with colleagues following an incident, mostly discussing technicalities of the incident as opposed to emotional expression (Minnie et al., 2014). This might be due to the caution taken in expressing emotions maintained by the concern of protecting their reputation and remain being seen as tough and resilient (Minnie et al., 2014). Being labelled as weak might compromise the individual's approval to the team which can ultimately leave a negative impact on their work performance (Minnie et al., 2014). According to Minnie et al. (2014), the EMS personnel's attitude of being strong might therefore hinder their help seeking behaviours, becoming hesitant to access trauma counselling services which are provided to the personnel.

First Responders Identity and Culture

According to Schein, "Culture is both a dynamic phenomenon that surrounds us at all times… and a set of structures, routines, rules, and norms that guide and constrain behavior" (2004, p. 1). Occupations are likely to develop their own routines, practices and cultures. They have their own individualistic ideologies, expressed through cultural appearances including narratives, rituals and ceremonies (Trice, 1993). Underpinning the culture of the occupation and what the occupation considers as appropriate behaviour are assumptions and ways of doing things (Johnson & Scholes, 2002). These assumptions characterize, guide and limit what is perceived as appropriate behaviour (Johnson & Scholes, 2002). They are often passed down over time, becoming hard to challenge or question as they become institutionalised (Brown, 2007). Culture allows organizational and societal stability and safety as it characterizes the way an individual is expected to behave under various situations and contexts. Hence, culture can influence human behaviour as well as interpersonal relations without the conscious awareness of

the person (Brown, 2007). As a person becomes a member of a large well-established group, inescapably, the member also becomes part of the culture embedded within the group (Brown, 2007). Acknowledgement and acceptance of the membership by the person is likely to result in an acceptance of the group's formation of reality (Brown, 2007).

According to Adler-Tapira (2014), first responders' culture includes the use of three common psychological defense mechanisms; stoicism, depersonalization and derealisation, in effort to deal with the attrition of the career. Stoicism refers to the cultural expectation where first responders are expected to not be impacted by the events they respond to when on duty (Adler-Tapia, 2014). For instance, this cultural expectation might lead the first responders to act with a sense of humour in order to cope with the career and with what is expected of them. This sense of humour can be interpreted by the public as being cold and disrespectful (Adler-Tapira, 2014). Depersonalization is an unconscious defense mechanism which occurs in response to overwhelming situations (Shilony & Grossman, 1991). This defense mechanism allows the first responders to distance themselves from the traumatic experience by having subjective feelings of unreality and an altered perception of one's self (American Psychology Association, 2013). Depersonalization is commonly described as feeling numb, unreal and as if one's body is alien (American Psychology Association, 2013). Another defense mechanism that first responders might use when coping with traumatic events is derealisation, where the individual experiences the event as one that is unreal. Common descriptors of derealisation include feeling as if the world is foggy, dreamlike and hazy (Simeon, 2004). As the impact of repeated trauma exposures accumulates, many of the first responders engage in these defense mechanisms (Adler-Tapia, 2014). These defense mechanisms allow first responders to cope when feeling inundated by traumatic events experienced during their work (Adler-Tapia, 2014). Constant use of

depersonalization and derealisation techniques can at times delay the onset of PTSD (Adler-Tapia, 2014).

The term 'John Wayne syndrome', derived from the Hollywood star John Wayne, is a common term that has often been used to describe the way a number of service man tend to hide their emotions in order to cope with the harsh reality of several of their missions (Mitchell & Resnick, 1986). This syndrome has been found to be a good predictor for burn out and reduced compassion as they internalise occupational stress, negatively impacting their professional and private live (Mitchell & Resnick, 1986; Lourel 2008; Julseth et al., 2011). A study conducted with police officers, fire rescue workers, medics, nurses and other hospital workers who responded in a direct or indirect way to two emergencies involving fatalities identified various barriers to recovery from trauma (Deppa & Saltzberg, 2016). Such barriers include the inclination for first responders to suppress the experienced fear and anxiety both during, which might be essential to function, and after the incident. Letting go of this suppression, known as "going clinical" might act as a barrier for the first responder's resilience and recovery (Donahue, 2015 as cited in Deppa & Saltzberg, 2016). This inclination is further intensified by the first responders' potential unrealistic expectations on their ability to leave a positive impact on the critical incident (McCammon et al., 1988).

According to McFarlane and Bookless (2001), the social environment culture of paramedics involves the suppression of emotional responses, distancing from others, rejection of feelings and the use of black humour following a traumatic experience. This culture may stem from the paramedics' belief that they have to be strong at their workplace. Such a culture might put paramedics at a higher risk for developing PTSD (McFarlane & Bookless, 2001). The internal police culture and the structure of their work is often strongly linked with mental health

symptoms in police officers (Collins & Gibbs, 2003), as exposure to various stressful scenarios increases the possibility for negative physical, psychological and interpersonal consequences (Julseth et al., 2011). Police officers are required to deal with various situations involving threatened safety and wellbeing, and exposure to individuals experiencing distress and pain, without losing respect by an inability to cope or lose control (Keenan et al., 2009). Hence, police officers might experience the need to show their masculine attributes in order to feel that they fit in, proving their significance (Ely & Meyerson, 2010). Exposure to these physical risks might also play a role in further strengthening the culture of masculinity and the fundamental image of the ideal police officer as brave, autonomous and tough (Bentley, 1999).

The image of a male firefighter had been particularly one of classic bravery integrating aspects of guts, fearlessness and danger (Childs et al., 2004; Tracy & Scott, 2006). This raises the question of how firefighters construct their sense of identity when forming part of a masculinised occupational context. In the U.S., the fire services' culture involves a strong cohesive alliance between men and women who are very much service oriented. A unique camaraderie develops as firefighters train and respond to critical incidents together, share common experiences, live and dine together during their long shifts and look out for each other. This leads to a sense of belongingness which tends to extend beyond on-duty hours. Such cohesiveness is imperative in order to work together during a critical incident (Marsar, 2013). Such cultural norms further intensify stigma associated with seeking psychological help, making it a principal barrier to seeking care (Segal et al., 2014).

Knowledge and Stigma

Mental health literacy describes one's knowledge on mental disorders (Jorm, 2000). Individuals with a high literacy on mental health might be more capable of managing a mental

disorder, have an awareness of its development and recognize available help-seeking or mental health services (Jorm, 2000). Personal experiences can also allow the individual to obtain mental health knowledge. Poor knowledge leads to a reduction in help seeking behaviour seemingly because a person who is not able to recognize a mental illness' symptoms and is unaware of available mental health services is less likely to seek psychological help (Rusch et al., 2011). Around half of the Europeans requiring mental health services do not utilize any form of professional mental health care (Alonso et al., 2007). Apart from factors such as accessibility and quality of mental health services (Drake et al., 2009), a low number of individuals engaging in help seeking behaviour can be explained as the result of two factors; (1) having poor knowledge about mental illnesses and (2) the stigma associated with mental illness (Rusch et al., 2011). Previous researchers have shown interest in understanding knowledge as it has long been presumed that increasing knowledge is linked to a greater influence of attitudes and actions (Fabrigar et al., 2006). Knowledgeable individuals on mental health show an increased level of positive attitudes towards mental illnesses hence having fewer stigmas (Evans-Lacko et al., 2010; Hogberg et al., 2012; Martensson et al., 2014; Peris et al., 2008; Mchale & Felton, 2010). Conversely, having a lack of understanding on a particular subject can evoke negative attitudes (Griffith et al., 2000; World Health Organisation, 2013). By fostering negative attitudes towards mental health problems, one can hinder the recognition and engagement in help-seeking behaviours (Cheng et al., 2018). A study conducted with 32 fire fighters and EMT/paramedics found that knowledge was one of three main factors that influenced the first responders' perception and engagement with mental health services (Jones et al., 2020). All participants expressed the requirement for the provision of education and culture-wide awareness of mental health problems (Jones et al., 2020). Knowledge deficit on mental health was the most

significant barrier to help-seeking behaviours in first responders (Jones et al., 2020). Many of the first responders participating in this qualitative study reported an inability to recognize signs and symptoms of mental health problems and when to seek help (Jones et al., 2020). Contrary to this, Krakauer et al. (2020) found that parademics have a high level of mental health knowledge however still have low levels of help seeking behaviours. According to Roberts and Henderson (2009), the repeated mental health calls experienced by paramedics might reduce their confidence in the benefits of mental health services. Additionally, it might also increase the first responders' belief that there are no mental health professionals with enough experience working with first responders (Krakauer et al., 2020). While there is no empirical data on mental health education in first responders, a number of studies has focused on how mental health education can decrease negative attitudes towards mental health difficulties in various populations (Thornicroft et al., 2016).

Attitudes

An 'attitude' can be described as a person's disposition to respond in a favourable or unfavourable way towards an object, an individual, an organization or an event. A person's attitude is a covert, hypothetical construct and therefore cannot be accessible through direct observation (Ajzen, 2007). Despite being unobservable, attitudes can be inferred through observable cues in a person's behavior - both verbal and nonverbal, and through the context in which the behaviour occurs (Kelley, 1971 as cited in Ajzen, 2007). Although 'attitude' is an unobservable construct, it precedes one's behaviour and guides the person's decisions for action. A three-component attitude model developed by Ostrom in 1969 describes the three components which form the composition of an attitude. These three components include a cognitive, affective and behavioural component. Moreover, according to the three-component attitude model,

attitudes are somewhat permanent, are limited to socially significant situations or items, and can be generalised (Hogg & Vaughan, 2010). Having a negative attitude or prejudice refers to the negative thoughts and emotions that one experiences, such as uneasiness and disgust, held by a majority group against a minority one (Thornicroft, 2007). Negative attitudes include public beliefs related to mental illness linked to dangerousness, incompetence, expectations of poor prognosis and a desire to social distance oneself (Hinshaw & Cicchetti, 2000).

The Development of Attitudes

Our attitudes are developed through our experiences, our social interactions, or as a by-product of our own cognitive processes. Through direct experience with an object or an event, beliefs are shaped which in turn influence whether we like or dislike it. Continued exposure to particular stimuli can affect the way we evaluate it, particularly when we lack information about it (Yagi & Inoue, 2018). This is known as the mere exposure effect and is an important mechanism in one's attitude change, with constantly presented stimuli being evaluated more positively than novel ones (Yagi & Inoue, 2018). Classical conditioning is another way of forming an attitude as the behaviour is positively reinforced, increasing the likeliness that this behaviour is repeated in the future. Individuals can learn attitudes in the absence of reinforcers too, as they model the behaviour of others through direct observation. This was described by Albert Bandura (1973) as social learning through modelling (Hogg & Vaughan, 2010).

A Model of Dual Attitudes

Wilson et al. (2000) presented a model of dual attitudes stating that a person can have dual attitudes towards something. Individuals process social information on both an explicit level hence, in a conscious, reflective way, as well as on an implicit level that is subconscious, automatic and instinctive. Contrary to this, explicit attitudes are measured through self-reports where the respondent is aware that their attitudes are being assessed. Explicit measures, such as typical questionnaire measures of attitudes towards mental illness, are subject to social desirability hence research on stigma involving explicit measures of attitudes and behaviours often fail to accurately measure such underlying biases. Social desirability describes a person's tendency to react in a more socially desirable manner in particular situations (Richman et al., 1999), reflecting what the person believes will be approved by other individuals or in order to avoid their disapproval. Respondents using self-report questionnaires tend to engage in social desirability by answering in a way that can make them look good, providing a positive self-description at the cost of losing honesty and accuracy (Holtgraves, 2004). Apart from explicit attitudes, studies have shown that most of our attitudes function beyond our own conscious awareness, these known as implicit attitudes (Blair, 2002; Greenwald & Banaji, 1995; Stier & Hinshaw, 2007). As described by Greenwald and Banaji (1995) implicit attitudes are "introspectively unidentified traces of past experience that mediate favourable or unfavourable feeling, thought, or action toward social objects" (p. 8). Hence, implicit attitudes can be described as the deep-rooted associations, made in memory, between a particular object and its evaluation. Such deep-rooted associations are instantly accessed when the individual is in the presence of this attitude object (Fazio, 1990). Implicit biases can exist against various

marginalized groups even when the person does not deliberately wish to endorse such negative attitudes (Teachman et al., 2006). This demonstrates their involuntary nature. This incongruence might occur when the individual does not want to express these negative attitudes due to concerns related to social desirability, as they lay outside consciousness, or otherwise as these biases affect one's responses even if the person wants to portray a positive image of himself (Teachman et al., 2006). Implicit attitudes may be further reinforced and maintained through environmental influences, and tend to remain established if the individual's environment remains constant (Dasgupta, 2013). Studies suggest that implicit attitudes influence one's explicit judgements and behaviours even though these are distinct from each other (Abby et al., 2016). Implicit measures have been developed in order to capture the individuals' psychological origin of their social perception, decisions and actions which might not be easily reachable through introspection or reported when enquired, even in the event where the respondent can report them accurately (Nosek et al., 2011). Instead, indirect and practical procedures, such as the Implicit Association Test (IAT), are used to infer a person's implicit attitudes without deliberate processing (Nosek et al., 2011). By the use of implicit measures, one may obtain unique information on an individual's biased attitudes (Stull et al., 2013). Hence, such measures allow for better predictions on an individual's discriminatory behaviours (Stull et al., 2013).

Stigma as a Barrier to Seeking Help

Stigma is defined as a process involving labelling, partition, stereotype awareness and endorsement, prejudice and discrimination in an environment where social, economic or political power is exercised to the detriment of members of a social group (Link & Phelan, 2001). Crocker et al. (1998) describe stigma as an attribute or characteristic that projects a social identity that is

devalued in a particular environment. Stigma manifests itself in three modes; stereotypes, prejudice and discrimination (Corrigan & Watson, 2002). Stereotypes are the general beliefs that one holds about the characteristics, qualities and actions of people categorized into a particular social group. Hence, a stereotype is what we think members of a particular group are like (Major & O'Brien, 2005), for instance that persons with mental health difficulties are dangerous (Corrigan & Shapiro, 2010). Such stereotypes can be culturally defined. Despite being well-known, these stereotypes are not adopted by everyone. Those who adopt these stereotypes, develop prejudices resulting in negative emotions towards the object/ event/ person which might in turn develop into discrimination (Angermeyer & Dietrich, 2006). For instance, a common stereotyped belief is that individuals diagnosed with a mental illness are dangerous (Jorm et al., 2012; Yap et al., 2014), leading to the desire to socially distance themselves from such people. Categories and stereotypes seem often to be automatic, facilitating efficiency in cognition. These also facilitate quick judgements (Link & Phelan, 2001).

Mental illness is frequently associated with social stigmatization, prejudice and inequality where persons with a mental illness are often perceived as unpredictable, dangerous and violent (Stier & Hinshaw, 2017). Mental illness stigma constitutes of two dimensions: self-stigma and public stigma. A military-specific conceptual model of stigma had been developed, describing the three forms that stigma can take; (1) public stigma, which is the degree of one's awareness on the stereotypes held by the public on those who make use of metal health service (Skinner et al. 1995); (2) self-stigma, where the individual applies these stereotypes to oneself resulting in internalized depreciation and disempowerment (Corrigan, 2002) and (3) label avoidance which describes the degree that the individual does not acknowledge symptoms of mental health purposely and does not attend mental health services with the aim of avoiding the stigma and any

negative consequences that a formal diagnostic label might bring along with it (Ben-Zeev et al., 2012).

Bolton (2003) and Thornicroft (2006) identified numerous invasive, stigmatizing beliefs about mental health problems that an individual might hold, including the belief that such people are dangerous to others, that the symptoms experienced are artificial or invented, that their illness is a reflection of their weak character, that their illness is self-inflicted or a result of 'bad-parenting' and that the product is either permanent or, at its very best, extremely poor. A review conducted by Clements et al. (2015) found higher levels of mental health stigma amongst first responders, particularly in military personnel. Among 1273 doctors and medical students, negative attitudes were found towards persons diagnosed with schizophrenia and with a substance abuse disorder (Mukherjee et al., 2002). These persons were perceived as dangerous and unpredictable (Mukherjee et al., 2002). These negative stereotypes were also found to be endorsed by police officers when compared to the general public (Soomro & Yanos, 2018). However, not all studies found negative attitudes among first responders. Two studies conducted with police officers found that these officers hold positive attitudes towards mental health difficulties (Bell & Palmer-Conn, 2018; Cotton, 2004). They expressed their belief that persons with mental health difficulties should be integrated within the community and that the public should be more tolerant towards such persons (Cotton, 2004). In a study conducted with doctors, positive attitudes towards mental health difficulties were identified (Sharma et al., 2018). According to this study, doctors who have more years of experience in the medical field show more acceptance of persons with mental health difficulties within the community (Sharma et al. (2018).

Individuals suffering from a mental health problem are not the only ones who are stigmatized. Individuals who simply seek support from psychological services can also experience negative perceptions (Royle et al., 2009). Hence, stigma might play a role in reducing help seeking behaviours as it can lead to harmful influences on both the reputation and the career of the person, resulting in the person's resistance towards seeking mental health support. A dearth of studies on stigma and barriers to seeking psychological help in first responders has been identified (Haugen et al., 2017). Most of these studies were conducted in the United States except for two studies which were conducted in Ireland and Canada. Twelve studies involved police officers while two others involved army medics. Only one study was conducted with firefighters and rescue workers and one with police and paramedic trainees. Inspection of differences in stigma and barriers to care by different type of first responders was conducted showing considerable differences (Haugen et al., 2017). Results yielded from these studies indicate that the most commonly endorsed stigma items by the first responders were; 1) fear that services are not confidential (Chapman et al., 2012; Fox et al., 2012; Goldstein, 2002; Meyer, 2000; Sanders-Guerrero, 2013) and 2) fear that seeking psychological services will leave a negative impact on their career (Chapman et al., 2012, 2014; Davenport, 2012; Fox et al., 2012).

Additionally, stigma and a lack of trust in mental health service providers have been found to be the leading barriers to help seeking behaviours in service personnel both in the UK and in the US (Britt, 2000; French et al., 2004; Greene-Shortridge et al., 2007; Iversen et al., 2011; Hoge et al., 2004). Public stigma items which are frequently endorsed by armed forces personnel include concerns in receiving different treatment from their unit leaders, being perceived as 'weak' by both leaders and peers as well as losing confidence within their unit (Hoge et al., 2004; Iversen et al., 2011; Hoerster, 2012). In military service, mental health

difficulties can have implications in particular occupational roles, for instance not being allowed to be in possession of a weapon, or fly a military aircraft (Iversen et al., 2011). Stigma related barriers were also found to be more common than structural ones among firefighters (Hom et al., 2016).

Contrary to the previous studies however, a study conducted by Krakauer et al. (2020) found that although paramedics had low stigma towards mental health difficulties, they also showed low help seeking behaviours. This suggested that other factors might be playing a role such as their own personal experiences with psychological services or other systemic barriers (Krakauer et al., 2020). In a study conducted with 331 Irish police officers, the strongest predictor for the police officers' help seeking behaviours was their help-seeking propensity (Hyland et al., 2015). This refers to the police officers' perceived ability to seek out available psychological services and their ability to follow a treatment plan (Hyland et al., 2015). Another predictor was the police officers' openness in acknowledging the possibility of having a psychological problem and to seek professional support for such a problem (Hyland et al., 2015).

When reviewing the literature on first responders' stigma towards mental health difficulties, there was an apparent lack of research using implicit measures. Previous studies of stigma in first responders have relied largely on explicit measures despite past research indicating that explicit measures of stigma, prejudice and bias can be problematic particularly due to social desirability (Hinshaw, 2007). First responders might explicitly respond in a way that conforms with societal conventions in order to present a positive image to others, rather than reporting what they truly believe in (Michaels & Corrigan, 2013; Tourangeau & Yan, 2007). Hence, even when explicit stigma is absent, individuals might hold implicit negative beliefs towards mental health difficulties (Teachman et al., 2006). Additionally, although explicit stigma

might be present, implicit stigma might be more common (Teachman et al., 2006). By using both explicit and implicit measures, a more comprehensive picture of first responders' attitudes could be obtained. Given this, the current study shall make use of both explicit (CAMI) and implicit measures (IAT) to assess first responders' attitudes towards mental health difficulties.

First Responders' Barriers and Attitudes Towards Seeking Help

While rates of help seeking behaviours vary, the self-image and culture fostered by first responders may prevent them from seeking professional psychological services that tend to be seen as stigmatizing (Royle, 2009). First responders' culture tends to strongly highlight strength, autonomy and saving others (Erich, 2014). This culture might influence the first responders' attitudes towards seeking help which might eventually result in poor mental health outcomes. The traditional image of a fire fighter is that of a strong, silent hero. This image might cultivate a resistance towards acknowledging and seeking out professional psychological help for mental and emotional problems in fire fighters (Deppa & Saltzberg, 2016). A common belief that seems to be at the core of the police culture is that officers have the ability to be stronger than the rest of us, shaped by the social need to avoid existential insecurity. On the contrary, seeking help from psychological services entails the acknowledgement of difficult emotions and the admittance, to a certain extent, of their view of finding it difficult to cope (Bentley, 1999; Burns & Buchanan, 2020). Police workers with mental health difficulties are often labelled by their co-workers as 'different' (Bullock & Garland, 2017; Stuart, 2017). This leads to a strong cultural element of stigma towards mental health difficulties among police officers (Stuart, 2017). Hence, officers seeking help both through the public service or externally, tend to be concerned about their self-image, feeling stigmatized and leaving them feeling negatively about the idea of

accepting help from mental health services. Since they might have previously viewed other individuals suffering from stress as a failure, they might have then internalized such thoughts (Royle, 2003).

Likewise, in a culture such as that of the military where masculinity is at its core, courage, strength, autonomy and resilience are endorsed (Segal et al., 2014). These are the same qualities that tend to act as barriers against help seeking behaviours in military personnel (Segal et al., 2014). Consequently, as the military service fosters a warrior culture which embraces mental toughness as well as the belief that stress can be easily coped with, emphasizing resiliency and the ability to "shake off" an illness or injury, this might ultimately discourage military personnel from seeking psychological help (Tanielian & Jaycox, 2008). The belief that help-seeking behaviours do not go hand in hand with the masculine ethos for military members might continue to give rise to the mental health issues identified in military service, including depression, anxiety and substance abuse (Bass et al., 2016). Actual and perceived stigma might further encourage such values amongst military service. The individual's view of how others might perceive him/her if a mental health problem is identified, is another determinant of whether the individual seeks help when feeling the need to (Cepeda-Benito et al., 1998). Being perceived as 'weak' by both their peers and their leaders, and losing the unit's confidence in them are the most repeatedly endorsed aspects of public stigma in military personnel (Hoge et al., 2004; Iversen et al., 2011; Hoerster, 2012). This fear is consistent across the Canadian, US, UK, New Zealand and Australian armed forces (Gould et al., 2010).

Although EMS personnel experience various reactions following a traumatic event, research has shown such personnel find it difficult to admit being emotionally affected. (Regehr et al., 2002; Jonsson & Segesten, 2004). This arises from the fear of being perceived by their

peers as not being tough enough for the job (Wagner, 2005). 'No one dies on my watch' is a common attitude amongst EMS personnel. Research indicates suppression in emotions and feelings by EMS personnel in order to live up to the image of being tough and resilient. Consequently, they tend to become reluctant to seeking help when they experience personal emotional crisis (Haslam & Mallon, 2003; Alexander & Klein, 2001). Rather than seeking help, ambulance personnel often try to solve their problems by themselves (Galdas et al., 2005). Furthermore, being a male-dominated occupation, this might further promote a culture where mental health problems are not acknowledged, leading to under-recognition of such problems and a lower probability that one will seek help (Galdas et al., 2005).

