

The relationship between Mental Toughness and Mental Health
in GAA Players

Lara Gallagher

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Supervisor:

Dr. Prakashini Banka

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Department of Psychology

Dublin Business School

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Declaration

Declaration

‘I declare that this thesis that I have submitted to Dublin Business School for the award of HDip Psychology is the result of my own investigations, except where otherwise stated, where it is clearly acknowledged by references. Furthermore, this work has not been submitted for any other degree.’

Signed: Lara Gallagher

Student Number: 10372783

Date: 22nd March 2019

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Abstract

The aim of the present study was to investigate the relationship between mental toughness and mental health; depression, anxiety and stress among GAA players. Additional study within the sample included differences in age, gender and level of GAA code played. Participants were a snowball sample of 115 GAA players (Male=65; Female=50) within the age range of 18 to 52 years. Data was collected using an online survey which included Sports Mental Toughness Questionnaire (SMTQ), Sheard, Golby & Van Wersch (2009); and Depression, Anxiety, Stress Scale (DASS-21), Lovibond & Lovibond (1995). Results revealed that there is a statistically significant negative correlation between mental toughness and mental health of GAA players. Similarly, when the group was compared by age there was also a statistically significant negative correlation with age. However no significant difference was seen between genders or by level of GAA code played. Results warrant further research on mental toughness in GAA players as there is a lack of research in the area.

1. Introduction

Mental Health

Mental health is “a state of well-being in which the individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community”. (World Health Organisation, 2014). Mental health is an important aspect of an individual’s overall health; it can have an impact psychologically, emotionally and socially. Good mental health is crucial for having good physical health. It is not just the absence of a mental illness, but it is how an individual reacts to positive and negatives incidences in their lives. Depression, anxiety and stress are the most common issues involved with mental ill-health, (World Health Organisation, 2014). Depression is related to normal feelings of sadness however these feelings do not disappear when the cause is removed. Symptoms include a loss of interest in pleasurable activities, anhedonia, restlessness and irritability, insomnia, fatigue and hopelessness. It can heavily affect how someone lives their life as it affects how they think, behave, feel and their energy according to. In Ireland one in ten individuals in the population will receive a diagnosis of depression, (AWARE, 2019). Most individuals at some point in their lives will experience feelings of worry and anxiety. These feelings can manifest at varying times, usually they are a reaction to situations the individual is experiencing in their life; like exam pressure, arguing with friends or before a competition. However, when these feelings persist after the event has passed or start to interfere with the individual’s life they would be classified as generalised anxiety disorder, (Biddle, Mutrie & Gorely, 2015). Stress can be described as the disequilibrium that an individual experience when external and internal demands are not met and when an individual does not have the tools to meet them, (Fletcher, Hanton, & Mellalieu, 2006).

Gaelic Games

Gaelic games are traditional Irish amateur sports and for the purpose of this research the focus is on Football, Hurling and Camogie. Gaelic Football is played by both males and females and can be described as a high intensity, contact field game which is played by two teams of fifteen players with a round football which can be caught, kicked and hand passed. Hurling and Camogie are the male and female versions of a field game played with an ash hurling stick and a small ball referred to as a sliotar on a team of fifteen. The Gaelic Athletic Association (GAA) is Ireland's largest sporting organisation (Delaney & Fahey, 2005) and is the largest amateur sporting body in the world with 1,616 clubs on the island of Ireland and 400 clubs internationally, (Kelly, Banks, McGuinness & Watson, 2018).

Well-being of GAA players is paramount to the continuation of Gaelic games as an amateur sport as players are not paid and their participation is key to the success of GAA and its growth, (Kelly et al., 2018). Despite amateur status the modern game has been changing in recent years with the inclusion of many elements of professional sport at all levels; club, county and college. Teams have strength and conditioning coaches, performance coaches, GPS tracking and video analysis sessions. Training has moved from pitch training alone to gym-based sessions, players may have at least three training sessions in a week. Players are expected to travel to their training sessions if they are not based near their team. Rehabilitation programmes, recovery sessions and prehab sessions to prevent injury are also expected of players which add to an already packed schedule. These additional commitments can put huge demands on GAA players who are not only athletes; balancing training and competition but players are also juggling employment and education with their training and competition schedule. The year-

round season for GAA requires these players to sustain physical and mental performance levels along with living their normal lives. Many players having to plan their personal lives around the season. With these issues in mind it is important to investigate whether the demands of the modern game are having negative effect on their mental health.