Conclusion

In conclusion, this chapter gave an outline of the current research on first responders' culture. It also gave an outline of the first responders' knowledge and attitudes towards mental health difficulties as barriers to seeking psychological help. When reviewing the literature, previous studies revealed a somewhat mixed picture of first responders' attitudes towards mental health difficulties and their association with help seeking behaviours. An apparent lack of research using implicit measures was also identified in studies investigating stigma among first responders. Moreover, no previous studies were conducted on this topic within the local context, presenting a gap in local research. The following chapter will provide an outline of the methodology used in order to reach the aims of this study.

Chapter 3: Methodology

Introduction

This chapter presents the rationale for the chosen methodology. The first section will introduce the research question and describe the aims of this study. Following this, the rationale for choosing a quantitative approach will be provided along with a description of the ontological and epistemological assumptions underlying this approach. Following this, details of the research process, including a description of the sampling methods, data collection and statistical methods used to analyse the data obtained will be presented along with a description of the conceptual model of the research instrument implemented in the study. Finally, the ethical procedure involved prior to the commencement of this study will be outlined.

Research Aims

The main aim of this study was to explore the knowledge and attitudes of first responders towards mental health difficulties as possible barriers to seeking psychological help.

The objectives of this research study therefore include:

1. To identify first responders' understanding of mental health difficulties
2. Examine first responders' explicit and implicit attitudes towards mental health difficulties
3. Investigate whether there is an association between first responders' mental health knowledge and attitudes towards mental health difficulties
4. Investigate whether there is a difference in knowledge and attitudes towards mental health difficulties between first responders with concerns towards seeking help and those without

The first responders were split into four groups according to their role as first responders. The four groups included; firefighters (CPD), soldiers (AFM), the emergency medical team (EMT) at MDH Emergency Department and police officers (MPF). Even though the participants of this study were all first responders, the type of critical incidents that are faced when on duty varies between the groups. By splitting the whole sample into these four groups, the influence of their role on their knowledge and attitudes towards mental health difficulties could be examined. Additionally, the whole sample was split into two groups, those who reported that they had concerns about seeking psychological help and those who did not have any concerns, in order to examine the difference in knowledge and attitudes between the two groups.

Rationale for Selecting a Quantitative Approach

In quantitative research, phenomena are described by collecting numerical data which is later analysed by statistical procedures (Creswell, 2017). It involves testing objective theories by investigating the relationship between variables. In quantitative research studies, the researcher is required to be as detached from the research as possible, using methods which increase objectivity and minimize his/her involvement in the research process (Creswell, 2017). In view of this, a quantitative approach was adopted for the data collection and analyses of this study, allowing for a more generalizable examination of knowledge and attitudes in a sample of Maltese first responders as possible barriers to seeking psychological help.

The Researcher's Ontological and Epistemological Perspectives

The specific methodology of a study is guided by the researcher's ontological and epistemological perspective (Abu-Alhaija, 2019). The researcher took the position of a critical realist and a post-positivist. Dominant to post-positivists' paradigm is the examination of the individuals' behaviours by the use of numeric measurements (Creswell, 2017). Additionally, post-positivism is more concerned with obtaining knowledge about causal relationships, differing from social constructionism which is more interested in understanding an individual's lived experiences (Guba & Lincoln, 2005). A post-positivist approach was therefore more suitable for this study as it sought to examine the relationships between first responders' knowledge and attitudes, and how these might act as barriers towards help-seeking behaviours. Hence, a quantitative approach and the specific measuring tools chosen to reach the aims of this study were not only in accordance with the researcher's positions mentioned above but also flowed naturally from the research question.

Ontological and Epistemological Perspectives

All research projects have ontological, epistemological and methodological assumptions (Hunt, 2015). By determining the epistemology, researchers are guided in adopting a specific research methodology (Abu-Alhaija, 2019). The methodology then determines the techniques implemented by the researcher in order to determine a specific reality (Sobh & Perry, 2006). Hence, the researcher's selected ontology and epistemology influence the specific methodology used for the study (Abu-Alhaija, 2019). Epistemological assumptions are described as the criteria used in evaluating the knowledge declared (Hunt, 2015) and reflects the way researchers

distinguish and make sense of reality (Feast, 2010). Epistemology is informed by ontology which refers to the nature of reality (Petty et al., 2012).

Quantitative research surfaces from positivist principles (Neuman, 2011). Positivism or post-positivism assumes objectivity and generalizability and considers knowledge as observable and measurable (Assalahi, 2015). They investigate research problems to identify and measure factors that might affect specific outcomes (Creswell, 2017). The methodology commonly used by positivists is a deductive one (Raddon, 2010), with surveys being the most common technique used (Easterby-Smith et al., 2015). The ontological-stance for the positivism paradigm is objectivism (Assalahi, 2015). The ontological assumption for post-positivism presumes that there is only one single objective reality (Petty et al., 2012). Specific research procedures are used by these researchers as to prevent or lessen their own biases (Assalahi, 2015). Objective measurements are utilised by which researchers separate their own experiences and knowledge from the research study (Petty et al., 2012).

Post-positivism paradigms emerged to address the various ontological and epistemological flaws identified in positivism (Zachariadis et al., 2010). This paradigm allows for a flexible research perspective where the researcher can make use of multiple methods during the study in line with the nature of the research questions (Miller, 1999). Hence, post-positivism has a propensity to reduce the researcher's and the participants' personal biases and prejudices as it allows for multiple research methods and techniques (Miller, 1999). Post-positivists believe that there is no absolute truth to be found (Phillips & Burbules, 2000). This was in line with the researcher's underlying assumptions. Post-positivism is based on critical realist ontology (Crotty, 1998). The primary principle of critical realism is that our world exists separate from what we think about it from allowing us to acknowledge that our knowledge can be fallible, which can

cause us to get things wrong. Hence, realism acknowledges that when studying the social world, the tools used by researchers, that is human understanding and interpretation, are unavoidably "value-laden, theory-laden and context-dependent" (Fox, 2008, p. 8). Only an estimate of truth can be obtained and generalised through the constant efforts to have rigorous methodology, multiple data sources and meticulous data analysis (Fox, 2008). Given this, the researcher found that critical realist and post-positivist stance were more of a suitable approach when conducting this study, mainly as the research method used was susceptible to error. Hence, the measurement of first responders' knowledge, attitudes and help-seeking behaviours suggested that, while objective reality was present, there is also a degree of imperfection.

Sampling Method and Inclusion Criteria

The target population for this study was individuals who work as first responders. Inclusion criteria required participants to be 1) a currently active first responder, 2) a volunteer or a paid worker, 3) have direct exposure to potential traumatic events as part of their duty such as, road traffic accidents, fire accidents, and mass incidents among many others and/or 4) have frequent exposure to aversive details of traumatic incidents.

Exclusion criteria include participants who 1) do not have the role of a first responder, 2) are inactive or retired, 3) who their duty does not involve frequent exposure to critical incidents, such as those involved in administrative work or guard duties, and 4) have no frequent exposure to aversive details of traumatic incidents.

Sampling

The sampling method used for recruitment of participants was purposive sampling. This involved the researcher's selection of individuals who met the inclusion criterion. This was done by contacting the various departments' directors by email and requesting the possibility of acting as gatekeepers. All four departments agreed to be gatekeepers. Participants were recruited from the CPD, the MPF including the Rapid Intervention Unit (RIU), Vice Squad and district police, the AFM most specifically the Maritime Squadron, Explosive Ordinance Disposal (EOD) and Air Wing personnel, and personnel working at MDH Emergency Department.

Research Instruments

The data of this study was collected through three self-administered questionnaires and an Implicit Association Test (IAT). The first questionnaire was developed by the researcher and focused specifically on potential barriers towards seeking psychological help experienced by first responders. The second questionnaire, the Mental Health Knowledge Schedule (MAKS; Evans-Lacko et al., 2010) was used to explore the participants' knowledge on mental health problems. Lastly, the Community Attitudes Towards the Mentally Ill (CAMI; Taylor & Dear, 1981) questionnaire was provided in order to measure the participant's attitudes towards those experiencing mental health difficulties. For the second part of the study, an Implicit Association Test (IAT; Greenwald et al., 1995) on mental health was administered on the FREEIAT 1.3.3 software available on the researcher's laptop. Although demographic data of a population, such as age and gender, generates important information when analysing and interpreting data and is essential for generalization purposes, such data could not be gathered for this study. Mental

health appeared to be a very sensitive topic for first responders and although confidentiality was ensured, there appeared to be an unwillingness to provide more personal information through demographics by which one could be identified. Hence, in order to further ensure the participants' anonymity, demographic questions were not included as part of the surveys.

Measurement

Concerns and Barriers to Seeking Psychological Help Questionnaire

This questionnaire focused primarily on potential barriers in accessing psychological services. Respondents were asked whether they had any concerns in accessing ESP (Employee Support Programme) or private mental-health services. Respondents could identify with 'no concerns' or 'yes', selecting up to 10 prescript potential concerns, including: unsure how to access services, negative impact on one's career, concerns over confidentiality, negative co-worker perceptions, impact other commitments, lack of trust in key contact person, delay in services, impact on finances due to changes in work post, fear of losing potential promotions and unsure whether what they are experiencing merits psychological services. The questionnaire was developed by the researcher in order for it to be more culturally sensitive to the Maltese context. The responses were developed following review of previous similar studies (Fox et al., 2012; Wester et al., 2010) and discussions with three local experts in the field holding the occupational role of a first responder.

Mental Health Knowledge Schedule

The second questionnaire was the Mental Health Knowledge Schedule (MAKS). The MAKS is a psychometric test that assesses an individual's levels of knowledge on mental health at a population level (Evans-Lacko et al., 2010). It is a knowledge-specific instrument that can be used in combination with attitude and behavior measures (Evans-Lacko et al., 2010). Through this, the researcher can acquire a better understanding of how advancements in knowledge might result in changes of one's attitudes or behaviours (Evans-Lacko et al., 2010). MAKS consists of six stigma-related mental health knowledge concepts, including: help seeking, support, employment, recognition, treatment and recovery. Additionally, six items assess one's knowledge of mental illness conditions. Items seven to 12 allow the researcher to interpret the participant's conceptualization of mental illness while establishing the participant's levels of recognition and familiarity with a variety of conditions (Evans-Lacko et al., 2010). For each item, the respondents can answer through a 5-point scale with response options ranging from 1 (strongly agree) to 5 (strongly disagree). An additional response option 'don't know' was included (Evans-Lacko et al., 2010). Reverse coding was applied to items six, eight and 12 in order to reflect the direction of the right response (Evans-Lacko et al., 2010). A total score was calculated by adding the points acquired on each item with higher total scores indicating greater mental health knowledge (Evans-Lacko et al., 2010). A subscale score (MAKS stigma score) was also calculated by adding the points acquired on the first six questions. Higher scores indicated greater stigma-related mental health knowledge.

Reliability and Validity of the MAKS. The MAKS's overall test-retest reliability is 0.71 (Lin's concordance statistic) hence demonstrating an overall moderate to substantial test-retest reliability (Evans-Lacko et al., 2010). It has an overall internal consistency of 0.65 (Cronbach's alpha) among its items (Evans-Lacko et al., 2010). MAKS purposely includes items of a multidimensional structure intended to assess various aspects of knowledge on mental health (Evans-Lacko et al., 2010). Due to this, a high internal consistency is not expected as individuals might have knowledge in particular domains but lack knowledge in others (Evans-Lacko et al., 2010). For this reason, item with a low alpha score, indicating low internal consistency, were not excluded. MAKS' structure therefore permits individual items to track a person's knowledge in specific domains (Evans-Lacko et al., 2010).

Community Attitudes Towards the Mentally Ill (CAMI)

The participant's attitudes towards severe and lasting mental illness were assessed by the third scale, Community Attitudes toward the Mentally Ill (CAMI). The CAMI scale comprises of 40 items, where the participants were required to respond on a 5-point Likert scale (1= strongly agree to 5 = strongly disagree). Negatively stated items in CAMI scale were reversely recoded during analysis. These 40 items represent four subscales, with 10 items each, which include; Authoritarianism (AU), Benevolence (BE), Social Restrictiveness (SR) and Community Mental Health Ideology (CMHI). AU describes a person's view of a mentally ill person as inferior and requires supervision and coercion. BE refers to viewing mentally ill persons in a humanistic and sympathetic way. SR is defined as a person's belief that mentally ill patients pose a threat to society and should be evaded. Lastly, CMHI refers to a person's acceptance of mental health services and the importance of integrating mentally ill patients within the community (Taylor &

Dear, 1981). By summing up the subscales, overall stigma of the participants on persons with mental illness could be computed.

Reliability and Validity of the CAMI. CAMI's reliability, using Cronbach's Alpha, is 0.876 for all its items (Nunnally & Bernstein, 1995). Cronbach's alpha for the subscales are as follows: AU (0.55), BE (0.64), SR (0.69) and CMHI (0.80) (Abi Doumit et al., 2019). Internal and external validity were assessed extensively by using pre-test and final data sets from a Toronto study (Taylor & Dear, 1981). Construct validity of CAMI was assessed by using factor analysis to examine empirical reproducibility. It involved analysing the relationships between the attitude scales and various personal characteristics. Predictive validity was assessed by examining the relationships between the scales and the different measures of responses to mental health facilities. The potency, direction and stability of these relationships gave strong support for the CAMI scales' external validity. A high level of inter correlation was identified by calculating and correlating factor scores with raw scores from a priori scales. The lowest correlation was between AU and BE (-.63) while the highest was between SR and CMHI (-.77) (Taylor & Dear, 1981).

Implicit Association Test (IAT)

A mental health IAT was administered in order to measure the participants' implicit attitudes towards mental health problems. The IAT calculates the strengths of associations between the concepts presented by examining the participants' response latencies in categorization tasks that are administered on a computer (Greenwald et al., 2009). This test was administered on the researcher's laptop and involved five specific stages. Upon starting the test, the participants were asked to read the instructions provided by the test (*Figure 1*). Here, the

participants were instructed to answer as quickly as they can during the test in order for their responses to be valid. The first stage of the IAT required the participants to categorise words representing types of mental illnesses and physical illnesses under the categories ‘Physically ill people’, by pressing the key ‘E’ on the keyboard, or ‘Mentally ill people’, by pressing the key ‘I’ on the keyboard (*Figure 2*). The second stage required the participants to categorise exemplars of two contrasted concepts which appear on the screen, either as ‘Harmless’, by pressing the letter key ‘E’ on the keyboard, or as ‘dangerous’, by pressing the letter key ‘I’ on the keyboard (*Figure 3*). The third stage is the first combined task. Here, the participants were presented with exemplars of all four categories previously presented and were required to categorise them into the categories ‘Physically ill people’ and ‘Mentally ill people’ along with ‘Harmless’ and ‘dangerous’. Here, ‘Physical ill people’ and ‘Harmless’ were represented by the key ‘E’ on the keyboard, while ‘Mentally ill people’ and ‘Dangerous’ were represented by the key ‘I’ (*Figure 4*). For the fourth stage, ‘Physically ill people’ and ‘Mentally ill people’ were interchanged, with ‘Mentally ill people’ now being represented by key ‘E’ on the keyboard, and ‘Physically ill people’ represented by key ‘E’ *(Figure 5).* Lastly, in the fifth stage, the participants were presented with the second combined task however this time ‘Mentally ill people’ and ‘Harmless’ were represented by the key ‘E’ on the keyboard, while ‘Physically ill people’ and ‘Dangerous’ were both represented by the key ‘I’ on the keyboard (*Figure 6*).

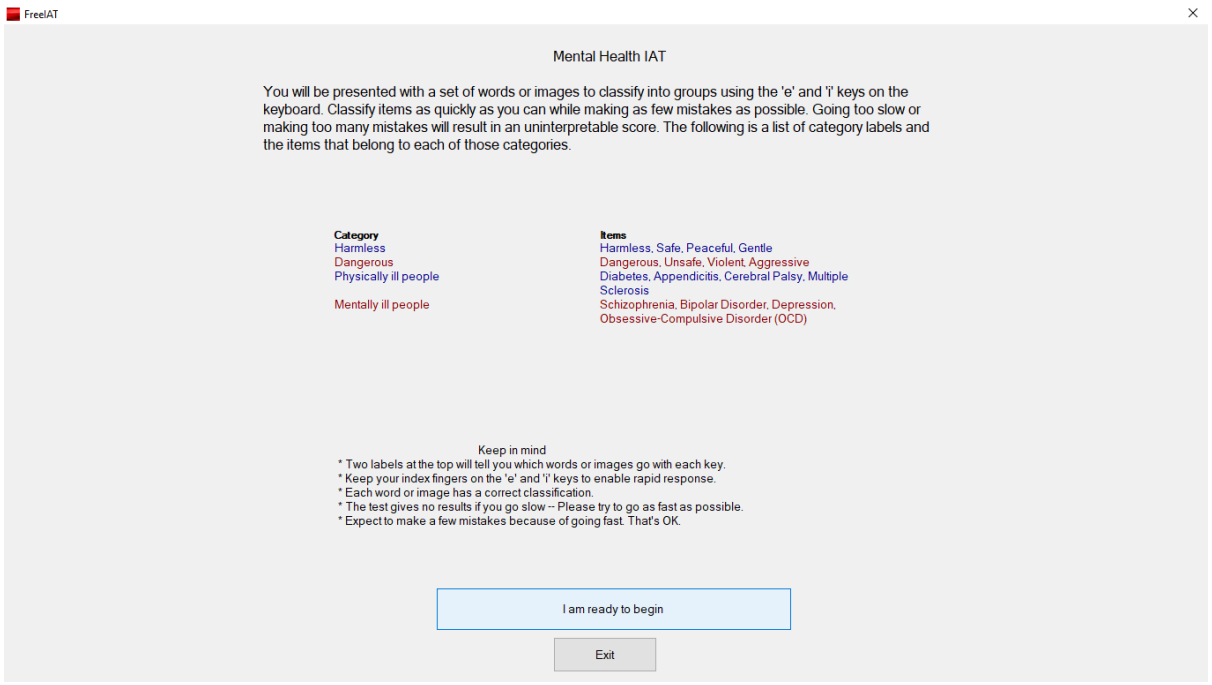

Figure 1. IAT Instructions provided to the participant at the onset of the test

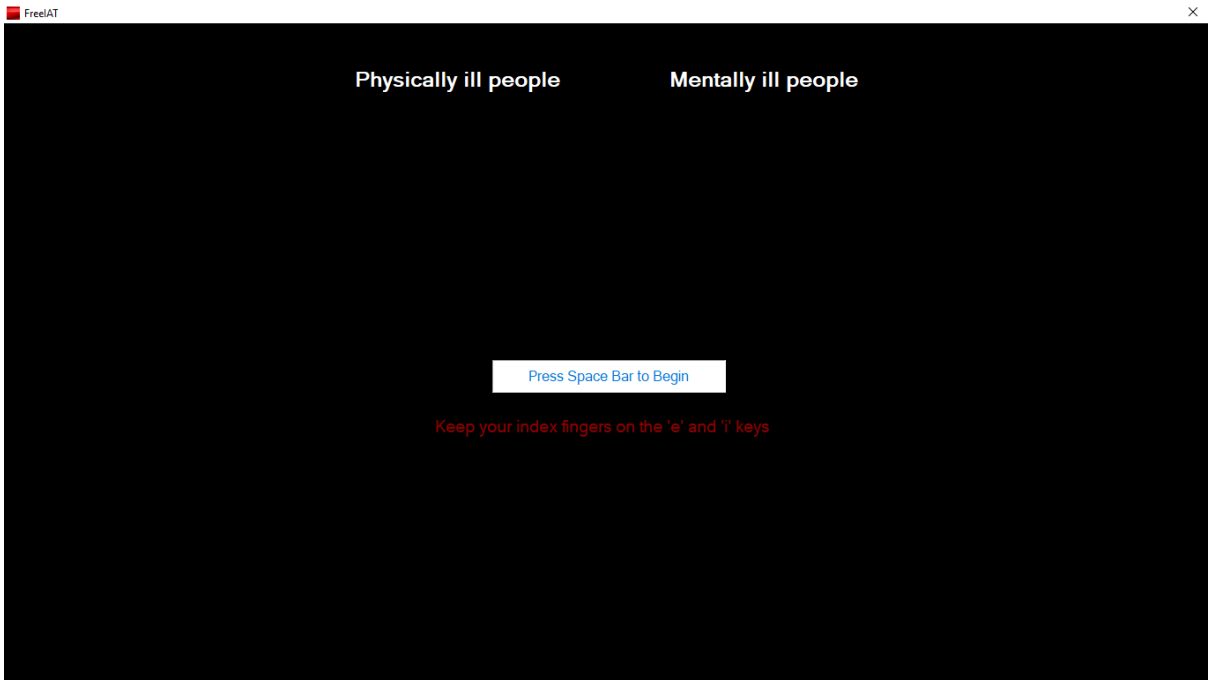

Figure 2. First Stage

Figure 3. Second Stage

Figure 4. Third Stage

Figure 5. Fourth Stage

Figure 6. Fifth Stage

Respondents were required to correct their errors before proceeding to the next response. In such cases, latencies were measured until the correct response occurred. The IAT measure is obtained by measuring the difference in the average latency between the two combined tasks (Stage 3 and Stage 5). For instance, a respondent's faster responses for the [mentally ill person + harmless/physically ill + dangerous] stage than for the [physically ill person + harmless/mentally ill person + dangerous] stage gives the indication of a stronger association of mentally ill persons than of physically ill persons with a harmless capacity.

Conceptual Model Underlying the IAT. An attitude is conventionally defined as a hypothetical construct that mirrors the positive or negative affect related with an attitude object. Studies have shown how most of our attitudes function beyond our own conscious awareness and therefore explicit measures might not always capture these deep-rooted attitudes (Blair, 2002; Greewald & Banaji, 1995; Stier & Hinshaw, 2007; Nosek et al., 2011). The assumption that people are unable to report their mental processes accurately (Nisbett & Wilson, 1977), meaning that self-report measures cannot reach a persuading predictive value, was a way forward towards introspective methods (Meissner et al., 2019). The dual system models states that aspects of human behaviour can only be described by processes which function below the person's threshold of control and awareness (Hofmann et al, 2009; Kahneman, 2011). Attitude measurement tools were introduced to tap into one's underlying processes by requiring participants to complete computerized tasks quickly and precisely (Meissner et al., 2019). Researchers therefore often make use of both implicit and explicit measures in order to capture what might not be captured in self-reported measures (Meissner et al., 2019).

The theory of implicit attitudes has been elaborated by Greenwald et al. (2003) where, although an attitude was similarly defined as traditional definitions, it also drew upon concept of

nodes from network models of memory. Particularly, an attitude is conceptualized by Greenwald et al. (2003) as the totality of associational nodes which link an attitude object to valence notions. The framework underlying the IAT entails a different theoretical approach to linking attitudes to behaviour than what is standard in traditional attitude theory. While traditional attitude researchers center on attitudes towards a distinct attitude object, IAT researchers focus on relative attitudes. Relative attitudes refer to the difference in how two particular attitude objects are evaluated, for instance; the difference between the implicit evaluations of mentally ill persons versus the implicit evaluation of physically ill persons (Greenwald et al., 2003). The IAT can be effectively used as numerous socially significant categories develop complementary pairs, for example aggressive-peaceful or positive-negative (Greenwald et al., 2003).

Data Analysis

The data obtained from the self-report questionnaires and the IAT was analysed using the Statistical Package for Social Sciences (SPSS), designed by the IBM Corporation, as to understand and interpret the results obtained from the study. Firstly, data was screened for missing values and outliers (see Chapter 4 for a detailed explanation). Data were then screened for normality and homogeneity of variance using Levene's test. A violation of one of the assumptions for parametric tests was identified. Parametric tests however tend to be powerful enough to handle such violations in large samples (Pallant, 2013). Furthermore, there is no clear consensus on how many violations are considered acceptable for the use of parametric tests (Field, 2013). In view of this, parametric tests were used for this study. In addition to this, the non-parametric equivalent tests were also administered in order to ensure that this violation did not influence the results of the study. Descriptive statistics were entered in order to analyse all

variables. Differences in knowledge on mental health and explicit and implicit attitudes were examined through a one-way ANOVA between the four groups (CPD, AFM, EMT and MPF). A one sample *t*-test was conducted in order to compare the IAT score obtained by the first responders with a specific value (0). Potential relationships between knowledge (MAKS) and explicit (CAMI) and implicit attitudes (IAT), and between explicit and implicit attitudes were investigated by Pearson's correlation coefficient. Following this, independent sample *t*-tests were conducted to compare explicit and implicit measures between first responders with concerns and those without. A probability value of .05 ($p < .05$) was set as the significant level. The table overleaf illustrates the analyses conducted.

Table 1

The Statistical Tests Used to Analyse Data

Statistical Test	**Purpose**
One-way between groups ANOVA	To compare the four groups on MAKS, CAMI and IAT.
One sample *t*-test	To compare the IAT score of first responders with a specific value (0).
Pearson correlation coefficient	To examine the relationship between MAKS and CAMI, MAKS and IAT, CAMI and IAT.
Independent samples *t*-test	To compare first responders with concerns and without concerns on MAKS, CAMI and IAT

Ethical Standards

Prior to commencing with the study, ethical approval was acquired from both the Faculty Research Ethics Committee (FREC) and the University Research Ethics Committee (UREC). Approval from both committees was obtained on 11th June, 2020. Following this, approval was sought from the gatekeepers (mentioned in the previous section).

Procedure

Subsequent to the gatekeepers' approval, data collection started in July, 2020. A face to face meeting with the head of each department was scheduled and copies of the questionnaires were provided. These were then distributed by the department among the staff of the specifically selected units. In the case of police stations and fire stations, questionnaires were distributed by the researcher due to their different locations. An information sheet and a consent form were provided. The information sheet provided a description of the study and its purpose. It also outlined both parts of the study (part 1 involving self-administered questionnaires and part 2 being the IAT) and required the participants to provide their contact details should they wish to participate in the second part of the study too. This sheet also informed the participants that participation in the study was voluntary and should they wish to withdraw from the study, they had the right to do so. Participants were also informed that all data collected will remain confidential and anonymous. Furthermore, participants were provided with contact details of both the researcher and the supervisor, Dr. Kristina Bettenzana, if they had any questions about the study. Signing the consent form indicated that the participant understood the research study and their role within the study while confirming their participation.

After a few weeks, the departments were contacted again in order to gather the completed questionnaires. Participants who expressed their wish to participate in the second part of the study, by ticking a box on the consent form, were contacted by a phone call or an email in order to schedule an appointment. The IAT was carried out in various venues depending on the participant's request. Most often, the IAT was administered at the participants' work place in a quiet room. Each participant completed the test independently on the researchers' personal laptop. The duration for the completion of the test was approximately 10 minutes each. Each participant was allocated a number which corresponds to their number on the completed questionnaires. This allowed the researcher to examine the relationship between the participants' implicit and explicit attitudes during data analysis. The procedure of the IAT was explained thoroughly to the participants by first asking them to read the instructions provided at the onset of the IAT and then going through them together. Participants were instructed to be as accurate and as fast as they can in their responses.

Conclusion

This chapter outlined the methodology and tools utilized in order to reach the study's aims. The research question and research aims were also introduced. This was followed by the rationale for choosing a quantitative approach and its ontological and epistemological underpinnings. The ontological and epistemological positions of the researcher were explained briefly. Subsequent to this, the procedure of the study was presented including the recruitment of participants, data collection methods, the analysis process and ethical procedures. The next chapter will present the findings yielded from the analysis of the data gathered from the self-report questionnaires including concerns and barriers towards seeking psychological help,

MAKS and CAMI for explicit attitudes, and from the IAT which measured the first responders' implicit attitudes towards mental health difficulties.

Chapter 4: Results

Introduction

The main aim of this study was to explore the knowledge and attitudes of first responders towards mental health difficulties as possible barriers to seeking psychological help. The first aim of the study was to examine the first responders' mental health knowledge. The second aim of the study was to investigate the first responders explicit and implicit attitudes towards mental health difficulties. The third aim was to examine the association between the first responders' mental health knowledge and attitudes towards mental health difficulties. The fourth aim of this study was to examine whether there is a difference in knowledge and attitudes towards mental health difficulties between first responders with concerns towards seeking help and those without. Data analysis was conducted on the whole sample and on the four groups (CPD, AFM, EMT and MPF) reflecting the first responders' role. Additionally, in order to examine whether knowledge and attitudes are potential barriers, the sample was split into two groups; 1) first responders with concerns towards seeking psychological help, and 2) first responders without concerns towards seeking psychological help, for comparisons. Data was gathered through self-report questionnaires (explicit measures) and completion of an IAT test (implicit measures).

Preliminary Analyses of Data

This section will describe the preliminary data considerations. The first step in analysing the data involved checking the data in SPSS for any missing values. The Expectation-Maximization (EM) was applied with participants who had less than 10% of their data missing. The next step was to screen for any outliers which can distort the findings of the study. Following this, the distribution of data and homogeneity of variance was examined.

Screening of Data for Missing Values and Outliers

Missing data were coded '999' in SPSS. A total of 11.46% of the participants (n = 29) had missing data in MAKS while 15.01% (n = 38) had missing data in CAMI. The amount of missing data in a dataset can directly influence the value of the statistical inferences made. Nonetheless, no cut off for an acceptable percentage of missing data has yet been established in order for the research to obtain valid statistical inferences (Dong & Peng, 2013). In this study, participants with more than 10% of their data missing were excluded from the analysis. This decision was taken in line with Bennett (2001) who stated that statistical analysis is expected to be biased when 10% or more of the data is missing. Therefore, 4.74% of the participants (n = 12) were excluded from MAKS analysis, while 7.11% (n = 18) were excluded from the CAMI questionnaire.

Expectation – Maximization. The Expectation – Maximization (EM) algorithm was used to handle participants with less than 10% of their data missing. 7% (n = 17) of the participants had less than 10% of their data missing in MAKS while 7.6% (n = 18) of the participants had less than 10% of their data missing in CAMI. EM is a form of maximum likelihood strategy that generates a new data set in which all values are imputed for missing values by maximum likelihood methods (Demptster et al., 1997). The first step, the expectation step, involved estimating parameters through which missing data could be predicted by creating a regression equation (Kang, 2013). Following this, the maximization step filled these missing data by using these equations and was then repeated with the new parameters. Missing data were filled in with the new regression equations. Both the expectation and the maximization steps were repeated until the system was stabilized by having the covariance matrix for the subsequent iteration almost the same as the preceding one (Kang, 2013).

Screening Data for Outliers. The data distribution of the whole sample was screened through visual inspection of box-plots and histograms for any outliers (See appendix A). The data distribution was also screened separately for the four groups (CPD, AFM, EMT and MPF). The visual inspection revealed extreme data scores on some of the variables. These are known as outliers, as they lay outside the normal distribution of the sample, hence differing significantly from the main tendency of the sample data (Field, 2013). The occurrence of an outlier can influence results as it can lead to flawed interpretations and incorrect generalizations (Bradley, 1984). Hence, outliers were first checked individually in order to ensure that such data has been entered correctly. Outliers were present on five variables from the dataset of the CPD, four variables for EMT, four variables for AFM and two variables for MPF.

Outliers are often considered as those cases which have a large standardized score, or z-score, usually higher than 3.29 ($p < .001$) (Tabachnick & Fidell, 2013). Z-scores were computed for the identified outliers derived from visual inspections of box-plots and histograms. Only one variable from the data set of the MPF group had an outlier, with a z-score higher than 3.29 (z-score = 4.60). There were no other outliers in the data sets for the CPD, AFM and EMT. In order to reduce bias, winsorizing was implemented where the outlier was replaced with the next highest score that is not an outlier (Field, 2013). This approach permitted weight modification without having to discard or replace the values of outliers, limiting the outlier's influence on the results (Kwak & Kim, 2017).

Determining Which Statistical Approach to Use for Analyses

The data was explored in order to establish whether to use parametric or non-parametric tests in the analyses. The assumptions required in order to conduct parametric tests include;

assessing for the normality of data (data is normally distributed or symmetrical and not significantly skewed or kurtotic); homogeneity of variance (i.e. data have the same variance) and independence of observations (Field, 2013).

Assessing Normality of Data

One of the underlying assumptions for parametric tests is that population data has a normal distribution. In view of this, tests of normality were administered to check whether data satisfied this requirement. The term 'normal' here describes a symmetrical, bell shaped curve, with the highest frequency of scores in the middle while smaller frequencies are towards the extremes (Gravetter & Wallnau, 2000). A variety of methods are available in order to test for the normality of data, including frequency distributions (histograms), skewness, kurtosis, box plots, P-P Plots and Q-Q Plots (Ghasemi & Zahediasl, 20120; Mishra et al., 2019). According to Pallant (2013), normal distribution in large samples (N > 30) should be assessed through visual inspections and inspection of values of skewness and kurtosis. In keeping with this, the distribution of the study's population data was examined visually through histograms and values of skew and kurtosis.

Skew and Kurtosis

Skewness can be described as the lack of symmetry of the normal distribution (Mishra et al., 2019). A normal distribution has a skew value of 0, suggesting a symmetric distribution. The curve has tails on both sides which are exactly the same (Kwak & Park, 2019). When the distribution is skewed on the right side, having the right hand side of the curve's tail longer than the left, this is referred to as positive skewness. Here, the mean is greater than the mode (Kwak

& Park, 2019). On the other hand, negative skewness means that the distribution is skewed to the left and therefore the left hand side's tail is longer than the right. A negatively skewed distribution has its mean less than the mode (Kwak & Park, 2019). If the distribution of data is normal, both skewness and kurtosis have a value of 0, which is quite uncommon in social sciences (Pallant, 2011). A positive kurtosis value indicates that the distribution is quite peaked, with clustered data at its centre and with long thin tails. On the other hand, negative values indicate that the distribution of data is somewhat flat with many of the cases situated at its extremes (Pallant, 2011). In this study, no distributions were perfectly normal (skewness and kurtosis scores = 0) (See Table 2).

Table 2

Skewness and Kurtosis Scores of CAMI, MAKS and IAT Scores for the Whole Sample

		N	Skewness	Kurtosis
Explicit Measures				
	CAMI total score	235	.187	.215
	CAMI AU score	235	-.254	-.056
	CAMI BE score	235	.061	-.056
	CAMI SR score	235	.252	-.339
	CAMI CMHI score	235	.075	.078
	MAKS total score	241	-.169	-.029
	MAKS Stigma score	241	-.427	-.045
Implicit Measures				
	IAT score	69	-.194	-.077

Note. The range of -2 to +2 was deemed acceptable for skewness and kurtosis, as recommended by various authors (Field, 2013; Gravetter & Wallnau, 2014). *N* = total number of participants. Skewness = values of skewness, Kurtosis = values of kurtosis

Descriptive values for skew and kurtosis however fell within the acceptable range of -2 to +2 as recommended by various authors (Field, 2013; Gravetter & Wallnau, 2014). When assessing for data normality for the four groups (CPD, AFM, EMT and MPF), one variable on three of the groups was kurtotic but not also skewed (See Appendix H).

Test for Homogeneity of Variance

The assumption of homogeneity of variance states that the groups are derived from populations that have the same variance (Field, 2005). Several parametric statistical tests share this assumption (Erjavec, 2011). The homogeneity of variance for this study was examined by using the Levene's test. Levene's test is used to test the null hypothesis which states that the variances in different groups are equal (Levene, 1960). Levene's test is significant at $p < .05$ where the null hypothesis is rejected and therefore variances of groups are significantly different. This means that the assumption of homogeneity of variances is violated (Field, 2005). A significant value higher than .05 ($p > .05$) means that variances are roughly equal hence the assumption is plausible (Field, 2005). The Levene's test for this study revealed a significant value higher than .05 ($p > .05$) on all the variables indicating that the variance of the groups was roughly equal and therefore the assumption of the homogeneity of variance was not violated (see Table 3).

Table 3

Test of Homogeneity of Variance (Levene's Test)

		F(*df*1, *df*2)	*p*
Explicit			
Questionnaires			
	CAMI total score	.653 (3, 231)	.118
	CAMI AU score	.705 (3, 231)	.150
	CAMI BE score	.720 (3, 231)	.262
	CAMI SR score	.178 (3, 231)	.742
	CAMI CMHI score	1.634 (3, 231)	.309
	MAKS total score	.626 (3, 231)	.310
	MAKS stigma score	.347 (3, 237)	.791
Implicit Measures			
	IAT score	1.371 (3, 65)	.308

Rationale for Choice of Statistical Tests

The examination of the distribution of data and homogeneity of variance revealed a violation (for normality of data) when data was assessed separately for the four groups. According to Pallant (2013) however, large samples and parametric tests tend to be powerful enough to handle such violations. Additionally, there appears to be no clear consensus as to how many violations of assumptions is considered acceptable for the use of parametric tests (Field, 2013). In view of this, parametric tests were used for this study. Furthermore, non-parametric

equivalent analyses were also administered in order to make sure that such violations did not influence the results of the study.

Data Analysis

Results obtained from this study were analysed in four parts. Initially, the descriptive statistics of the sample were outlined. Secondly, scores obtained by the self-report questionnaires and IAT were examined and differences between groups were investigated. Following this, potential associations between the explicit measures (self-report questionnaires) and the implicit measures (IAT) were explored. Lastly, comparisons where made between first responders with concerns towards seeking psychological help and those without on the explicit and implicit measures.

Descriptive Statistics

The total number of participants for this study was 253 adults all of whom were first responders. The sample included 111 CPD (43.9%), 81 AFM (32%), 27 EMT (10.7%) and 34 MPF (13.4%). This group of first responders was targeted for inclusion in this study as their role required them to provide immediate assistance in various critical incidents.

First Responders' Concerns with Accessing Psychological Services

First responders were asked whether they experienced any concerns in relation to accessing psychological services, both privately and within the department, by responding 'yes' or 'no'. Out of 253 participants, 247 responded to this questionnaire. A total of 49 (19.8%) out of 247 participants responded 'yes' to concerns with accessing psychological help. Results showed

that the highest percentage of first responders that responded ‘yes’ were EMT (*n* = 10, 38.5%). In contrast, CPD had the lowest ‘yes’ scores (*n* = 16, 14.4%).

Barriers to Seeking Psychological Help

A total of 49 participants (19.8%) responded ’yes’ to having concerns with accessing psychological help on the Concerns and Barriers to Seeking Psychological Help questionnaire. Participants who answered ‘yes’ were then required to select from 10 prescript concerns including; unsure how to access services, potential negative impact on one’s career, concerns over confidentiality, negative co-worker perceptions, impact on other commitments, lack of trust in key contact person, delay in services, impact on finances, fear of losing potential promotions and unsure whether what he/she is experiencing merits psychological services. The most commonly endorsed barrier to seeking psychological help among first responders was the fear that psychological services are not confidential, with MPF having the highest percentage (*n* = 7, 70%). This barrier was followed by the fear that making use of psychological services would have a negative impact on one’s career in EMT (*n* = 6, 60%), AFM (*n* = 6, 37.5%) and CPD (*n* = 5, 31.3%). This barrier was not as common among MPF but instead MPF appear to have a concern on how others might perceive them should they seek psychological help (*n* = 4, 57.1%) (see table 4).

Table 4

Common Barriers to Help Seeking Behaviours Separated According to Group

Barriers	Group							
	CPD		AFM		EMT		MPF	
	n	%	*n*	%	*n*	%	*n*	%
Unsure how to access services	1	6.3	2	12.5	4	40	1	14.3
Negative Impact on work	5	31.3	6	37.5	6	60	2	28.6
Concern on confidentiality	7	43.8	9	56.3	7	70	5	21.4
Negative co-worker perceptions	2	12.5	1	6.3	3	30	4	57.1
Impact on other commitments	2	12.5	2	12.5	5	50	0	0
Lack of trust in key contact person	0	0	2	12.5	2	20	2	28.6
Delay in services	2	12.5	1	6.3	4	40	1	14.3
Impact on finances	1	6.3	5	31.3	2	20	0	0
Loss of potential promotions	2	12.5	1	6.3	2	20	1	14.3
Unsure whether it merits services	3	18.8	6	37.5	3	30	3	42.9

Note. CPD = Civil Protection Department; AFM = Armed Forces of Malta; EMT = Emergency Medical Team; MPF = Malta Police Force; *n* = number of participants

Comparisons between self-report questionnaires and groups

Mental Health Knowledge (MAKS)

First responders' knowledge on mental health was examined by the MAKS questionnaire. A total score (MAKS total score) was computed by adding scores for questions one to 12 (six stigma-related statements and six statements assessing a person's knowledge on what constitutes a mental illness). A subscale score (MAKS stigma score) was also computed by adding scores for questions one to six, measuring stigma-related knowledge. A one-way between groups ANOVA was conducted to compare the groups on the MAKS total score and MAKS stigma score (see table 5).

Table 5

Means, Standard Deviations and One-Way analysis of Variance of MAKS Scores Between Groups

MAKS measure	CPD	AFM	EMT	MPF	*F*-ratio	*p*	η^2
MAKS total score	$43.832_{b, c}$	$43.056_{b, c}$	48.496_{a}	$45.321_{b, c}$	10.575	< .001	.02
	(4.42)	(4.19)	(4.52)	(2.83)			
MAKS stigma score	22.159_{a}	21.671_{a}	22.384_{a}	22.750_{a}	1.283	.281	.02
	(2.73)	(2.73)	(2.98)	(2.95)			

Note. Standard deviations are presented in parentheses. Means with different subscripts differ at the $p = .05$ level with Tukey's HSD Test.

Results obtained indicate a significant difference in the MAKS total score between groups $F(3, 237) = 10.58$, $p < .001$. Post hoc comparisons using Tukey HSD led to results indicating a significant difference between CPD and EMT ($p < .001$), and between AFM and EMT ($p < .001$) as illustrated in table 5. Such results indicate that a significant difference in mental health knowledge is present between CPD and EMT, and between AFM and EMT. On the other hand, no significant difference in the MAKS stigma scores was identified between groups $F(3, 237) = 1.28$, $p = .281$. This means that there was no significant difference in the stigma related mental health knowledge between the four groups.

Attitudes Towards Mentally Health Difficulties

CAMI Total Score The first responders' attitudes towards mental health difficulties were measured through the CAMI questionnaire. The CAMI total score gives an indication of the overall stigma of the person towards mentally ill persons. Higher scores indicate less stigma against persons with mental illness. A one-way between groups ANOVA was conducted to compare CAMI total score between the groups. Results indicated no significant difference in CAMI total score between groups $F(3, 231) = 1.84$, $p = .140$. This means that there was no significant difference in the overall stigma towards persons with a mental illness between the groups (See table 6).

Table 6

Means, Standard Deviations and One-Way Analysis of Variance of CAMI Scores Between Groups

CAMI measures	CPD	AFM	EMT	MPF	*F*-ratio	*p*	η^2
CAMI total score	123.906_{a} (7.48)	122.028_{a} (5.40)	124.111_{a} (7.41)	125.226_{a} (8.27)	1.845	.140	.02
CAMI AU score	24.066_{b} (4.35)	26.845_{a} (3.72)	20.555_{c} (3.56)	$23.065_{b, c}$ (4.80)	19.587	< .001	.20
CAMI BE score	38.783_{b} (4.35)	36.126_{c} (3.92)	41.925_{a} (3.59)	41.806_{a} (3.64)	21.274	< .001	.22
CAMI SR score	23.962_{a} (4.40)	25.718_{a} (4.28)	22.518_{b} (5.39)	22.645_{b} (4.74)	5.194	.002	.06
CAMI CMHI score	37.094_{a} (5.01)	33.338_{b} (4.29)	39.111_{a} (3.52)	37.709_{a} (4.79)	15.023	< .001	.16

Note. Standard deviations are presented in parentheses. Means with different subscripts differ at the $p = .05$ level with Tukey's HSD Test.

CAMI Subscale Scores. Four separate subscale scores were computed from the CAMI questionnaire, measuring four specific attitudes towards mentally ill persons, including; authoritarianism (CAMI AU score), benevolence (CAMI BE score), social restrictiveness (CAMI SR score) and community mental health ideology (CAMI CMHI score). A one-way between groups ANOVA was conducted to compare CAMI subscale scores between the groups, establishing whether there is a significant difference in scores between the groups. Post-hoc comparisons using the Tukey HSD test revealed significant differences in CAMI subscale scores between the groups. The results are presented in Table 6.

Post-Hoc Comparisons in CAMI Subscale Scores Between Groups

Authoritarianism (CAMI AU Score). Results from the one-way ANOVA showed a significant difference between the groups, $F(3,231) = 9.59$, $p < .001$. A Tukey post hoc showed a significant difference between CPD and AFM ($p < .001$), CPD and EMT ($p < .001$), AFM and EMT ($p < .001$), AFM and MPF ($p < .001$) for AU scores. The AFM obtained the highest mean score for authoritarianism ($M = 26.85$, $SD = 3.72$) while the EMT obtained the lowest mean score ($M = 20.56$, $SD = 3.56$). This means that the AFM are the first responders who mostly view mentally ill persons as inferior and requiring supervision and coercion.

Benevolence (CAMI BE Score). Results from the one-way ANOVA showed a significant difference between the groups, $F(3,231) = 21.27$, $p < .001$. A Tukey post hoc showed a significant difference between CPD and AFM ($p < .001$), CPD and EMT ($p = .002$), CPD and MPF ($p = .002$), EMT and AFM ($p < .001$), and between AFM and MPF (< .001) for BE scores. EMT acquired the highest mean score ($M = 41.93$, $SD = 3.92$) for benevolence followed by MPF ($M = 41.81$, $SD = 3.64$). On the contrary, the AFM scored the lowest in benevolence ($M = 36.13$, $SD = 3.59$). This means that AFM are the least first responders who view persons with a mental illness in a humanistic and sympathetic way.

Social Restrictiveness (CAMI SR Score). Results from the one-way ANOVA showed a significant difference between the groups, $F(3,231) = 5.19$, $p = .002$. A Tukey post hoc showed a significant difference between AFM and EMT ($p = .011$) and between AFM and MPF ($p = .010$) for SR scores. AFM obtained the highest score for social restrictiveness ($M = 25.72$, $SD = 4.28$) while EMT obtained the lowest score ($M = 22.52$, $SD = 5.39$). This means that AFM are the ones who mostly hold the belief that mentally ill patients pose a threat to society and that they should be evaded while the EMT are the least ones.