Sport & Mental Health

Sports participation and physical activity has been shown to have benefits in relation to health and well-being, with the sporting environment fostering positive mental health and well-being, (Biddle et al., 2015). Involvement in sport does not mean that an individual will avoid negative mental health. Bauman, (2016) described that playing competitive sport can have a negative effect on mental health as sport culture does not encourage athletes to seek help as they may lose their starting position or not get game time. Gulliver, Griffiths, Mackinnon, Batterham, & Stanimirovic (2015), explored negative mental health in Australian athletes and found how one in five athletes have a comparable risk of mental disorders like anxiety and depression relative to the general population. Athletes are at risk at certain times in their careers to developing mental health problems and substance abuse problems in comparison to the general population, (Rice, Purcell, De Silva, Mawren, McGorry, & Parker, 2016). Athletes are at a higher risk of mental ill-health during times in their careers where they experience performance failure, (Hammond, Gialloreto, Kubas, & Donaldson, 2013). Nixdorf, Frank, Hautzinger, & Beckmann, (2013) and Gulliver et al (2015) have shown the negative impact injury has on an athlete's mental health.

Stressors experienced by athletes would explain why they are vulnerable to mental health problems, huge time commitment, identification as an athlete rather than as an individual, fear of competitive failure, injury, time spent away from family and friends and travel commitments,

(Hughes & Leavey, 2012). Kelly et al., (2018) GAA players are spending up to 31 hours per week on their team involvement, travel, preparation and training; this is on top of either full time work or college commitment also. The report found that 7.9 hours per day was spent on the player's career however players were compromising sleep and personal relationships to fulfil their county time commitments, their average sleep time was 7.6 hours a night compared with 8-10 recommended for elite athletes. 76.6% of players surveyed said that the main downside to playing GAA was that they spent less time with family, partner and friends. Perception is that athletes are not at the same risk of developing a mental health problem and therefore there has been neglect in the provision of mental health support to athletes, (Hughes & Leavey, 2012).

Mental Toughness

During qualitative research with athletes, coaches and sports psychologists Clough, Earle & Sewell (2002) found that within the construct of hardiness was mental toughness. Kobasa (1979), describes the attribute hardiness as containing challenge, control and commitment. Clough et al (2002) found that mental toughness is the ability to deal with challenges, stresses and pressure while trying to achieve self-defined aims. Mental toughness according to Crust (2008) is displayed by actively seeking and approaching challenges, not retreating from them. Mental toughness is reacting to threats and pressures positively and viewing these as an opportunity to thrive, improve and grown, (Thelwell, Weston & Greenless, 2005). Hardy, Imose & Day, (2014) referenced mental toughness to having increased belief in one's abilities. It has been widely recognised to be an important component found in successful sports people; although difficult to define. It can be referred to as a personality construct which enables a person to persevere towards accomplishing their goals through resilience and hardiness, and

regardless of success or failures that happen along the way to reach those goals, (Kremer, Moran, Walker & Craig, 2012). It is usually recognised in winners, they had that extra edge against their competitor. Mental toughness enables successful sports people to succeed and facilitates the demands of competitive sport and the training demands, (Jones, Hanton & Connaughton, 2007). Mentally tough athletes were shown to be better able to cope during competition with stress, they remained confident and focused during competition despite the pressures and challenges they were faced with, (Crust, 2007; Kaiseler, Polman & Nicholls, 2009; Sheard, 2009; Crust & Azadi, 2010).

Mental toughness involves showing an ability to successfully overcome difficulties, (Dewhurst, Anderson, Cotter, Crust & Clough, 2012). Hardiness has been found by Maddi (2004), as a useful resource that can be used as a resistance when confronted with stress. Hardiness and mental toughness have an ability to enhance an individual's performance and together they can create a buffering effect against psychological distress, (Sheard, 2012; Gerber, Kalak, Lemola, Clough, Perry, Puhse, Elliot, Holsboer-Trachsler & Brand, 2013). It's not just an ability to react to stressors in an opportunist way but also enables individuals to look for opportunities for enhancement due to high levels of confidence in one's abilities, (St Clair-Thompson, Bugler, Robinson, Clough, McGeown, & Perry, 2015). These descriptions of a mentally tough athlete would make it feasible to argue that there is a positive relationship between mental toughness and positive mental health. Stamp, Crust, Swann, Perry, Clough & Marchant, (2015) found mental toughness had a positive impact on psychological well-being. Malhotra & Kaur, (2017), investigated the relationship between mental toughness and mental health; depression, anxiety and stress among sports persons. The study was between 80 athletes with an even split of males and females between the ages of 17 and 21. The results highlighted

that there was a significant negative relationship of mental toughness with depression and anxiety but not with stress. However, within the subscale measured of emotional control with stress it was significantly correlated which would indicate and add further rationale that mental toughness is a buffer for stress during sporting situations. Mental toughness being negatively correlated with stress and depression was also found in a study by Gerber et al., (2013), sports persons have the ability to control their thoughts and emotions which was indicated by Cowden, Meyer-Weitz, & Oppong Asante, (2016) as their results showed a positive relationship between mental toughness and resilience, which is an individual's ability to bounce back from a setback. Also, included in their findings were a negative relationship between mental toughness and stress.