Community Mental Health Ideology (CAMI CMHI Score). Results from the one-way ANOVA showed a significant difference between the groups, $F(3,231) = 10.58$, $p < .001$. A Tukey post hoc showed a significant difference in CMHI scores between CPD and AFM ($p < .001$), AFM and EMT ($p < .001$), AFM and MPF ($p < .001$). The highest mean score for community mental health ideology was obtained by the EMT ($M = 39.11$, $SD = 3.52$) while the lowest score was obtained by the AFM ($M = 33.34$, $SD = 4.29$). Hence, AFM are the ones who mostly reject mental health services and the integration of persons with mental illness in the community.

Results yielded from post-hoc comparisons indicated how, even though the overall stigma (CAMI total score) towards persons with a mental illness did not differ significantly between the groups, significant differences were still identified between the first responders in specific attitudes (CAMI subscale scores) towards such persons.

Implicit Association Test (IAT)

One sample *t*-test was used to compare a sample result with a specifically known value (0). It aims towards examining whether the mean of the population from which the sample is taken differs from the specific value (Skaik, 2015). The purpose of implementing the one sample *t*-test therefore was to identify whether the IAT score of a sample of first responders was significantly different from the specific value (0). The specific value 0 means that the person has no biases towards mentally ill people or physically ill people. The positive IAT score (M = .27) indicates that the majority of the first responders view mentally ill people as dangerous.

Comparisons in implicit measure between groups

A one-way between groups ANOVA was conducted in order to compare IAT scores between the groups. Results obtained indicate that there is no significant difference in the IAT scores between the groups $F(3, 65) = 1.38$, $p = .256$.

Comparison of the results therefore show a significant difference in mental health knowledge (MAKS total score) between groups however no significant difference was present in knowledge specifically related to stigma (MAKS stigma score). Furthermore, while the overall stigma towards persons with a mental illness was similar between the groups, further analysis by examining the scores for each attitude (AU, BE, SR and CMHI)

indicated a significant difference in such attitudes between the four groups. Finally, results show how implicit attitudes (IAT score) towards persons with a mental illness are similar between the four groups.

Associations Between Self-Report Questionnaires

The Pearson correlation coefficient test was conducted in order to examine the association between the self-report questionnaires measuring knowledge and attitudes towards mental health. The relationship between the MAKS total score and the CAMI score was investigated by using the Pearson correlation coefficient. There was no significant correlation between MAKS total score and CAMI total score (r = -.034, p =.308). A significant relationship was however identified between the MAKS total score and the various subscale scores of CAMI, with a negative relationship between MAKS total score and authoritarianism (r = -.317, p < .001) and between MAKS total score and social restrictiveness (r = -.409, p < .001). A positive relationship was identified between MAKS total score and benevolence (r = .339, p < .001) and between MAKS total score and mental health community ideology (r = .285, p < .001) (see table 7).

When investigating stigma-related mental health knowledge (MAKS stigma score) with CAMI, results indicated a positive relationship between MAKS stigma score and benevolence (r = .286, p < .001) and between MAKS stigma score and community mental health ideology (r = .240, p < .001). A negative relationship was identified between MAKS stigma score and authoritarianism (r = -.162, p = .015) and between MAKS stigma score and social restrictiveness (r = -.353, p < .001). Lower stigma related knowledge is associated with less humanistic and sympathy view of persons with mental illness. This means that having lower stigma related knowledge is associated with a rejection of mental health services and integration of persons with mental illness. On the other hand, higher stigma related

knowledge is associated with a decreased belief that mentally ill patients require coercive care, that they are a threat to society and that they should be avoided.

Association between Explicit and Implicit Measures

The Pearson correlation coefficient test was conducted in order to examine the association between the self-report questionnaires measuring knowledge and attitudes towards mental health difficulties and implicit measures (see table 7). Pearson product-moment correlation coefficient test showed no significant correlation between the IAT score and the MAKS total score (r = -.131, p =.141). On the other hand, a significant negative correlation was identified between IAT score and MAKS stigma score (r = -.359, p = .003). This means that lower stigma-related knowledge is associated with a higher negative bias towards persons with mental health difficulties. No significant correlation was identified between the IAT score and the CAMI total score (r =.009, p = .944). Lastly, no significant correlation was identified between the IAT score and the CAMI subscale scores; AU (r = -.127, p = .307), BE (r = -.012, p = .922), SR (r = -.038, p = .761) and CMHI (r = .156, p = .208). This means that there was no significant association between the first responders' explicit and implicit attitudes towards persons with a mental illness.

Table 7

Results of the Correlations Between Self-Report Questionnaires and Implicit Measure

Variable	1	2	3	4	5	6	7	8
1. CAMI total score	—							
2. CAMI AU score	.256**	—						
3. CAMI BE score	.486**	-.475**	—					
4. CAMI SR score	.327**	.491**	-.436**	—				
5. CAMI CMHI score	.442**	-.526**	.590**	-.495**	—			
6. MAKS total score	-.034	-.317**	.339**	-.409**	.285**	—		
7. MAKS stigma score	.020	-.162*	.286**	-.353**	.240**	.732**	—	
8. IAT score	.009	-.127	-.012	-.038	.156	-.131	-.359**	—

Note ** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).1 = CAMI total score; 2 = CAMI AU score; 3 = CAMI BE score; 4 = CAMI SR score; 5 = CAMI CMHI score; 6 = MAKS total score; 7 = MAKS stigma score; 8 = IAT score

Comparisons Between First Responders with Concerns and Without Concerns

The total sample was separated into two groups; first responders with concerns and first responders without concerns, in order to examine whether knowledge (MAKS) and attitudes (CAMI and IAT) are possible barriers to seeking psychological help. A series of independent-samples *t*-tests were conducted to compare scores on explicit and implicit measures between the two groups (see table 8). Results from the Levene's test were examined prior to interpreting the results obtained from each comparison. Whenever homogeneity of variance was violated ($p > .05$), the *t* statistic for unequal variance was reported. On the other hand, whenever homogeneity of variance was assumed, the *t* statistic for equal variance was then reported.

Self-Report Questionnaires

The two groups were compared on measures of knowledge on mental health and attitudes towards mentally ill persons, as illustrated in table 8. Results of the independent samples *t*-tests revealed no significant differences between the groups on all variables.

Implicit Measure (IAT)

The first responders' implicit attitudes towards individuals with a mental health problem were assessed by implementing the IAT. The IAT score was compared between the two groups. The independent-samples *t*-test revealed no significant differences on the IAT score between the two groups, $t(66) = -.936$, $p = .353$ (see table 8).

Table 8

Comparisons Between First Responders with Concerns and Without on Self-Report Questionnaires and Implicit Measures

	Concerns (Answered Yes) n = 49		No concerns (Answered No) n = 198					
Variable	*M*	*SD*	*M*	*SD*	*t*	d*f*	*p*	Cohen's *d*
1	123.33	8.92	123.55	6.58	.156	56.2	.877	.03
2	24.24	4.96	24.30	4.19	.083	227	.934	.01
3	38.53	5.42	38.85	4.32	.374	58.4	.709	.07
4	24.11	4.86	24.05	4.63	-.066	227	.947	-.01
5	36.44	4.63	36.33	5.10	-.135	227	.893	-.02
6	43.50	5.77	44.14	4.42	.697	55.1	.489	.14
7	21.67	2.97	22.25	2.75	1.21	65.9	.230	.21
8	.384	.401	.253	.411	-.936	66	.353	-.32

Note. Answered Yes = first responders with concerns in seeking psychological help; Answered No = first responders with no concerns in seeking psychological help; M = mean; SD = standard deviation; Mdn = median; IQR = Interquartile range; 1 = CAMI total score; 2 = CAMI AU score; 3 = CAMI BE score; 4 = CAMI SR score; 5 = CAMI CMHI score; 6 = MAKS total score; 7 = MAKS stigma score; 8 = IAT score

The Bonferroni Correction

The Bonferroni correction is used in order to adjust the probability (*p*) value due to an increased risk of a type 1 error when multiple statistical tests have been conducted (Armstrong, 2014). Despite its widespread use, there has been extensive controversy for its use (Armstrong, 2014). It has been particularly criticized for being harmful to sound statistical judgment, for increasing the likelihood of type 2 errors where important differences may be deemed as non-significant, and for testing the wrong hypothesis (Armstrong, 2014). In view of this, the Bonferroni correction was not administered to the data of this study. Furthermore, being a new study, some margin of error was deemed acceptable by the researcher as to obtain a better understanding of what is being investigated.

Conclusion

This chapter provided an outline of the results obtained from this study. Results from the one-way between groups ANOVA indicated significant differences between the four groups (CPD, AFM, EMT and MPF) on the MAKS total score and CAMI subscales. Nonetheless, no differences were indicated on the MAKS stigma score, CAMI total score and IAT score. Results from the one sample *t*-test revealed that first responders hold a negative implicit attitude towards persons with mental health difficulties. Results from the independent samples *t*-test revealed significant correlations between MAKS scores and CAMI scores. It also revealed a significant correlation between MAKS stigma score and IAT score. Nonetheless, it did not report significant correlations between MAKS total score and IAT score, CAMI scores and IAT score, and between CAMI total score and MAKS scores. Results from the independent samples *t*-test revealed no differences between first responders with concerns and those without on both explicit and implicit measures. The same results

were obtained when conducting the equivalent non-parametric tests. In the following chapter, findings will be discussed in relation to literature obtained from previous research.

Chapter 5: Discussion

Introduction

In the previous chapter, the findings obtained were examined. The main aim of this study was to explore the knowledge and attitudes of first responders towards mental health difficulties as possible barriers to seeking psychological help. This was done by administering implicit and explicit measures. This chapter presents the findings of this study in light of the literature on knowledge, attitudes and help seeking behaviours in first responders. This chapter is divided into five sections. First, a brief summary of the findings is presented. Secondly, this chapter examines the comparisons between the four groups on their explicit concerns, knowledge and attitudes. In the third section, comparisons between the four groups on the implicit measures will be examined. In the fourth section, the association between knowledge and attitudes (both explicit and implicit) will be discussed. Finally, the fifth section will discuss knowledge and attitudes towards mental health difficulties as possible barriers to seeking psychological help.

Summary of Results

The findings of this study revealed differences between the four groups on the explicit measures of mental health knowledge and attitudes. No differences were identified on the explicit measure of stigma related mental health knowledge, on the overall explicit stigma and on the implicit measure of attitudes. Close inspection of the whole sample showed an implicit negative bias towards mental health difficulties. A significant association was found between the explicit measures of mental health knowledge and attitudes towards mental health difficulties. Furthermore, a significant association was identified between the explicit

stigma related mental health knowledge and implicit attitudes. When separating the whole sample into two groups; first responders with concerns towards seeking psychological help and first responders without concerns, no differences were indicated on both explicit and implicit measures between the two groups.

Explicit measures

First Responders' Concerns About Seeking Psychological Help

Findings from this study revealed that more than half of the first responders expressed that they would not have any concerns in seeking services that offer psychological help, if they needed them. As help seeking requires a level of insight and vulnerability, particularly in cultures such as those of first responders where physical and psychological strength and autonomy is reinforced (Minnie et al., 2014; Segal et al., 2014), this might have influenced the participants' responses. Answering 'yes' to having concerns with seeking psychological help, might therefore require the first responders to show an element of vulnerability which can be seen as a sign of weak character. This might have led to the underreporting of concerns among the first responders. Another potential explanation for this finding might be a fear related to confidentiality of questionnaires, which might result in a reluctance to report concerns. Although the participants were ensured that questionnaires are confidential, they might still have feared disclosures of their responses possibly raising concerns related to stigma. This might have led to a hesitance by the participants in reporting their concerns with seeking psychological help resulting in inaccurate results. These are possible explanations however and can only be confirmed through further research studies.

When analyzing the most common barriers among those who reported having such concerns, results show that confidentiality was the most frequently endorsed barrier affecting

their intentions towards seeking psychological help. Having a negative impact on one's career was the second most common concern. Hence, the two most common barriers among those with concerns were stigma-related rather than structural (e.g. impact on finances and on other commitments). Haugen et al. (2017) conducted a systematic review that examined mental health stigma and barriers to mental health care among first responders. The review revealed that the most common stigma-barrier was a fear that psychological services are not confidential (Chapman et al., 2012; Fox et al., 2012; Goldstein, 2002; Meyer, 2000; Sanders-Guerrero, 2013). Additionally, Haugen et al. 's (2017) review found that another common stigma-barrier was a fear that seeking psychological services will have a negative impact on one's career (Chapman et al., 2012, 2014; Davenport, 2012; Fox et al., 2012).

Stigma was also found to be a common barrier in Iversen et al.'s (2011) study conducted with 290 active military personnel involving various questionnaires, including a questionnaire assessing Barriers to Care. This is also congruent with previous studies conducted with service personnel both in the UK and in the US that also found that stigma was one of the leading barriers to help seeking behaviors (Britt, 2000; French et al., 2004; Greene-Shortridge et al., 2007). Additionally, Hom et al.'s (2016) study with a sample of firefighters (N = 483) who used a web-based survey found a higher percentage reporting stigma-related barriers (58%) to seeking help than structural barriers (43%), such as cost of services and getting time off from work. In contrast, a study conducted by Jones et al. (2020) involving individual interviews with a sample of 32 first responders found that the most significant barrier to seeking help is a deficit in mental health knowledge. The different results found in Jones et al.'s (2020) study could be explained by the different methodology used. In line with the previous studies, results of the current study are suggestive of a strong cultural element of stigma among the Maltese first responders towards mental health difficulties, which appears to be a stronger barrier than structural ones. Especially in Malta,

confidentiality might be a concern due to its dense population where one might struggle with concealing their attendance to psychological services. This might lead to an increased fear and reluctance towards seeking psychological help.

Certain operational duties might be suspended for a first responder who is experiencing mental health difficulties due to safety reasons. For instance, mental health difficulties in military personnel can have far reaching consequences such as not being allowed to carry a weapon or fly a military aircraft (Iversen et al., 2011). Hence, while confidentiality is a guiding principle in psychological services, this might need to be breached in certain situations (e.g. potential harm to self or others) (Iversen et al., 2011). Due to this, first responders might not feel safe opening up about mental health difficulties that they might be experiencing as they fear consequences on their career. This can result in the first responders attempt to suppress any potential mental health difficulties and in a reluctance towards seeking psychological help (Iversen et al., 2011).

The second most common concern among MPF was related to how they might be perceived by others if they sought psychological help. Police officers often feel pressured by their culture to appear mentally and emotionally in control (Burns & Buchanan, 2020). This culturally valued aspect might lead to a reluctance in seeking psychological services as officers might be viewed by their colleagues as unable to control their emotions (Burns & Buchanan, 2020). This might also lead them to be perceived as less competent and reliable when responding to critical incidents (Burns & Buchanan, 2020). Similarly, Toch (2002) explains how officers seeking support can be viewed by their peers as weak and lacking resilience, further exacerbating feelings of stigmatization. This common concern among MPF might indicate that MPF's culture has more public stigma on persons with mental health difficulties than the other groups of this study. Furthermore, MPF might put more of an emphasis on resilience and therefore having a mental health difficulty might be seen by the

other officers as a sign of poor character. Moreover, MPF personnel might fear that they will be placed within the same group of criminal suspects which they often encounter during their police work (Bullock & Garland, 2017).

Knowledge on Mental Health

The findings of this study showed a significant difference in mental health knowledge between first responders, with results showing the highest mental health knowledge to be among the EMT while the lowest mental health knowledge was among CPD and AFM. Although not as high, MPF obtained similar mental health knowledge as that of EMT. No significant difference was present in mental health knowledge related to stigma between the first responders. This finding is in line with a study conducted by Krakauer et al. (2020) who also used MAKS to measure mental health knowledge among different first responders including police officers, firefighters, paramedics, correctional officers and communal officials. In Krakauer et al.'s (2020) study, the paramedics' mental health knowledge score measured by MAKS was also similar to that obtained by the police officers. Additionally, both paramedics and police officers had a higher mean score than firefighters. Military personnel were not included in Krakauer et al.'s (2020) study and therefore results could not be compared. A possible explanation for this significant difference might be related to their level of education. Lower educational levels can lead to a lack of awareness of mental health illnesses and negative beliefs. For instance, persons with mental health difficulties are less intelligent and are often dangerous (Wolff et al., 1996). Additionally, individuals who can recount mental health information as part of an educational program may then demonstrate higher mental health literacy, as they might find it more salient (Krakauer et al., 2020).

When looking at the entry requirements required for applying for the role of a first responder, qualifications differ quite significantly. For instance, when applying with CPD,

one is not required to have any academic qualifications. Rather, their selection process involves a physical test, a selective interview, a medical test and an eight-week training course (Ministry for Home Affairs and National Security, 2017). Applicants with the AFM are required to be in possession of a Mathematics, English and Maltese language qualification at a Malta Qualifications Framework (MQF) level 2 or otherwise take a written examination on the latent subjects during the selection process (Government Gazette, 2020). AFM's mental health knowledge on the explicit measure did not differ from that of CPD. In comparison to the CPD and AFM, individuals applying with the MPF are required to be in possession of more qualifications. Qualifications include a pass in 4 subjects at MQF 3 or an MCAST Diploma or a Guilds Level 2 Certificate in a police related subject. MPF obtained higher mental health knowledge than CPD and AFM, but not higher than that obtained by the EMT. Qualified Maltese medical doctors need to be in possession of a qualification in Doctor of Medicine and Surgery from the University of Malta. This course incorporates modules which specifically focus on mental health, such as; 'Psychological and Social Aspects of Health Care and Ethics' (University of Malta, 2021). Additionally, in order to be eligible for applying as a Staff Nurse at MDH, one is required to possess a Diploma in Health Studies (nursing) (Ministry for Health, 2020) which also involves modules focusing on mental health (University of Malta, 2020). Hence, the significant difference in mental health knowledge between the four groups might be attributed to their educational levels when applying for the professional role of a first responder. This is indicated by the EMTs greater mental health knowledge when compared to the other three groups and their higher educational qualifications when applying for their role. Another possible explanation is that, contrary to the CPD and AFM, the doctors and nurses' courses involve mental health components in their curriculum.

One other possible explanation might be attributable to the duties of the first responders. The day-to-day work of CPD and AFM might involve much less contact with persons with mental health difficulties than MPF and EMT. For instance, CPD's work often involves immediate assistance and aid in fire and road traffic accidents. Critical incidents that AFM are exposed to often involve dealing with illegal trafficking of immigrants and engaging in explosive ordinance disposal amongst others (Ministry for Home Affairs, Law Enforcement and National Security, 2020). On the other hand, police officers are often the first to be called on situations where persons with mental health difficulties are acting violently or in a somewhat bizarre fashion (Cotton, 2004). Similarly, EMTs are often called on mental health emergencies (Holmes, 2019). Additionally, EMT tend to have frequent contact with self-harm patients who are admitted at the accident and emergency department (McHale & Felton, 2010). Such frequent exposures might ultimately result in the acquisition of higher mental health literacy (Holmes, 2019).

Attitudes Towards Mental Health Difficulties

The groups were compared on the CAMI questionnaire measuring their explicit attitudes towards persons with mental health difficulties. Differences between groups were significant in all four subscales of the CAMI (CAMI AU score, CAMI BE score, CAMI SR score and CAMI CMHI score).

CAMI Subscale Scores. Group comparisons revealed that AFM have the most authoritarian attitudes (CAMI AU score) towards mental health difficulties and therefore view persons with mental health difficulties as inferior to others. This finding indicates that the AFM has less favorable attitudes towards such persons and that they are a burden to society. They are the group who mostly believe that such persons require coercive care and that they should be hospitalized and regulated.

Furthermore, the AFM obtained the highest mean score for social restrictive attitudes (CAMI SR score) suggesting that this is the group, among all four groups, who mostly hold the belief that mentally ill patients pose a threat to society and that they should be avoided. As AFM have the highest scores on both authoritative and socially restrictive attitudes, this indicates that AFM show the most negative explicit attitudes towards mental health difficulties.

No previous studies compared explicit attitudes towards mental health difficulties between different first responders. Additionally, a non-standard scoring of the CAMI was implemented in some studies with first responders, hindering comparisons of results. In a study carried out by Holtz (2014) with a sample of military personnel, when compared with the mean scores obtained by the military personnel (AFM) of the current study, results show that AFM have more negative attitudes than those in Holtz's (2014) study. The higher negative attitudes obtained by the military personnel in Holtz's (2014) study might be attributed to their position in the military as they were currently in training towards obtaining a leading role. A possible explanation for the AFM having the most negative attitudes towards mental health difficulties among the four groups is that their role as first responders might require less contact with persons with mental health difficulties when compared to the other three groups. Exposure to persons with mental health difficulties can allow the individuals to be more familiar with the various mental health illnesses, hence increasing mental health knowledge. The AFM group involved personnel from the Maritime Squadron, EOD and Air Wing. These units are rarely exposed to critical incidents involving persons with mental health difficulties. This might possibly result in less mental health literacy among the AFM possibly leading to more negative attitudes towards mental health difficulties (Evans-Lacko et al., 2015; Hogberg et al., 2012).

Findings from this study show that EMT have the most benevolent attitudes towards mental health difficulties hence they are the most who view persons with a mental illness in a humane and sympathetic way. Additionally, results of this study revealed that EMT show the

most acceptance of mental health services. They are also the most who believe in the importance of integrating persons with mental health difficulties within the community. This is in line with Chambers et al.'s (2010) study conducted with nurses across five European countries who also used CAMI to measure their attitudes towards mental health difficulties. This finding supports those of a study conducted by Sharma et al. (2018) who also administered the CAMI. Their sample was comprised of 54 doctors with specializations in medicine, surgery and non-clinical fields. These findings confirm the results of the current study showing that EMT hold more positive attitudes towards mental health difficulties. A possible explanation for this might be that the EMT's role tend to involve frequent exposure to mental health emergencies which might result in the acquisition of higher mental health literacy (Holmes, 2019). More knowledgeable individuals on mental health tend to show more positive attitudes towards mental illnesses (Evans-Lacko et al., 2015). As the EMT obtained the highest mean score for mental health knowledge, this might suggest that such knowledge plays a role in fostering more positive attitudes towards mental health difficulties.

On the other hand, when using a tailor-made questionnaire, Mukherjee et al. (2002) found that more than half their sample of doctors and medical students (N = 520) have negative attitudes towards persons with schizophrenia and drug and alcohol addictions, viewing these persons as dangerous and unpredictable (Mukherjee et al., 2002). A possible explanation for the negative attitudes found by Mukherjee et al. (2002) might be attributed to the different tools used when measuring attitudes. These tools measured the doctors' and medical students' attitudes towards six specific mental illnesses.

The results of this study also found that MPF held positive attitudes towards mental health difficulties similar to those obtained by the EMT. This was indicated by their high scores on benevolent attitudes and community mental health ideology, which refers to their acceptance of mental health services and the importance of integrating mentally ill persons

within the community (Taylor & Dear, 1981). Similar to the EMT, a possible explanation for the MPF's positive attitudes might be their frequent contact with persons with mental health difficulties resulting from their day-to-day work. The MPF group comprised of personnel from the RIU, Vice Squad and district police stations, where apart from dealing with motor vehicle accidents and deaths, their work also entails working with domestic violence (Chapin et al., 2008). The findings of the current study are consistent with those found by Bell and Palmer-Conn's (2018) who administered a different version of the CAMI with 764 police officers. In their study, Bell and Palmer-Conn (2018) found that public officers and police staff generally hold positive attitudes towards mental health difficulties. In line with this study, Cotton (2004) also found positive attitudes when using the CAMI on a sample of 148 police officers, showing more benevolent attitudes and more acceptance of mental health services and the integration of persons with mental health difficulties within the community.

CAMI total score. The CAMI total score is obtained by summing up the scores of the four CAMI subscales. Higher total score indicates a lower overall stigma towards mental health difficulties and therefore more positive attitudes. The results of this study revealed no significant difference between the four groups suggesting that all four groups have similar level of mental health stigma. Further analysis however revealed significant differences between the groups in all of the four CAMI subscales. The total CAMI score might therefore be construed as misleading (Bell & Palmer-Conn, 2018; Wolff et al., 1996). A possible explanation for this is that CAMI involves broad concepts and statements which can lead to conflicting attitudes on the CAMI hence requiring open interpretation (Wolff et al., 1996).

Implicit Measures

To the researcher's knowledge, this is the first study to investigate the implicit attitudes of first responders towards mental health difficulties. Previous studies have relied on

self-report questionnaires, which are known to be influenced by social desirability. Additionally, such measures are often unable to capture an individual's implicit attitudes which lie outside their own consciousness (Teachman et al., 2006). The culture of the first responders, which emphasizes strength and autonomy, as well as the social pressure to suppress negative views towards mental health difficulties may further increase such patterns of responding. Thus, by conducting an IAT, this study aimed towards understanding the first responders' implicit attitudes and their association with explicit attitudes (obtained from the CAMI) towards mental health difficulties.

IAT Score

The results of this study found a negative bias towards mental health difficulties in all four groups when administering the implicit measure (IAT). Such findings show an incongruence between the positive attitudes reported by the first responders on the explicit measures and their responses on the implicit measures. Additionally, while the results from the explicit measure showed a significant difference between the group's attitudes, no significant difference was present in the implicit attitudes.

Various reasons may explain implicit bias being negative and inconsistent with explicit attitudes. A possible reason for these findings is the potential influence of social desirability on the explicit measure. Other research on prejudice and stereotyping has indicated that self-reported, explicit measures of stigma, prejudice and bias are problematic as these are often unsuccessful at accurately measuring one's underlying biases (Hinshaw, 2007). This is particularly because explicit measures are subject to social desirability where the person might answer in a way that is believed to be approved by other individuals (Hinshaw, 2007; Richman et al., 1999; Holtgraves, 2004). Such measures often correlate poorly, by obtaining different results, with alternative types of measures of stigma that

specifically focus on attitudes that are less consciously exhibited (Greenwald & Banaji, 1995). First responders might respond in a way that conforms to social mores, rather than what they truly believe in, in an attempt to present a positive image to others or oneself (Michaels & Corrigan, 2013; Tourangeau & Yan, 2007). Consequently, results obtained from the explicit measures lose their honesty and accuracy as the first responders' answers on the explicit measure might not reflect their true attitudes towards mental health difficulties (Holtgraves, 2004).

Teachman et al. (2003) explains how an incongruence between explicit and implicit measures of stigma might also be attributed to the way these negative biases influence one's responses even if the person wants to provide a positive image of themselves. Stereotypes towards mental health difficulties may be deeply rooted in the first responders' cultural belief system. Hence, the negative implicit attitudes of the Maltese first responders' might be emerging from the culture fostered by their occupation where those with mental health difficulties might be stigmatized and discriminated. These stereotypes might be so ingrained that they remain at an implicit level, inaccessible to one's rational thought and therefore unaffected by conscious efforts. Thus, the difference between the first responders' explicit and implicit attitudes might also be attributed to the lack of control on their responses on the implicit measure even when the first responders did not consciously wish to endorse these negative attitudes (Teachman et al., 2003).

In addition to the above, it is important that one considers that an individual's performance on the IAT is dependent on a number of other factors. Factors might include one's physical and mental wellbeing, attentiveness and environmental factors. Although these were not observed by the researcher, such factors could have possibly influenced their performance particularly because some of the first responders may have been dispatched on critical incidents in the hours preceding the IAT.

Finally, a lack of association might be attributed to bilingual influences. All of the participants in this study were Maltese and therefore bilingual speakers of Maltese and English. While some might be able to use both languages equally well, others might have a preference for Maltese language. As the IAT was conducted in English, this might have influenced the results as the participants might have taken longer to process the verbal stimuli from English to Maltese. This explanation is only speculative however and would require further investigation.

Although unexpected, this finding is not surprising when looking at previous studies (e.g. Stuart, 2017; Bullock & Garland, 2017) that investigated the prevalence of stigma towards mental health difficulties among first responders. Results of the current study are in line with recent research which indicated that stigma remains prevalent in policing (Stuart, 2017). Stuart (2017) conducted a study with 133 police officers using the Police Officer Stigma Scale. Results revealed that mental illness stigma is a strong feature of police culture where police officers stigmatize each other because of mental health difficulties (Stuart, 2017). Such police officers reported the fear that disclosure of mental health difficulties can therefore lead to discrimination at work (Stuart, 2017). In a qualitative study conducted by Bullock and Garland (2017) with police officers (N = 59), findings showed how police officers with mental health issues were labelled by their colleagues as ‘different’ from what police officers are normatively expected to be. A possible explanation for the MPF’s negative implicit attitudes might be due to their culture which requires them to be strong and emotionally in control while viewing those with mental health difficulties as unpredictable (Bullock & Garland, 2017). Another possible explanation is that interaction with persons with mental health difficulties often occurs within a criminal setting hence possibly promoting beliefs that persons with mental health difficulties are dangerous and unpredictable. This is only a possible explanation however and would require further research studies.

Furthermore, in line with the findings of this study, a systemic review of quantitative and qualitative studies was conducted by Clements et al. (2015) involving 144 studies that investigated mental health related stigma and psychological help seeking. This systemic review found that higher levels of mental health stigma was present amongst first responders, particularly military personnel, when compared to other populations (Clements et al., 2015). Therefore, a possible explanation for these results might be that the culture of first responders continues to promote mental health stigma. Dasgupta (2013) pointed out that implicit attitudes may be promoted and maintained by particular environmental influences, such as direct and indirect contact or media exposure, and often remain established if the individual's environment remains constant. As an individual becomes a member of this occupation, hence forming part of its culture, this is likely to result in their acceptance of the occupation's formation of reality (Brown, 2007). Hence, a possible explanation for the negative implicit attitudes might therefore be attributed to the culture fostered by first responders which tends to emphasize strength and autonomy, while perceiving those with mental health difficulties as weak or different (Bullock & Garland, 2017; Erich, 2014; Iversen et al., 2011; Hoester, 2012). This culture might continue to maintain the first responders' negative attitudes towards mental health difficulties.

Relationship Between Knowledge and Attitudes Towards Mental Health Difficulties

Explicit Measures

Findings show an association between explicit measures of knowledge and benevolence attitudes indicating that greater mental health knowledge was associated with viewing persons with a mental illness in a more humane and sympathetic way. Greater mental health knowledge was also associated with less rejection of mental health services and higher acceptance towards integrating persons with a mental illness within the community. A lack of

studies measuring knowledge and attitudes in first responders with the tools used in this study was found. Comparisons with previous studies were therefore not possible. Due to different methodologies, only inferences can be made from such studies.

A study conducted by Martensson et al. (2014) with a sample of mental health nursing staff found the same findings when using MAKS, and a Swedish version of the CAMI (CAMI-S). Furthermore, previous research on general public indicated that persons who have greater mental health knowledge present with less personal stigma and with less fear and discomfort when interacting with persons with a mental health difficulty (Evans-Lacko, et al., 2010). Hogberg et al. (2012) also stated that individuals from the general public who have greater knowledge on mental health tend to show an increased level of positive attitudes towards mental illnesses. These positive attitudes can be developed as the individual obtains greater knowledge on available treatments, better helping behaviours and become more confident in providing support to others (Evans-Lacko, 2010). The results of the current study are also consistent with Peris et al.'s (2008) study in which attitudes towards persons with mental health difficulties were examined among a sample of mental health professionals, health care specialists, undergraduate students and general public (N = 1539) This study therefore assessed how different levels of mental health training might influence one's clinical decision making. Findings from this study demonstrated how persons with mental health training had more positive attitudes towards people with mental health problems (Peris et al., 2008).

The results of this study also found an association between lower mental health knowledge and higher authoritative and socially restrictive attitudes among the first responders. Such findings are congruent with previous literature which states that a lack of understanding on a particular subject can elicit negative attitudes (Griffith et al., 2000; World Health Organisation, 2013). Hence, mental health knowledge is one of the factors that can

mediate an individual's attitudes and behaviours related to stigma (Evans-Lacko et al., 2010). When having lower mental health knowledge, the first responders might have a lack of insight on the effectiveness of mental health treatment, such as psychotherapy and medication (Evans-Lacko et al., 2010). On the other hand, having more knowledge can allow the individual to recognize sources of help and learn ways by which they can help persons with mental health difficulties, resulting in more positive attitudes towards mental health difficulties (Evan-Lacko et al., 2015). A lack of mental health knowledge on the other hand can lead to an increase in authoritative and social restrictive attitudes towards mental health difficulties (Taylor & Dear, 1981).

Implicit Measures

Findings of this study revealed how, mental health knowledge is not associated with implicit attitudes towards persons with mental health difficulties. However, when specifically analyzing stigmatized mental health knowledge this showed that the lower this is, the more negative implicit attitudes towards persons with mental health difficulties. While this is in line with previous literature suggesting that greater knowledge on mental health is linked to attitudes and actions (Fabrigar et al., 2006; Hogberg et al., 2012), this finding might suggest that different types of knowledge might be associated with attitudes towards mental health difficulties other than being familiar with mental health concepts. This finding was in line with previous literature suggesting that particular types of knowledge such as treatment efficacy, help seeking and employment have a significantly higher likelihood to decrease stigma and can improve attitudes towards mental health (Evans-Lacko et al., 2010). For instance, by having more awareness of treatments and ways by which one can help others who has mental health difficulties, this can lead to a decrease in social distance (which is an indication of stigma) (Evans-Lacko et al., 2010).

Knowledge and Attitudes as Potential Barriers to Seeking Help

Previous studies have found poor mental health knowledge to be a factor in reducing help seeking behaviours (Rusch et al., 2011; Jones et al., 2020). This might be because the individual is unable to recognize the symptoms of a mental illness and is unaware of the mental health services that are available (Rusch et al., 2011). Findings of this study however showed no difference in knowledge and attitudes towards mental health between first responders with concerns for seeking psychological help and those without concerns. This finding was unexpected as low mental health knowledge and more negative attitudes towards persons with mental health difficulties were expected among those with concerns towards seeking help. A possible explanation for the indifference between first responders with concerns and those without, might have resulted from a lack of honesty and accuracy on the explicit measures. Hence, this might have influenced the results when comparisons were made between the two groups. Another explanation might be that factors, other than knowledge and attitudes towards mental health difficulties, might be influencing help seeking behaviours in first responders.

A study conducted by Krakauer et al. (2020), who also used MAKS to investigate mental health knowledge and to investigate attitudes and service use intentions, found that paramedics had low intentions to seek psychological help although having high mental health knowledge and low stigma. Conversely, firefighters also showed low intentions to seek psychological help although having the lowest mental health knowledge and the highest stigma. The findings of the current study were also consistent with Hyland et al.'s (2015) study with police officers (N = 331) who administered the Inventory of Attitudes towards Seeking Mental Health Services (IASMHS). The results revealed no significant association between the police officers' stigma and their intentions to use mental health services. Rather, Hyland et al. (2015) found that the police officers' help seeking behaviours were associated

with their help-seeking propensity which refers to the individuals' perceived ability to seek out mental health services and the ability to follow a treatment plan (Hyland et al., 2015). Hence, the individual's belief on their own capacity to undergo the process of psychological treatment can influence their help seeking behaviours (Hyland et al., 2015). In contrast to the previous studies, Jones et al. (2020) found knowledge deficit on mental health to be the most significant barrier to help seeking behaviours in a qualitative study with firefighters and EMT/paramedics. This contrasting finding might however be attributed to the different methodology used in this study.

Conclusion

This chapter discussed the findings of this study in light of the current literature on first responders' knowledge and attitudes as potential barriers towards help seeking behaviors. The following chapter will present the limitations of the study and implications for clinical and research purposes in light of the results obtained from this study.

Chapter 6: Conclusion

Introduction

This chapter concludes this dissertation. First, a brief summary of the findings of this study will be outlined, followed by clinical implications. Following this, the limitations of this study will be discussed, followed by recommendations for future research and a concluding note.

Summary of the Study

The purpose of this study was to examine first responders' knowledge and attitudes towards mental health difficulties as possible barriers to seeking psychological help. The rationale behind this study was motivated by the poorer mental health and higher prevalence of mental health disorders in first responders due to the stressful nature of their occupation (Szeto et al., 2019). Such poor mental health outcomes may also result from the first responders' culture, which tends to strongly emphasize strength, autonomy and saving others (Erich, 2014). Previous research has attempted to obtain a comprehensive understanding of the factors that may influence first responders' willingness to seeking psychological help. These studies were however limited to explicit measures. Explicit measures are often unsuccessful at measuring stigma, prejudice and bias particularly because they are subject to the influence of social desirability (Hinshaw, 2007). This is most particularly among this population who tends to foster a culture which emphasize strength and bravery, and therefore those with mental health difficulties and who seek psychological help are often seen as weak (Erich et al., 2014; Hoge et al., 2004). Thus, by conducting the IAT, more accurate findings could be obtained by tapping on the first responders' implicit attitudes towards mental health difficulties. Four research questions were investigated in this research study. The first

research question was to identify first responders' understanding of mental health difficulties. The second research question was to examine first responders' explicit and implicit attitudes towards mental health difficulties. Third, to investigate whether there is an association between first responders' knowledge and attitudes towards mental health difficulties. The fourth research question was to investigate whether there is a difference in knowledge and attitudes towards mental health difficulties between first responders with concerns towards seeking help and those without. A quantitative methodology was deemed appropriate to address the aims of the study. Data was collected by the administration of three self-report questionnaires; 'Concerns and Barriers to Seeking Psychological Help' questionnaire, MAKS and CAMI. Additionally, an IAT was administered to measure the first responders' implicit attitudes.

The sample consisted of 253 participants who were divided into four groups (CPD, AFM, EMT and MPF) according to their occupation. The whole sample was then divided into two groups, first responders with concerns (n = 198) towards seeking help and first responders without concerns (n = 49). Results from the self-report questionnaires and the IAT were viewed separately for the four groups and later for the two groups. The findings indicated significant differences in MAKS and CAMI subscales when the sample was split into the four groups. Therefore, this finding indicated that one's occupational role influences their mental health literacy and attitudes towards mental health difficulties. When looking at the sample as a whole, an implicit negative bias towards persons with mental health difficulties was identified on the IAT measure. No significant difference was found on the IAT score between the four groups. Significant associations were found between MAKS and CAMI subscales, where higher scores on MAKS were associated with higher scores on CAMI BE and CAMI CMHI. Furthermore, negative significant associations were found between MAKS and CAMI AU and CAMI SR. A significant negative association was also

found between the MAKS stigma score and the IAT score. This indicates that greater stigma related mental health knowledge is associated with less stigmatizing attitudes towards mental health difficulties. When separating the whole sample into two groups, no significant differences were found on the MAKS, CAMI and IAT. This finding indicated that the first responders' knowledge and attitudes towards mental health difficulties are not barriers towards seeking psychological help.

Implications for Clinical Practice

The present study was the first within the local context to examine first responders' knowledge and attitudes towards mental health difficulties as possible barriers to help seeking behaviours. This study therefore allowed for the provision of initial data for Malta on first responders' knowledge, attitudes and help seeking behaviours. Moreover, the current study applied a novel methodology by administering the IAT when examining the first responders' attitudes. In addition to this, this study contributed to the field of clinical psychology by demonstrating an association between stigma-related mental health knowledge and implicit attitudes towards mental health difficulties. This yields significant clinical implications in relation to the development of educational programs aiming to reduce negative attitudes towards mental health difficulties.

Increasing knowledge could be an area to target in order to decrease stigmatizing attitudes among first responders towards mental health difficulties. This might be acquired by having more frequent mental health educational programs delivered to the first responders. Based on this study's findings, such educational programs should specifically focus on knowledge related to treatment efficacy, recognition, help seeking and employment. This was also indicated by Evans-Lacko et al. (2010). Courses such as Mental Health First Aid Training have demonstrated an increase in participants' knowledge, resulting in a decrease in

negative attitudes while increasing supportive behaviours towards mental health difficulties (Hadlaczky et al., 2014).

A difference in mental health knowledge and attitudes was found between the four groups. This finding implied that that their educational pathways leading towards their role as first responders might be influencing their knowledge on mental health. Additionally, this finding might also imply that the degree of exposure to mental health difficulties during their work influence their knowledge and attitudes. By incorporating mental health components in the first responders' recruitment course, this might enable first responders to obtain greater mental health knowledge and awareness. This might result in less stigmatizing attitudes hence fostering a more accepting culture among the first responders.

Decreasing mental health stigma among first responders can also be obtained by setting up peer support networks. Through such networks, the department can communicate an empathic attitude towards individuals with mental health difficulties, while overcoming cultural barriers to help seeking (Bell & Palmer-Conn, 2018). Anti-stigma interventions can also be introduced at the workplace as to foster a more supportive working environment for the first responders by reducing stigmatizing attitudes and discrimination.

Furthermore, although the majority of first responders reported having no concerns with seeking psychological help, the most common barrier among those with concerns was confidentiality. This might therefore highlight a need for the departments to continue creating a working environment where the use of psychological services is accepted and spoken about. This might be facilitated by developing a team of psychologists with an extensive understanding of the first responders' job, culture and sense of humor. Through this, a relationship with the first responders' department could be established, possibly overcoming the first responders' potential belief that psychologists do not understand their culture and

their work. This might allow for a more encouraging and supportive atmosphere for seeking psychological services among first responders.

Limitations

Although this study generated important findings, there were a number of limitations which should be mentioned. Firstly, this study evaluated knowledge and attitudes towards mental health as well as barriers towards seeking psychological help in a purposive sample of first responders. Thus, it cannot be determined whether the first responders who are most concerned about confidentiality did not participate, therefore potentially underestimating the prevalence of first responders with concerns, particularly confidential ones. Moreover, by using self-report questionnaires when measuring concerns and mental health knowledge, possible inaccuracies might have resulted due to social desirability or from misunderstanding statements presented in the questionnaires. Hence, this could have led to some inaccurate findings.

As Malta is a densely populated country where one might fear that they might be somehow identified, especially with mental health being a stigmatizing aspect within the culture of Maltese first responders, demographic information such as age, gender and years of service were not obtained. This helped ensure that honest responses are obtained on mental health difficulties from first responders by further promoting feelings of anonymity. On the other hand, by obtaining demographic data, the influence of such variables on first responders' mental health knowledge, attitudes and help seeking behaviours could have been investigated. Due to the lack of demographic information, results obtained from this study might not be representative and therefore cannot be generalized to all Maltese first responders.

Another limitation is that the self-report questionnaires chosen for use in this study are not standardized on a Maltese population. Cultural and language bias could have potentially influenced both the participants' performance and the scoring of these measures. Hence, this hindered the possibility of drawing concrete inferences from the results obtained. Furthermore, when questionnaires were distributed among the fire stations, some of the fire fighters requested assistance when completing the questionnaire. This might have influenced the validity of the self-report questionnaires by the unintentional influence of the researcher. However, this might have also contributed to more accurate results by reducing the possibility of misinterpreting questions.

Recommendations for Future Research

The present study shed light on several areas which require further research. Primarily, the present study should be replicated using a larger sample of participants while including demographic data. This would allow for findings obtained to be more generalizable to all first responders within the local context.

Findings of this study indicated that knowledge and attitudes towards mental health difficulties are not barriers towards help seeking behaviours in first responders. Therefore, it would be useful to investigate and seek to determine other factors which might influence the first responders' reluctance towards seeking psychological help from professional psychological services.

In the present study, the IAT involved stimuli comparing persons with a mental illness (stigmatized group) and persons with a physical illness (non-stigmatized group). The stimulus set used was 'dangerous' versus 'harmless'. Further research should investigate other stigmatizing beliefs that first responders might hold towards persons with mental health difficulties, including blame and helplessness. By incorporating these into the IAT, a wider

and more comprehensive picture of the first responders' implicit attitudes towards mental health difficulties could be obtained.

Concluding Note

This study provided a unique contribution towards the field of clinical psychology in Malta as it was the first study to examine first responders' knowledge and attitudes towards mental health difficulties as potential barriers to seeking psychological help. Additionally, this study was the first of its kind to investigate first responders' implicit attitudes towards persons with mental health difficulties by administering the IAT. Findings from this study revealed differences in mental health knowledge and explicit attitudes between the four different groups of first responders. Additionally, findings showed relationships between knowledge on mental health and attitudes towards mental health difficulties. Moreover, a stigma towards mental health difficulties was identified among first responders. Finally, findings of this study indicated that first responders' knowledge and attitudes are not barriers towards help seeking behaviours. These findings shed light on further research within this area, with the aim of decreasing mental health stigma among first responders.

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Appendix A

FREC Permission to Commence with Research

6/21/2021 University of Malta Mail - 521995M - For FREC Records

L-Università ta' Malta

Rachel Bezzina <rachel.bezzina.13@um.edu.mt>

521995M - For FREC Records

SWB FREC <research-ethics.fsw@um.edu.mt> 11 June 2020 at 09:41
To: Rachel Bezzina <rachel.bezzina.13@um.edu.mt>
Cc: Kristina Bettenzana <kristina.vella@um.edu.mt>

Dear Rachel Bezzina,

Thank you for submitting your research ethics proposal.

As indicated in the Research Ethics Review Procedures, E&DP forms which have no self-assessment issues are kept for record and audit purposes only. Hence, **research may commence**.

Please note that **FREC will not issue any form of approval** as the responsibility for the self-assessment part lies exclusively with the researcher.

Regards,

Faculty Research Ethics Committee (FREC)
Faculty for Social Wellbeing
Room 115
Humanities B Building (FEMA)
University of Malta
Msida MSD 2080

Student hours:
Monday to Friday
08:00-12:15 and 13:30-15:30 (1 October - 15 June)
08:00-13:00 (16 June - 30 September)

Telephone: (+356) 2340 3192, (+356) 2340 2237

Website: um.edu.mt/socialwellbeing/students/researchethics

L-Università ta' Malta

[Quoted text hidden]

Appendix B

Gatekeepers Approval

Approval from Malta Police Force

RE: [EXTERNAL] - Research Study

Info at POLICE <pulizija@gov.mt> Fri, Aug 7, 2020 at 10:24 AM
To: Rachel Bezzina <rachbezz@gmail.com>

REF: POP1431/05/40

Dear Ms Bezzina,

With reference to emails hereunder, please note that your request has been approved.

Kindly also note that questions will be distributed online amongst RIU, VICE and District Police and participation will be on voluntary basis.

[Quoted text hidden]

Approval from Mater Dei Hospital

CEO at Health-MDH <ceo.mdh@gov.mt> **Fri, May 22, 2020 at 8:34 AM**
To: Rachel Bezzina <rachel.bezzina.13@um.edu.mt>

Dear Ms Bezzina,

Please note that Ms Celia Falzon has granted approval for you to conduct this study in line with applicable hospital protocols.

Regards

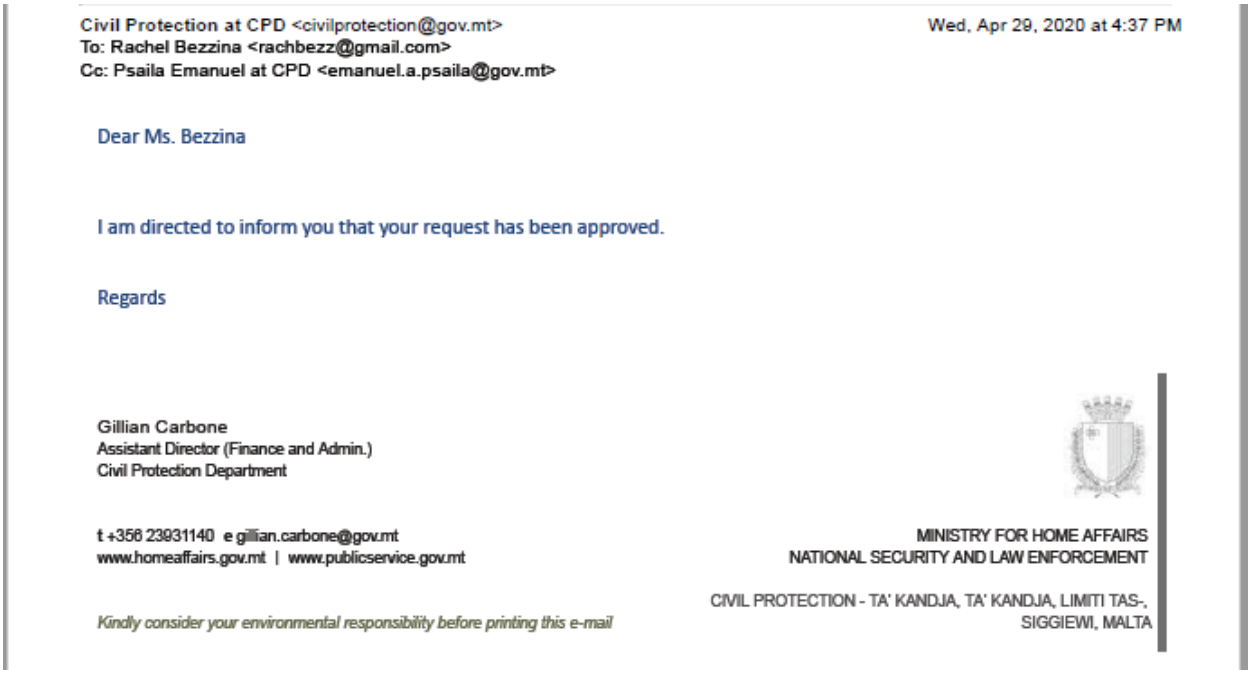
Carmen Farrugia
Personal Assistant to the CEO

SPTAR MATER DEI

T +356 +356 25454102

E carmen.farrugia@gov.mt

Approval from Civil Protection Department



Civil Protection at CPD <civilprotection@gov.mt> Wed, Apr 29, 2020 at 4:37 PM
To: Rachel Bezzina <rachbezz@gmail.com>
Cc: Psaila Emanuel at CPD <emanuel.a.psaila@gov.mt>

Dear Ms. Bezzina

I am directed to inform you that your request has been approved.

Regards

Gillian Carbone
Assistant Director (Finance and Admin.)
Civil Protection Department

t +356 23931140 e gillian.carbone@gov.mt
www.homeaffairs.gov.mt | www.publicservice.gov.mt

Kindly consider your environmental responsibility before printing this e-mail

MINISTRY FOR HOME AFFAIRS
NATIONAL SECURITY AND LAW ENFORCEMENT

CIVIL PROTECTION - TA' KANDJA, TA' KANDJA, LIMITI TAS-, SIGGIEWI, MALTA

Approval from Armed Forces of Malta

Cipriott Adrian at AFM <adrian.cipriott@gov.mt> Mon, May 11, 2020 at 12:01 PM
To: "rachbezz@gmail.com" <rachbezz@gmail.com>

Dear Ms Bezzina,

Thank you for your email.

I am pleased to inform you that the attached items have been vetted and approved by HQAFM, therefore your research can be carried out as requested. In order to start the ball rolling, kindly indicate precisely how you intent to run such research study. At this stage, should you wish to forward a link for the online survey, I will be able to disseminate it to the concerned Units accordingly.

Please do not hesitate to call me if you think it could facilitate our communication.

Kind regards,

Adrian

A CIPRIOTT

Lieutenant

Human Resources Management Branch

Civil Military Cooperation

Headquarters, Armed Forces of Malta

Luqa Barracks, Luqa

Appendix C

Participant Information Sheet

STUDY TITLE

Examining First Responders' Knowledge and Attitudes Towards Mental Health Difficulties as Possible Barriers to Seeking Psychological Help.

INVITATION

You are invited to participate in a research study. This research study is being conducted by Rachel Bezzina, a Masters student at University of Malta (UOM). Please take time to read the following information to understand why the research is being done and what it will involve.

WHY HAVE I BEEN INVITED TO PARTICIPATE?

Participants for this study are required to be **first responders**, which is why you have been chosen to participate.

WHAT WILL I HAVE TO DO?

To participate, you are required to fill in a manual/web-based survey. This survey should take approximately 15 minutes to complete.

Should you wish to participate in the second part of the study, you are invited to provide your name and will later be contacted to participate anonymously in a short 10 minute computer-based test.

WHAT ARE THE RISKS AND BENEFITS OF TAKING PART?

There are no foreseeable risks involved in participating in this study other than those encountered in day-to-day life.

You will receive no direct benefits from participating in this research study. However, your responses may help us learn more about barriers that first responders might experience when seeking psychological help.

DO I HAVE TO TAKE PART?

Participation in the study is entirely voluntary. It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and

be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time and without giving any reason.

Moreover, you are free to decline to answer any particular question you do not wish to answer.

WHAT ABOUT MY PRIVACY AND CONFIDENTIALITY?

Your survey answers will remain anonymous. You will not be asked to provide any personal data to further ensure confidentiality. Therefore, no one will be able to identify you or your answers, and no one will know whether or not you participated in the study.

If you require any further information, please do not hesitate to contact me (99061295 /rachbezz@gmail.com).

Thank you for your time and consideration in this matter.

Yours sincerely,

Rachel Bezzina
Clinical Psychology
Trainee University of
Malta (UOM)

Appendix D

Consent Form

I have read the information sheet and understand the details of the study.

I understand that I have the right to decline to answer any particular question within the survey and to withdraw from the study at any time, up until the point of data analysis. I will be informed before this process begins.

I agree that all information provided will be anonymous.

Should I wish to withdraw from the study, my data will be abolished.

I agree to participate in this study under the conditions set out in the information Sheet.

Signature of participant: _____

Name initials of participant: _____

Index number: ____

Kindly write your index number on the questionnaire provided.

This consent form will always remain separate from the questionnaire.

Please tick the box if you wish to take part in the second part which involves a 10 minute computer test, for which you will be contacted at a later stage.

☐ I would like to participate in the computer test

Contact number: _____

Signature of Researcher: _____

Name of Researcher: Rachel Bezzina Date: _____

Appendix E

Questionnaires

Kindly find three questionnaires in this pack.

Please read instructions carefully for each questionnaire.All answers will remain anonymous.

The three questionnaires together should only take approximately 15 minutes.

Thank you for participating in this research study.

Index Number: _____

BARRIERS TO SEEKING PSYCHOLOGICAL HELP

This questionnaire refers to seeking psychological help from professionals (psychologists, counsellors...) either through private services or through the Employee Support Programme (ESP). ESP is a support service which is availablefor persons working with the public service who might be experiencing personal orwork-related difficulties.

1. Do you have any concerns in seeking services, which offer psychologicalhelp, if you felt they were needed?

❑ Yes

❑ No concerns

If yes, please continue to question

2. Which concerns do you feel you can relate to? (You can choose more thanone)

❑ Unsure how to access services

❑ Can have a potential negative impact on my work post

❑ Concern over my privacy and confidentiality

❑ Negative coworker perceptions

❑ Can affect other commitments that I have

❑ Lack of trust in key contact

❑ Delay in services

❑ Impact on finances due to changes in work post

❑ Will lose possibility of promotions

❑ Not sure if what I'm experiencing merits psychological services

Mental health knowledge schedule — MAKS

Instructions: For each of statements 1– 6 below, respond by ticking one box only. Mental health problems here refer, for example, to conditions for which an individual would be seen by healthcare staff.

		Agree strongly	Agree slightly	Neither agree nor disagree	Disagree strongly	Disagree slightly	Don't know
1	Most people with mental health problems want to have paid employment.						
2	If a friend had a mental health problem, I know what advice to give them to get professional help.						
3	Medication can be an effective treatment for people with mental health problems.						
4	Psychotherapy (eg talking therapy or counselling) can be an effective treatment for people with mental health problems.						
5	People with severe mental health problems can fully recover.						
6	Most people with mental health problems go to a healthcare professional to get help.						

Instructions: Say whether you think each condition is a type of mental illness by ticking one box only.

7	Depression						
8	Stress						
9	Schizophrenia						
10	Bipolar disorder (manic-depression)						
11	Drug addiction						
12	Grief						

Thank you very much for your help.

Contact: Professor Graham Thornicroft. Email: graham.thornicroft@kcl.ac.uk

COMMUNITY ATTITUDES TOWARDS THE MENTALLY ILL

The following statements express various opinions about mental illness and the mentally ill. The mentally ill refers to people needing treatment for mentaldisorders but who are capable of independent living outside a hospital. Please circle the response which most accurately describes your reaction to each statement. It's your first reaction which is important. Don't be concerned if some statements seem similar to ones you have previously answered. Please besure to answer all statements.

a. As soon as a person shows signs of mental disturbance, he should behospitalized.

SA A N D SD

b. More tax money should be spent on the care and treatment of the mentally ill.

SA A N D SD

c. The mentally ill should be isolated from the rest of thecommunity.

SA A N D SD

d. The best therapy for many mental patients is to be part of a normal community.

SA A N D SD

e. Mental illness is an illness like any other.

SA A N D SD

SA=StronglyAgree	**A=Agree**	**N=Neutral**	**D=Disagree**	**SD=StronglyDisagree**

f. The mentally ill are a burden on society.

SA A N D SD

g. The mentally ill are far less of a danger than most people suppose.

SA A N D SD

h. Locating mental health facilities in a residential area downgrades the neighbourhood.

SA A N D SD

i. There is something about the mentally ill that makes it easy to tell them from normal people.

SA A N D SD

j. The mentally ill have for too long been the subjectof ridicule.

SA A N D SD

k. A woman would be foolish to marry a man who has suffered from mental illness, even though he seems fullyrecovered.

SA A N D SD

l. As far as possible mental health services should be provided through community- basedfacilities.

SA A N D SD

SA=StronglyAgree A=Agree N=Neutral D=Disagree SD=StronglyDisagree

m. Less emphasis should be placed on protecting the public fromthe mentally ill.

SA A N D SD

n. Increased spending on mental health services is a waste of tax dollars.

SA A N D SD

o. No one has the right to exclude the mentally ill fromtheir neighbourhood.

SA A N D SD

p. Having mental patients living within residential neighbourhoods might be good therapy, but the risks to residents are too great.

SA A N D SD

q. Mental patients need the same kind of control and discipline as a young child.

SA A N D SD

r. We need to adopt a far more tolerant attitude toward the mentally ill in oursociety.

SA A N D SD

s. I would not want to live next door to someone who has been mentally ill.

SA A N D SD

SA=StronglyAgree A=Agree N=Neutral D=Disagree SD=StronglyDisagree

t. Residents should accept the location of mental health facilities in their neighbourhood to serve the needs of the local community.

SA A N D SD

u. The mentally ill should not be treated as outcasts of society.

SA A N D SD

v. There are sufficient existing services for the mentally ill.

SA A N D SD

w. Mental patients should be encouraged to assume the responsibilities of normallife.

SA A N D SD

x. Local residents have good reason to resist the location of mental health services in their neighbourhood.

SA A N D SD

y. The best way to handle the mentally ill is to keep them behind locked doors.

SA A N D SD

z. Our mental hospitals seem more like prisons than like places where the mentally ill can be cared for.

SA A N D SD

SA=StronglyAgree A=Agree N=Neutral D=Disagree SD=StronglyDisagree

aa. Anyone with a history of mental problems should be excluded from taking public office.

SA A N D SD

bb. Locating mental health services in residential neighbourhoods does not endanger local residents.

SA A N D SD

cc. Mental hospitals are an outdated means of treating the mentally ill.

SA A N D SD

dd. The mentally ill do not deserve our sympathy.

SA A N D SD

ee. The mentally ill should not be denied their individual rights.

SA A N D SD

ff. Mental health facilities should be kept out of residential neighbourhoods.

SA A N D SD

gg. One of the main causes of mental illness is a lack of self-discipline and willpower.

SA A N D SD

SA=StronglyAgree A=Agree N=Neutral D=Disagree SD=StronglyDisagree

hh. We have the responsibility to provide the best possible care for the mentally ill.

SA A N D SD

ii. The mentally ill should not be given any responsibility.

SA A N D SD

jj. Residents have nothing to fear from people coming into their neighbourhood to obtain mental health services.

SA A N D SD

kk. Virtually anyone can become mentally ill.

SA A N D SD

ll. It is best to avoid anyone who has mental problems.

SA A N D SD

mm. Most women who were once patients in a mental hospital can be trusted as baby sitters.

SA A N D SD

nn. It is frightening to think of people with mental problems living in residential neighbourhoods.

SA A N D SD

SA=StronglyAgree	**A=Agree**	**N=Neutral**	**D=Disagree**	**SD=StronglyDisagree**

Appendix F

Normality Testing

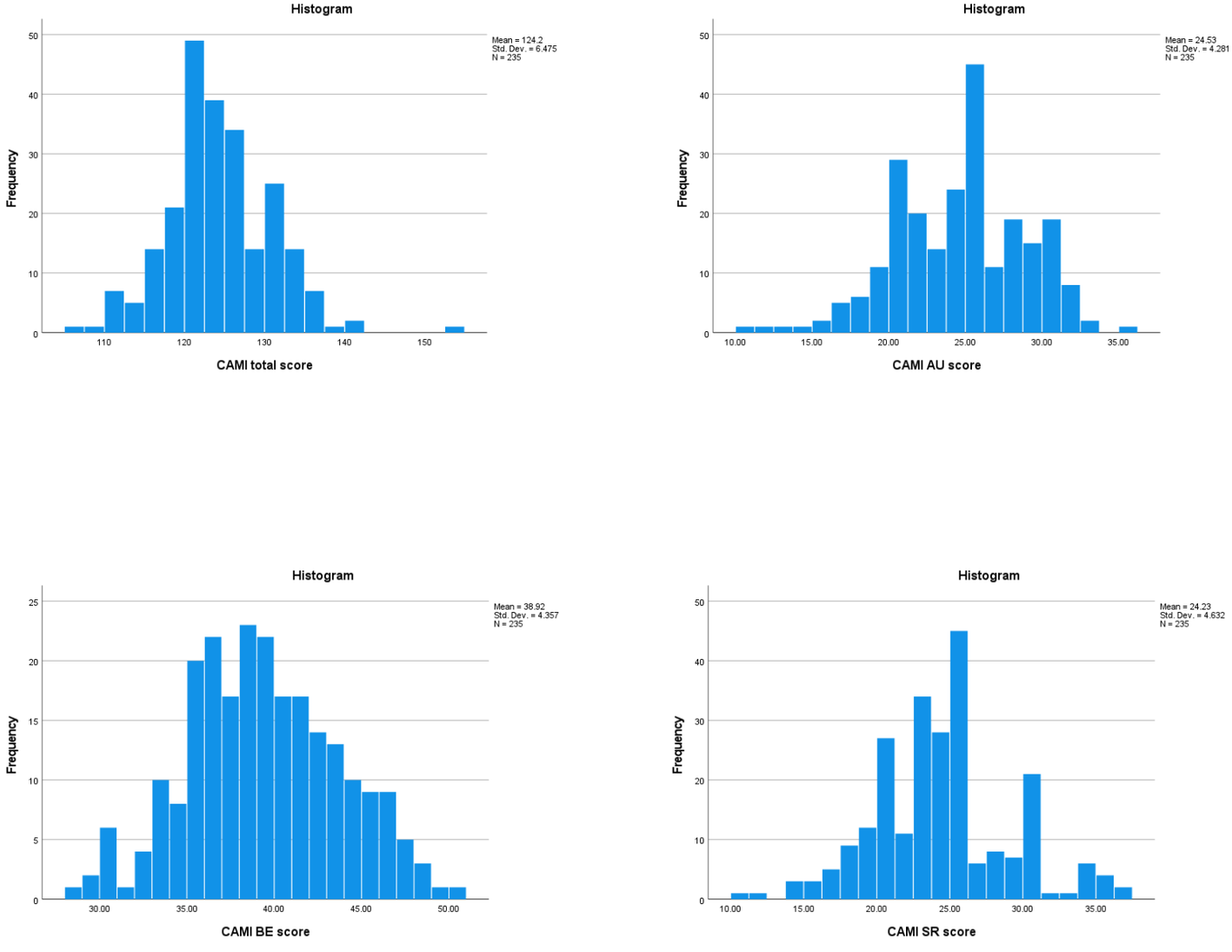


Figure 7. Histograms illustrating distributions of CAMI scores on the whole sample.

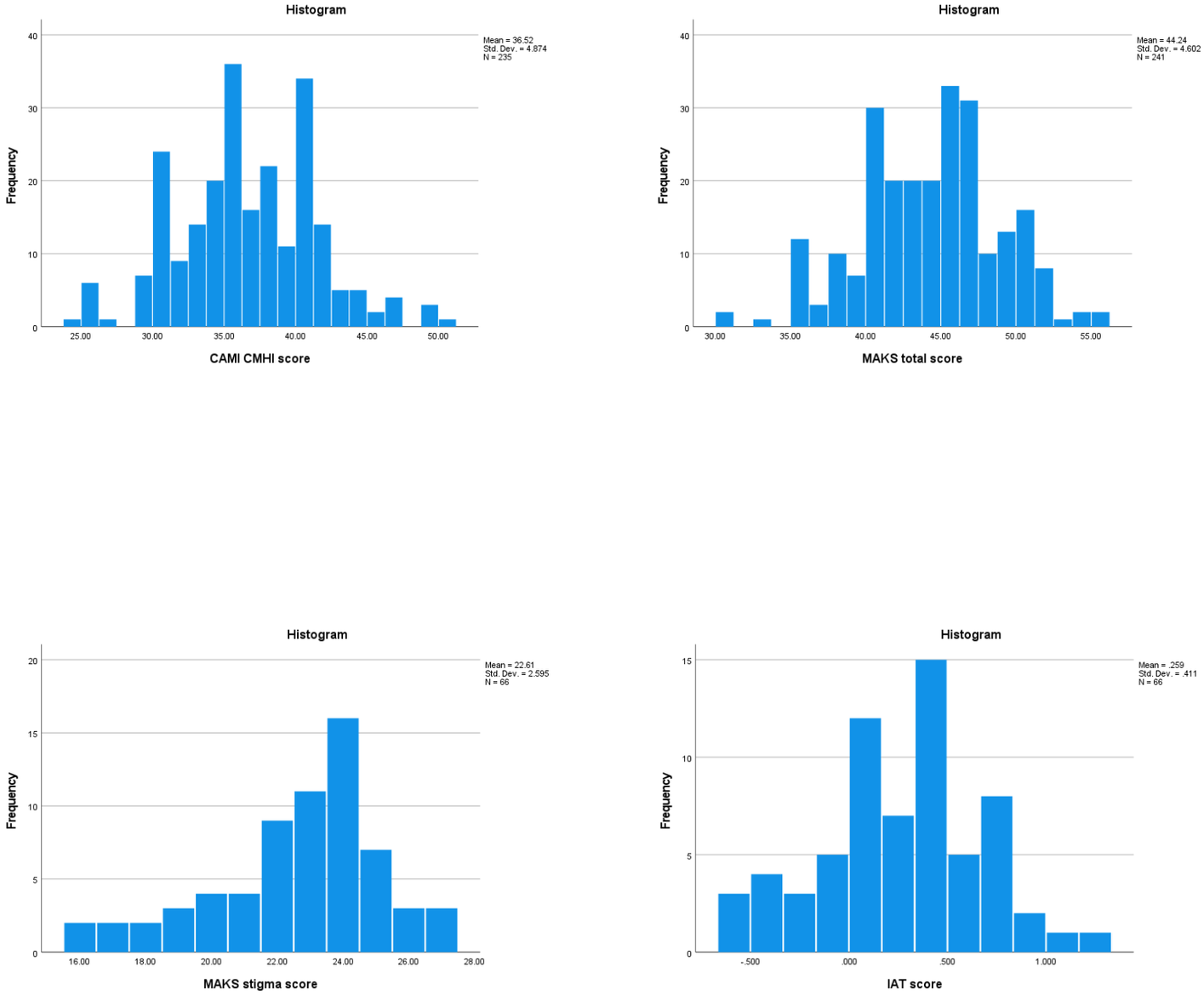


Figure 8. Histograms illustrating distributions of CAMI, MAKS and IAT scores on the whole sample.

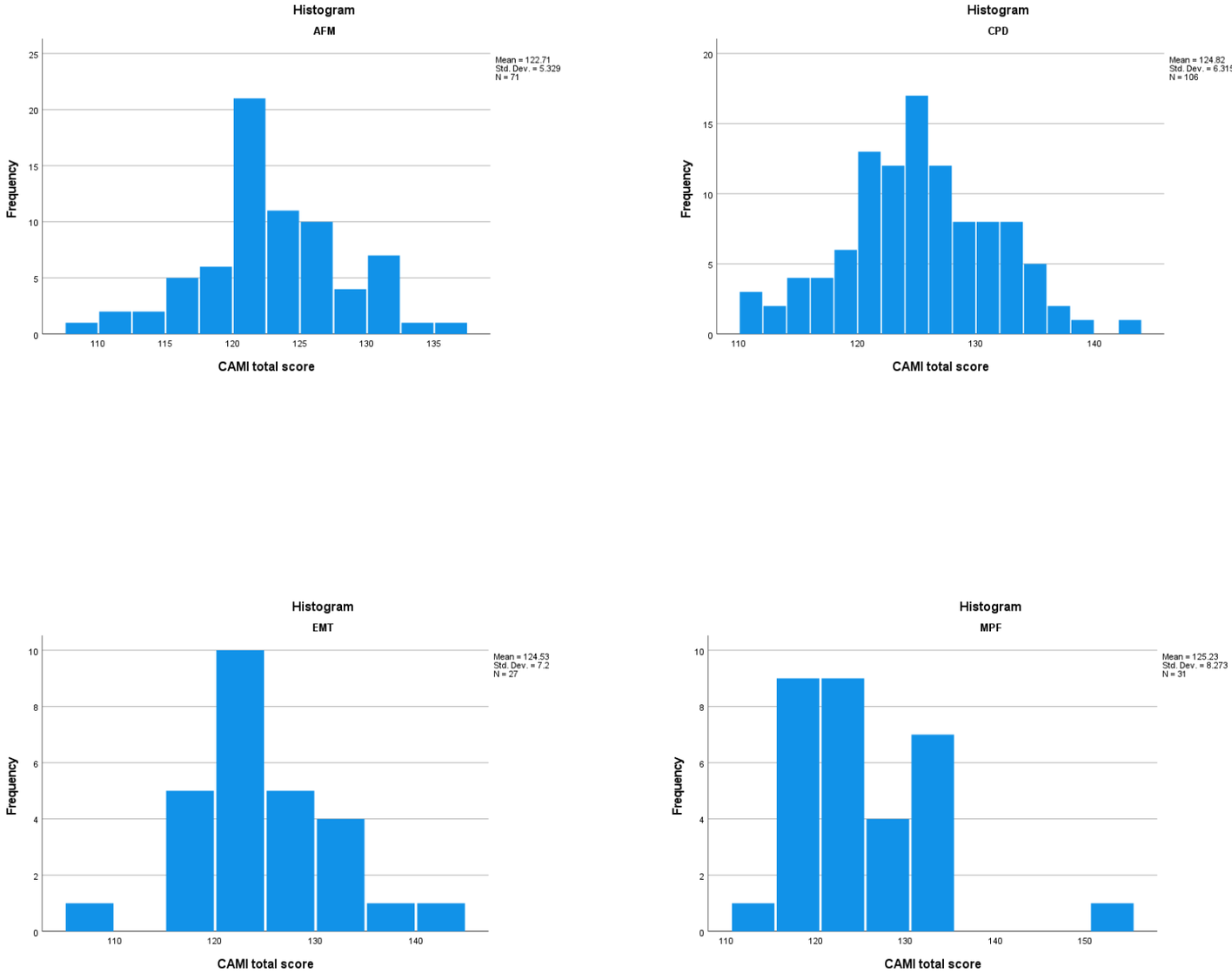


Figure 9. Histograms illustrating distributions of CAMI total score on the four groups.

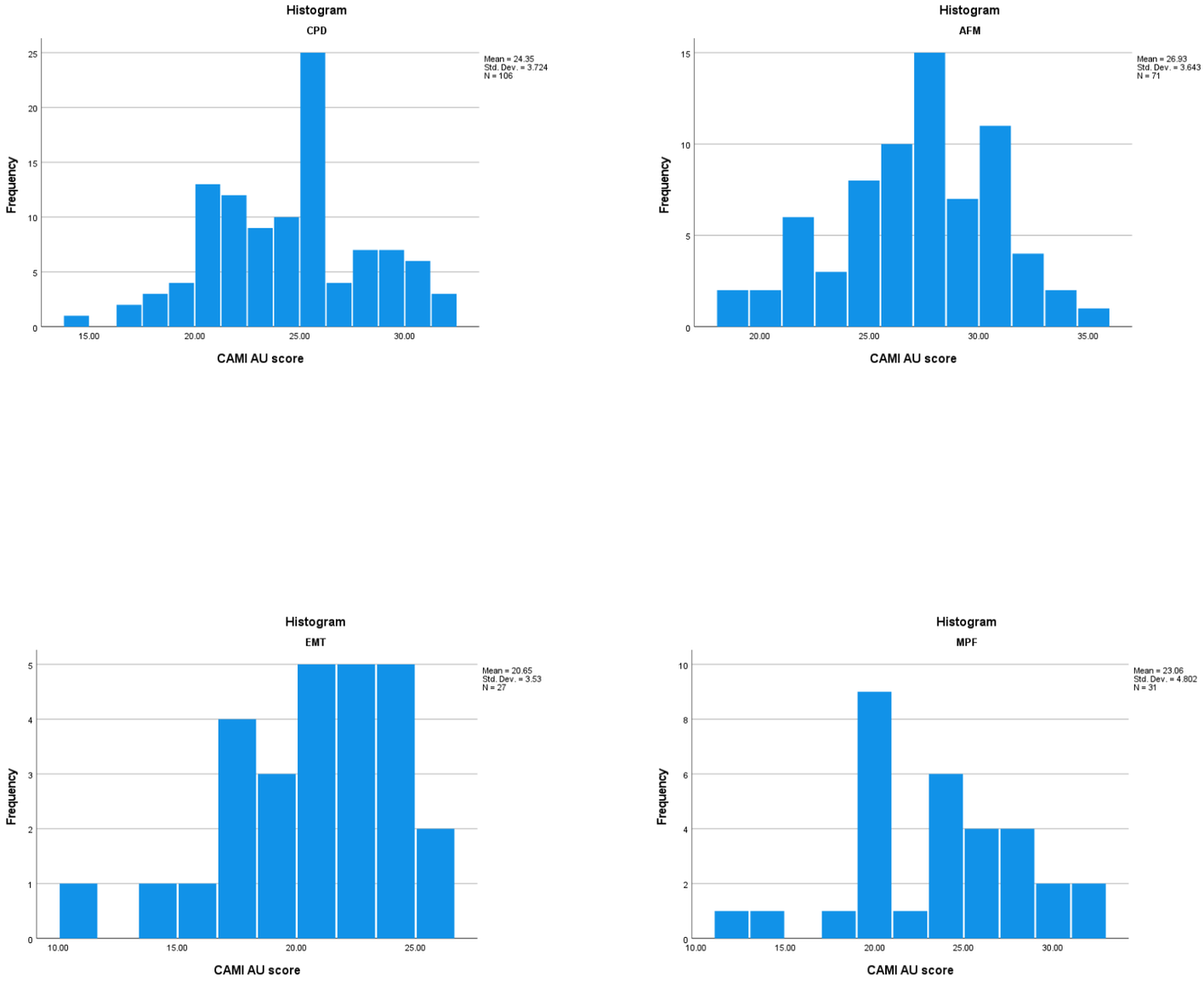


Figure 10. Histograms illustrating distributions of CAMI AU score on the four groups.

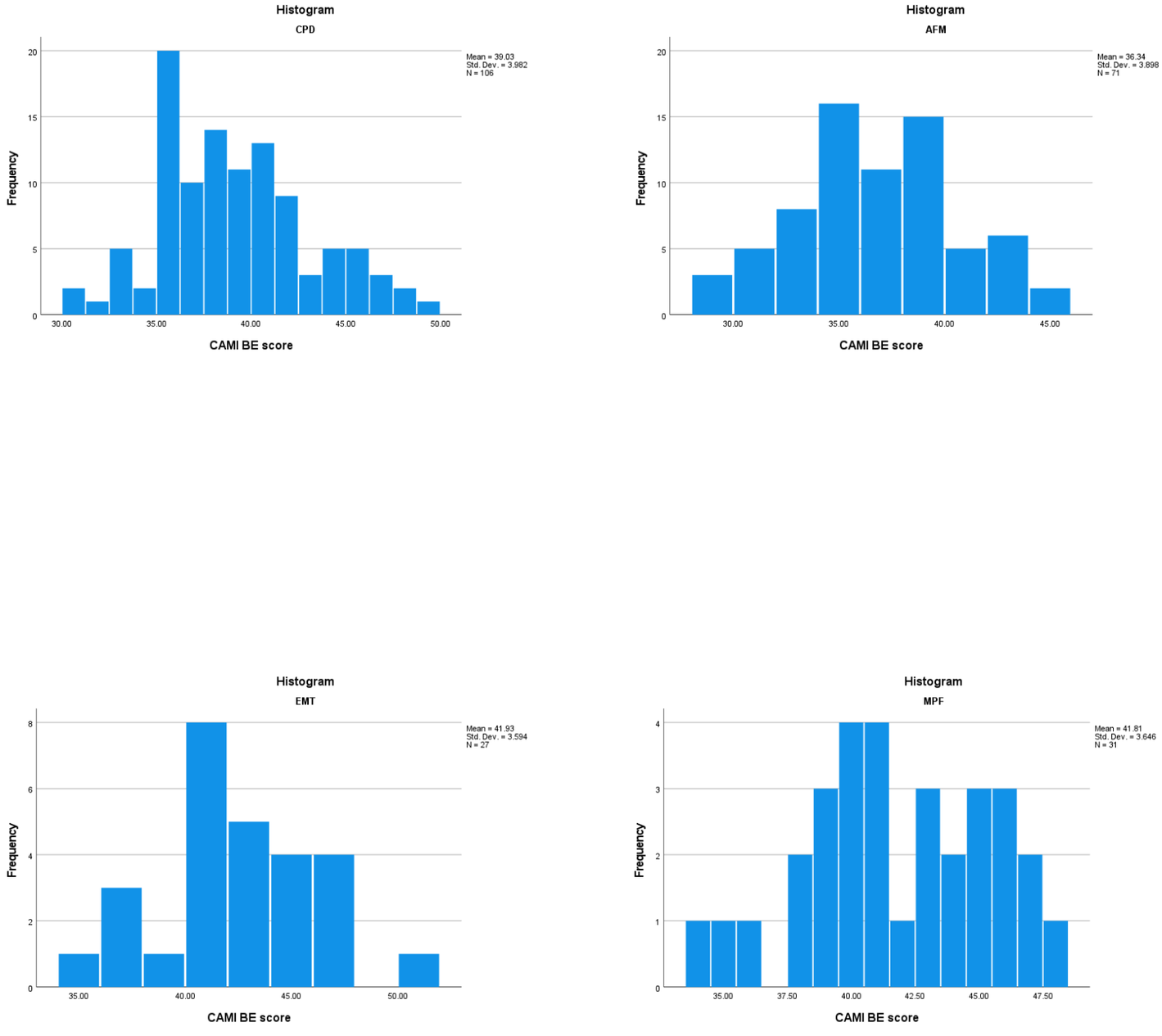


Figure 11. Histograms illustrating distributions of CAMI BE score on the four groups.

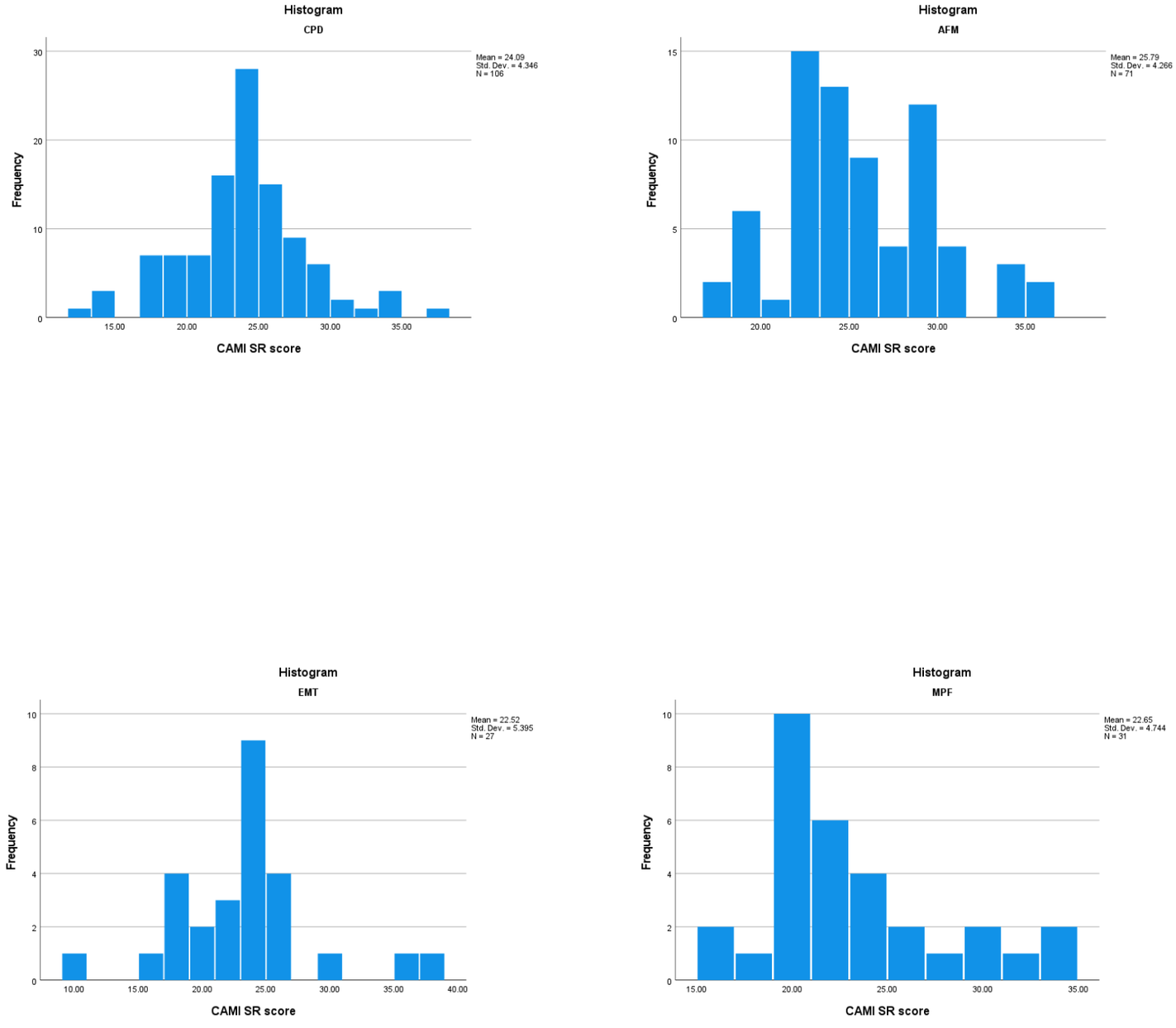


Figure 12. Histograms illustrating distributions of CAMI SR score on the four groups.

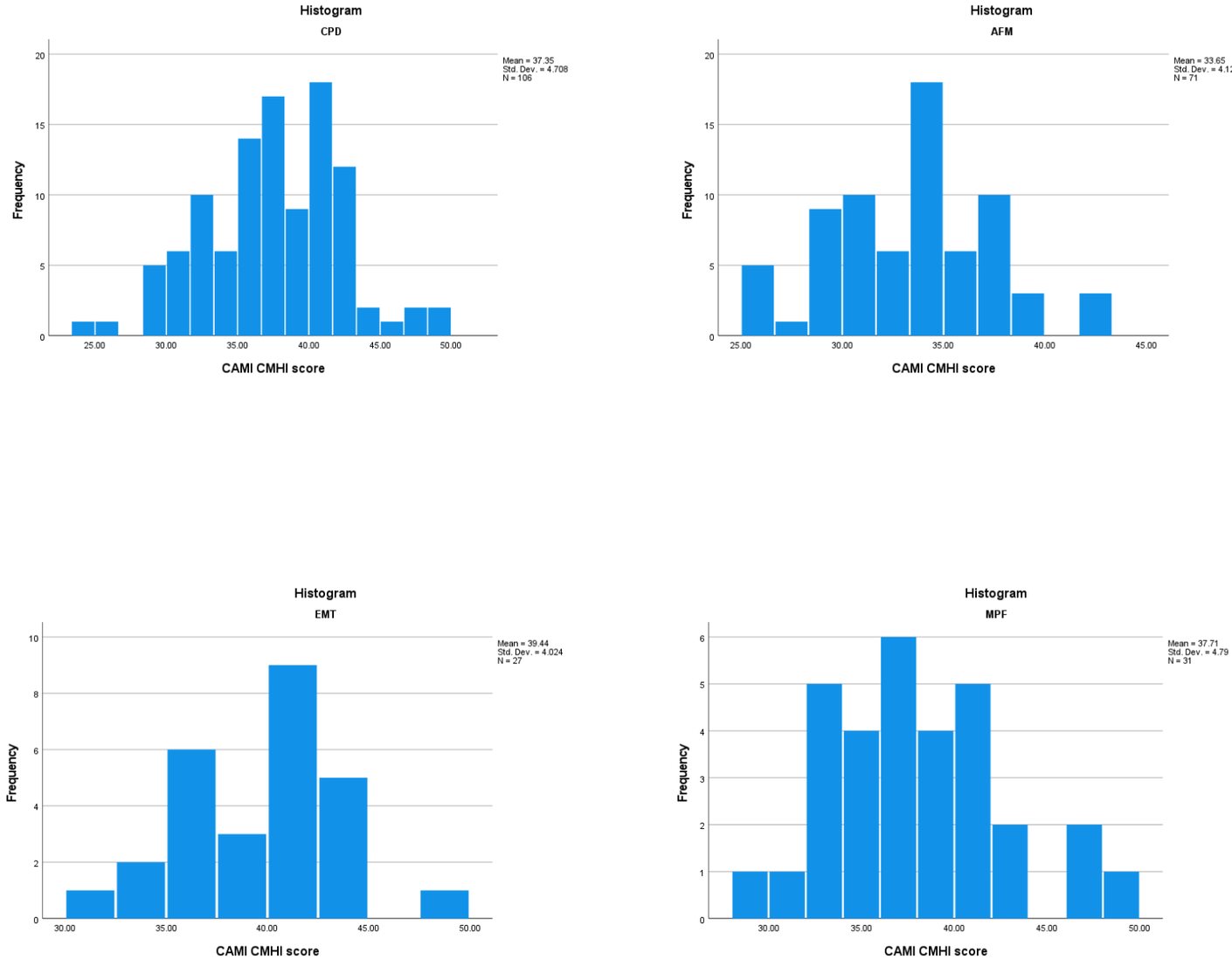


Figure 13. Histograms illustrating distributions of CAMI CMHI score on the four groups.

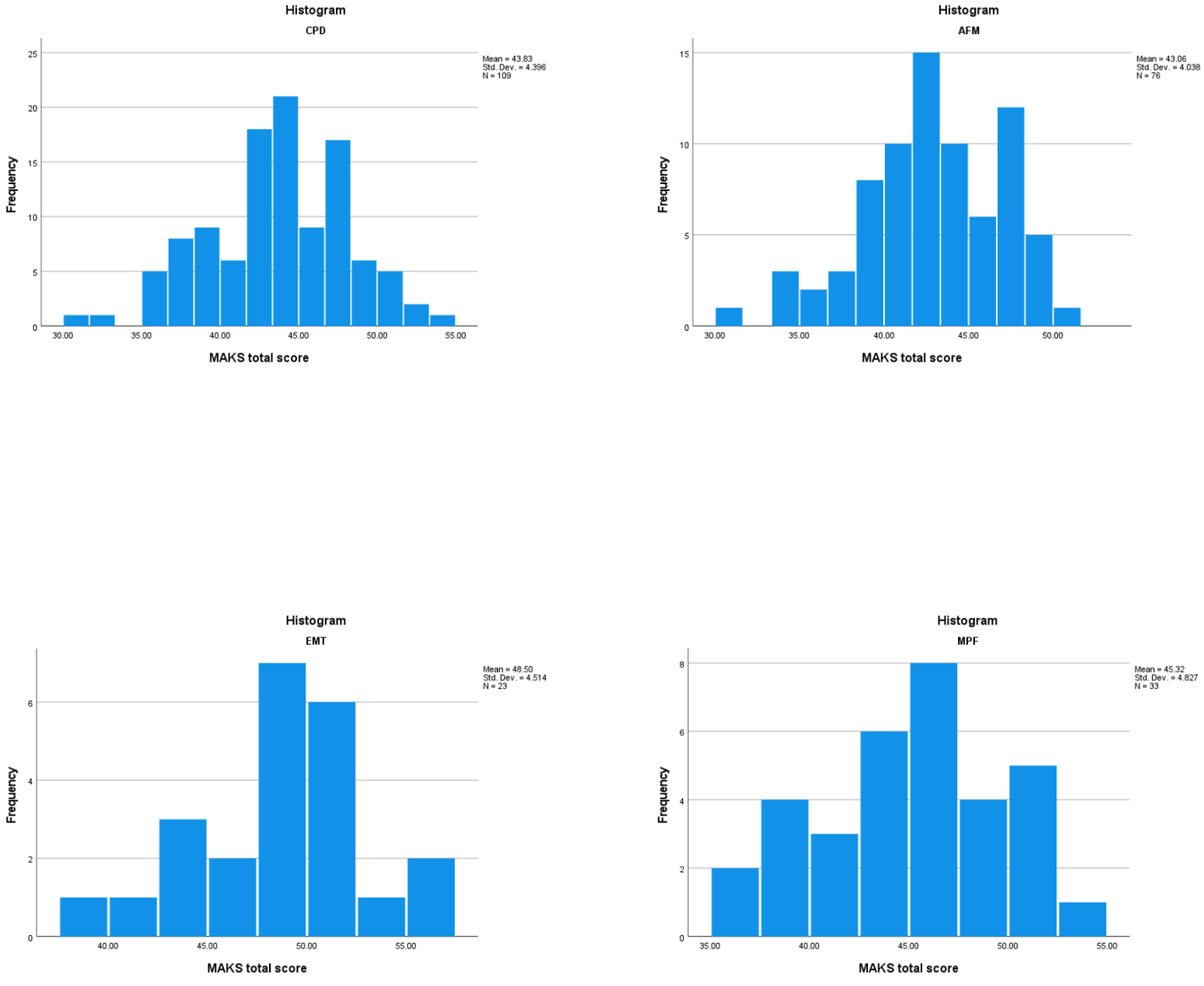


Figure 14. Histograms illustrating distributions of MAKS total score on the four groups.

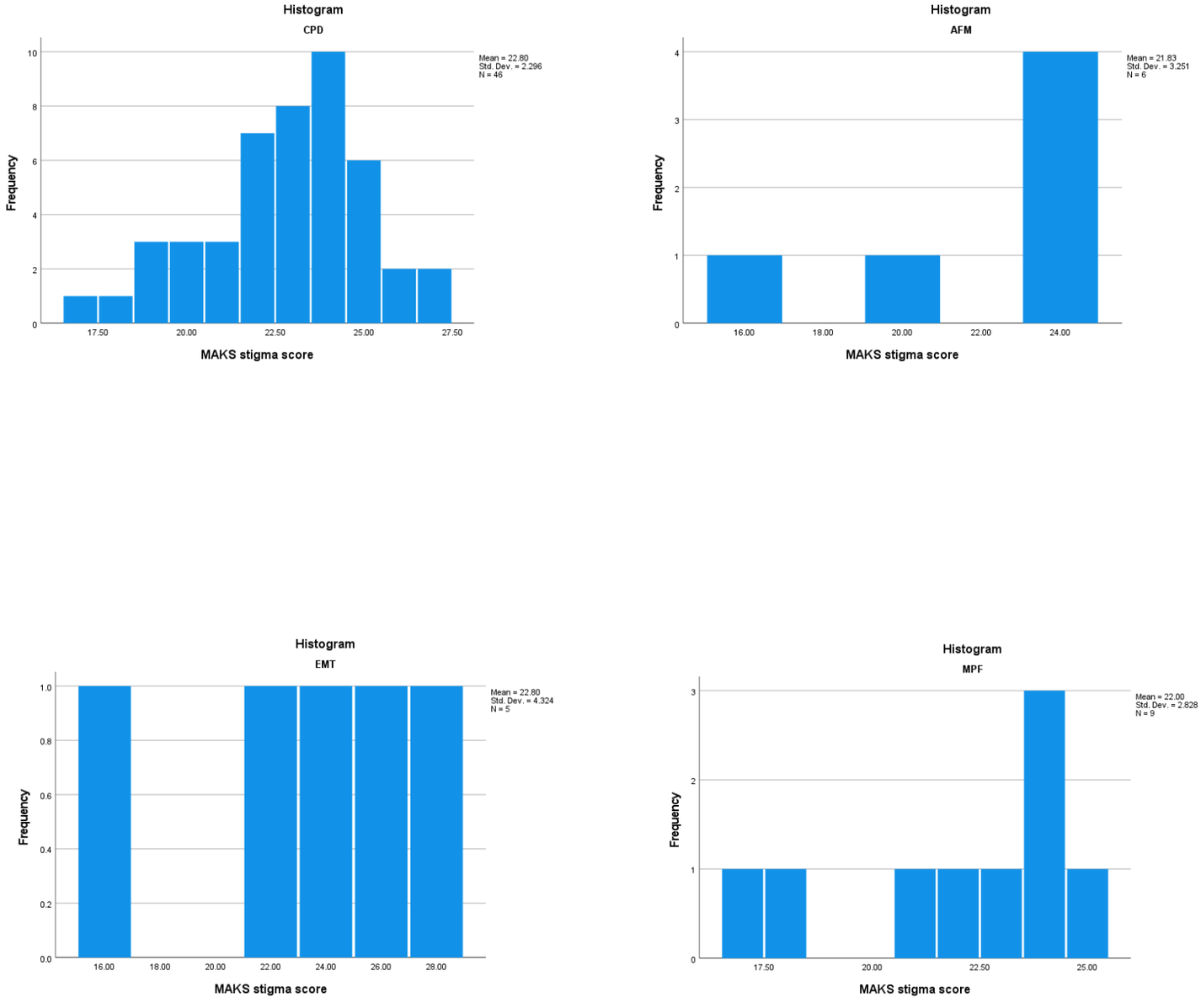


Figure 15. Histograms illustrating distributions of MAKS stigma score on the four groups.

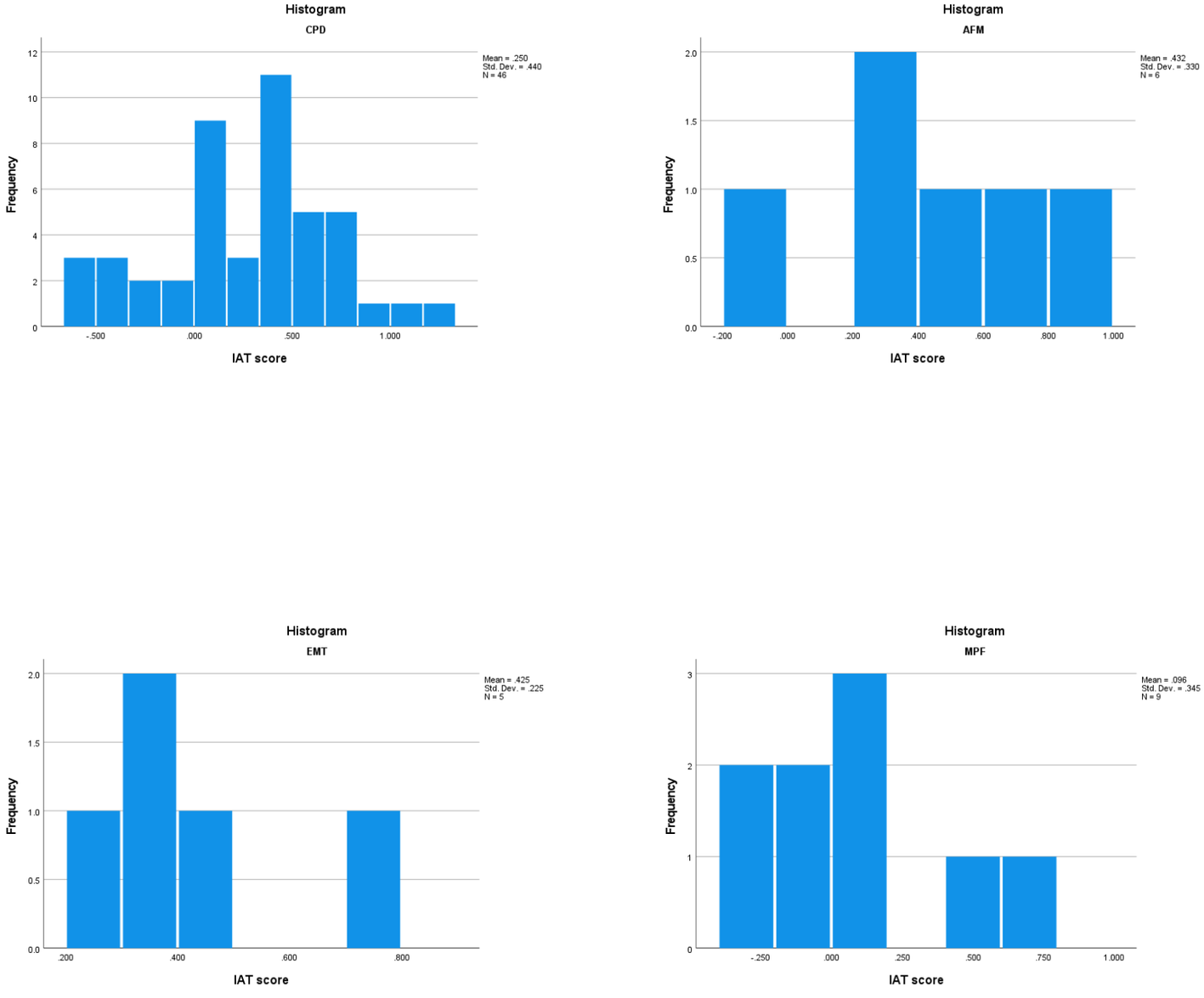


Figure 16. Histograms illustrating distributions of IAT score on the four groups.

Appendix G

Box-plots

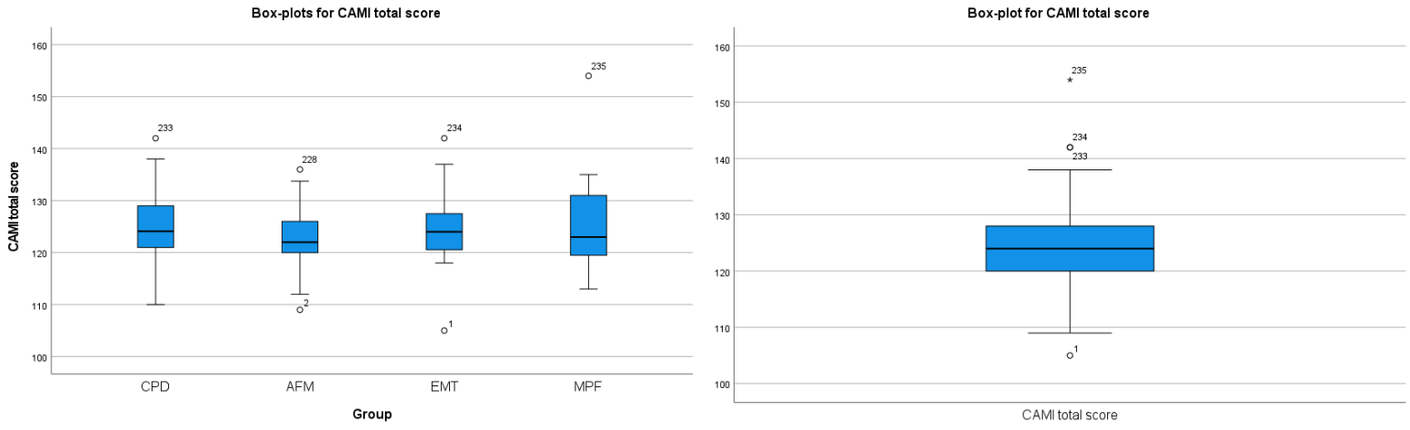


Figure 17. Box-plots illustrating outliers on CAMI total score on the four groups and on whole sample respectively.

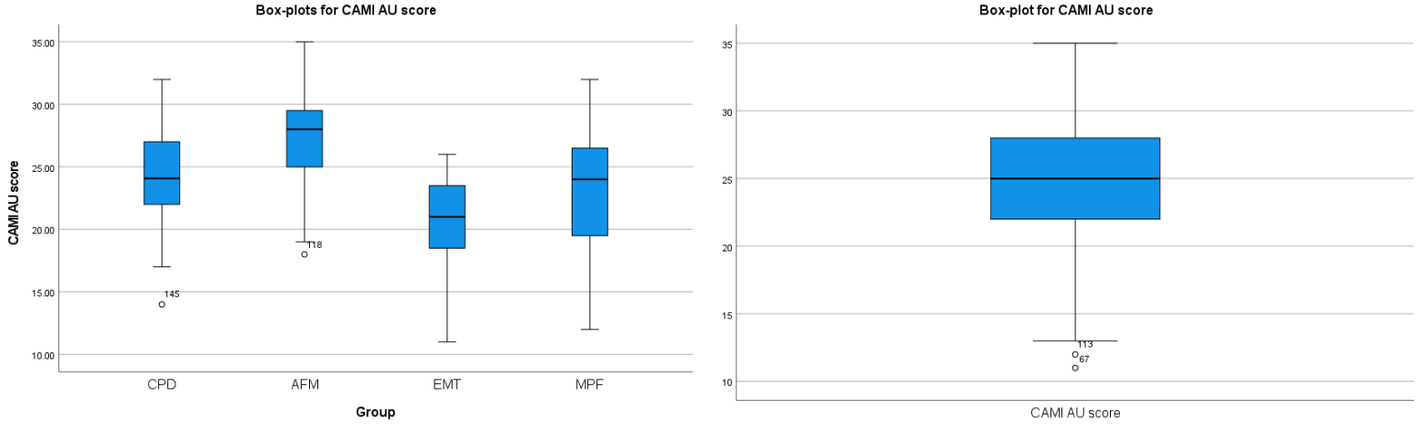


Figure 18. Box-plots illustrating outliers on CAMI AU score on the four groups and on whole sample respectively.

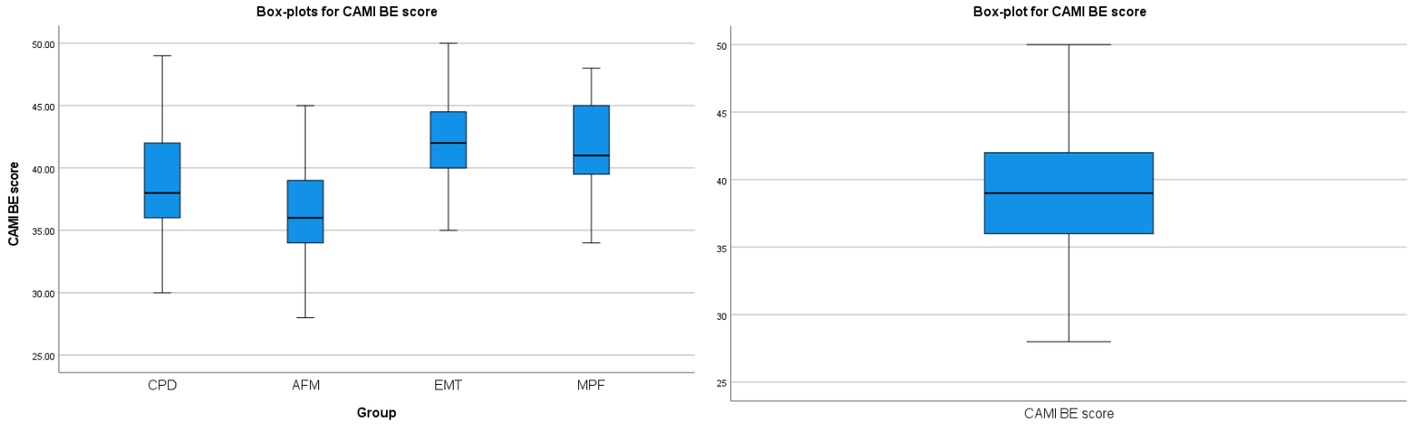


Figure 19. Box-plots illustrating outliers on CAMI BE score on the four groups and on whole sample respectively.

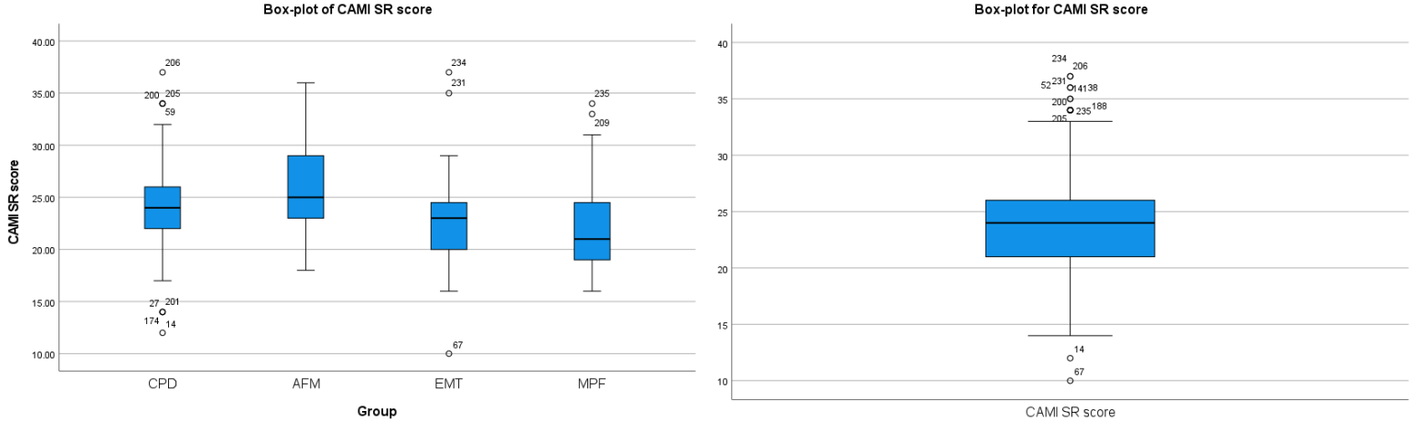


Figure 20. Box-plots illustrating outliers on CAMI SR score on the four groups and on whole sample respectively.

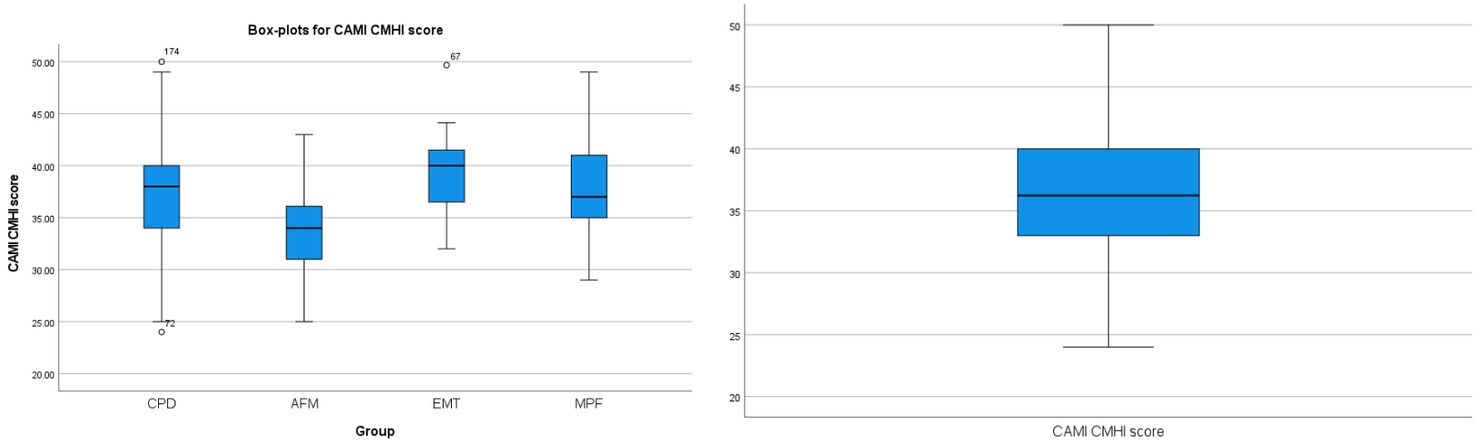


Figure 21. Box-plots illustrating outliers on CAMI CMHI score on the four groups and on whole sample respectively.

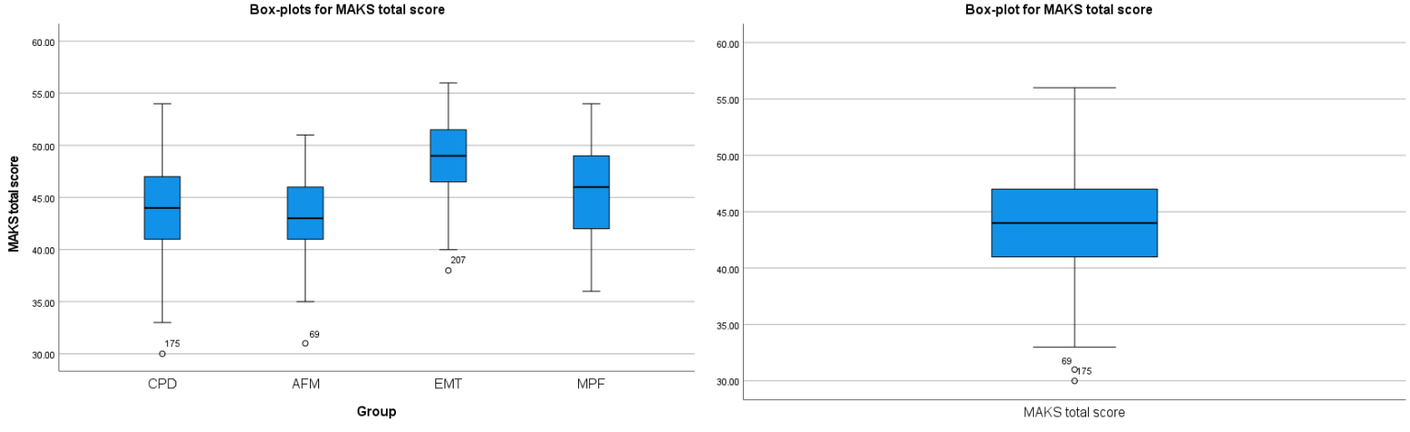


Figure 22. Box-plots illustrating outliers on MAKS total score on the four groups and on whole sample respectively.

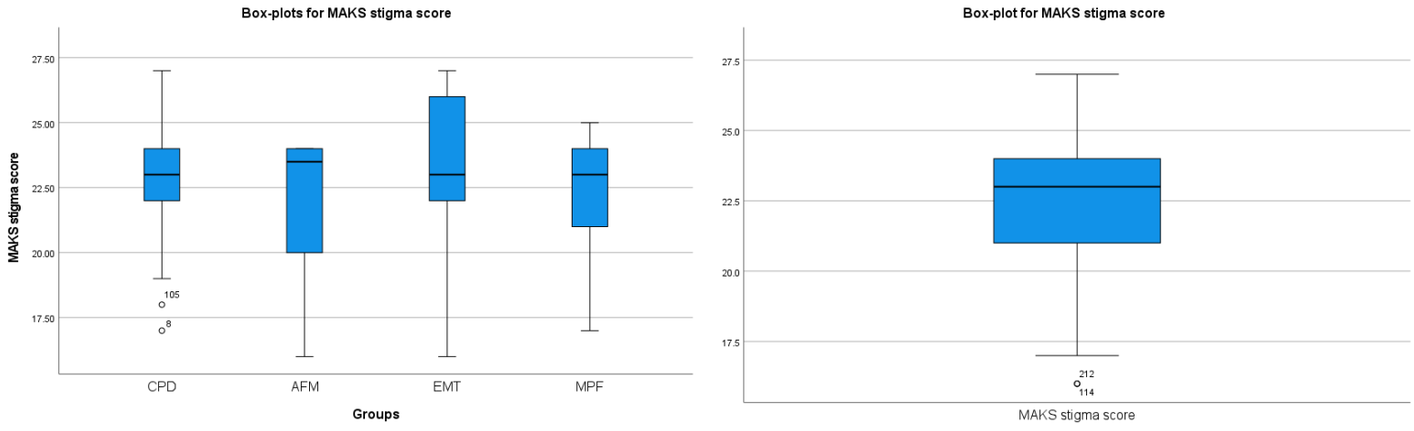


Figure 23. Box-plots illustrating outliers on MAKS stigma score on the four groups and on whole sample respectively.

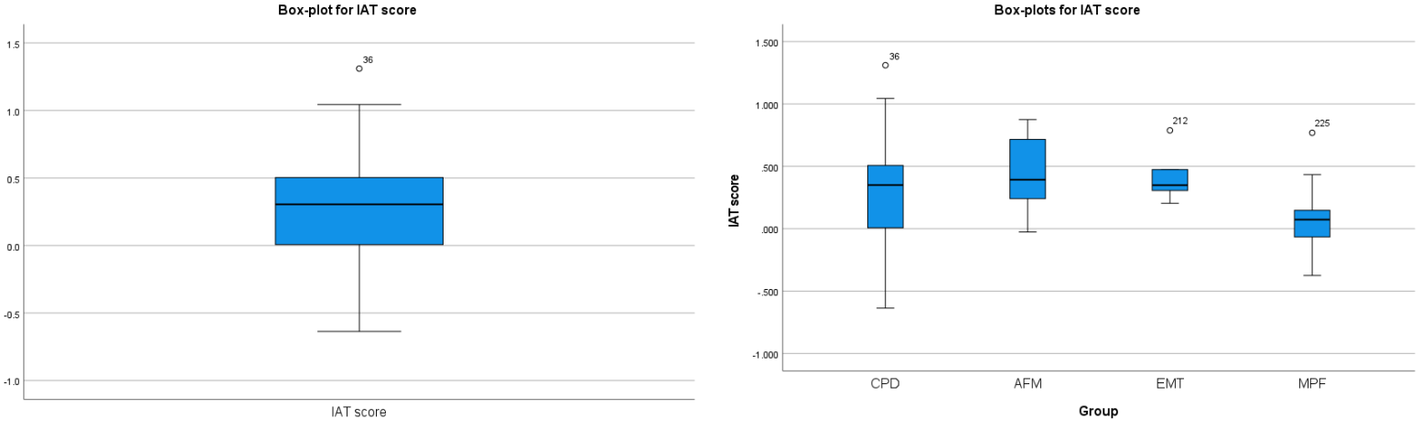


Figure 24. Box-plots illustrating outliers on IAT score on the four groups and on whole sample respectively.

Appendix H

Skew and Kurtosis

Table 9

Skewness and Kurtosis scores of CAMI scores according to department

	CPD (n = 106)		AFM (n = 71)		EMT (n = 27)		MPF (n = 31)	
Scores	Skew	Kurtosis	Skew	Kurtosis	Skew	Kurtosis	Skew	Kurtosis
CAMI total score	-1.090	4.702	.006	.199	.169	1.346	1.391	3.391
CAMI AU score	-.108	-.182	-.334	-.407	-.693	.457	-.272	-.036
CAMI BE score	-.098	.901	.008	-.284	-.048	-.164	-.240	-.591
CAMI SR score	.068	.778	.418	-.161	.666	2.302	1.002	.287
CAMI CMHI score	-.210	.230	.084	-.119	-.208	-.805	.509	.153

Table 10

Skewness and Kurtosis scores of MAKS scores according to department

	CPD (*n* =109)		AFM (*n* = 76)		EMT (*n* =23)		MPF (*n* =33)	
	Skew	Kurtosis	Skew	Kurtosis	Skew	Kurtosis	Skew	Kurtosis
MAKS total score	-.244	.030	-.319	-.193	-.484	.265	-.135	-.721
MAKS stigma score	-.434	-.118	-.588	.682	-.121	-.669	-.582	-.434

Table 11

Skewness and Kurtosis scores of IAT scores according to department

	CPD *(n = 48)*		AFM *(n = 6)*		EMT *(n = 6)*		MPF *(n = 9)*	
	Skew	Kurtosis	Skew	Kurtosis	Skew	Kurtosis	Skew	Kurtosis
IAT Score	-.192	-.075	.038	-.879	.474	-1.498	.761	.782