Students

College students are particularly vulnerable to mental health issues due to their increased work load, it's a transition period in their lives by moving from home and they are faced with a change in their traditional social supports, (Castillo & Schwartz, 2013). In research by Kelly et al, (2018) GAA players in the 18-21-year-old group reported that 50.7% of players were playing for four or five different teams. This is the average age of student population and it is also the average age group for many common psychological disorders like depression, anxiety and stress, (UK Royal College of Psychiatrists, 2011). Surujlal, Van Zyl, & Nolan, (2013) discussed the need to protect and promote psychological well-being within student athletes, they are more vulnerable than other athletic groups as they are balancing athletic, social and academic commitments. Sheard & Golby (2006) used psychological skills training to increase mental toughness in adolescent male and female competitive swimmers between the ages of ten and eighteen, they also seen an increase in their performance and promoted psychological

development. Similarly, in a study by Golby & Wood (2016) on a population of female student rowers between the ages of eighteen to thirty-one, participants received one to one psychological support over the course of a competitive season. The psychological skills intervention programmed was designed to enhance the mental toughness and psychological well-being of students and the results showed that the participant's mental toughness significantly improved along with participants perceived self-efficacy, self-esteem and positive affect. During the study the students the participants did not report any signs of psychological distress and therefore the sessions were designed to nurture whatever mental toughness was already there and develop it to a greater sense.

Gender

In studies by (Clough, 2002; Crust, 2009; Hossein, Faruque Mohd, Soumendra & Muzaimi, 2016) no major differences were displayed between genders in relation to mental toughness. Houssein et al, 2016 undertook a study of 57 males and 45 females who were regular participants in sport and found a negative correlation with mental toughness and anxiety. There were no significantly different results between males and females, However; female participants did show higher levels of anxiety than their male counterparts which shows that they are more vulnerable to develop anxiety (Houssein et al, 2016). This study highlighted the need for further exploration into gender differences.

Different Levels

A previous quantitative review of mental toughness in sports, Cowden (2017) reported that there was a significant difference in sportspersons mental toughness that participate at elite level. Individuals are seemed to be considered mentally tough when they are elite in their sport

however more detailed research should focus on how the concept impacts not just the individual's performance but perception, cognition and behaviour. Research like this could help to indicate whether an individual will demonstrate mental toughness across other aspects of their life than sport, like inter personal relationships, reacting to emergency situation, as a parent and problem solving. Within a sport environment the pressure the athletes are under during competition, the focus and determination required to succeed highlight the importance that athletes are psychologically equipped as well as physically (Lawless & Grobbelaar, 2015). GAA is unique in a sporting context as the athletes compete for different levels as an amateur sport, however at the highest level they would be considered elite athletes; despite also working full time, attending full time education and having a personal life to juggle.

Interventions

Understanding how mental toughness can influence beyond a sports context is useful for practitioners and researchers to help them consider the best approach to develop mental toughness. There are differing opinions on whether mental toughness is a personality trait Kroll (1967), Gibson (1998) viewed it as a state of mind, or as a psychological characteristic, (Bull, Shambrook, James & Brooks, 2005). Clough et al (2002) considered mental toughness to be a trait-like construct, that it will stay stable regardless of competition or adversity. In Jones et al (2007) it was discussed whether mental toughness was natural or developed, this has also been discussed in Golby & Sheard (2006), and to understand how mental toughness can develop in an individual would be of paramount importance to sport psychologists to help to enhance performance. Research is also focusing on other performance type environments which mental toughness may be correlated; Education, (Mc Geown, St Clair-Thompson, & Clough, 2016); (St Clair-Thompson et al, 2015) and also in the workplace, (Marchant, Polman, Clough, Jackson,

Levy, & Nicholls, 2009). A study by Haghighi & Gerber., (2018) on 207 medical students in Iran investigated whether mental toughness acts as a buffer between stress, depression, anxiety, burnout and insomnia. Findings were that students who are at high levels of mental toughness also had lower stress, fewer symptoms of depression, lower anxiety, low burnout levels and less sleep complaints. However, results were found on a convenience sample of medical students and there could be the influence of selection bias in the results, that more mentally tough individuals wanted to partake in the research.

The dark triad

Research on mental toughness has mainly focused on the positive impact it can have on an individual, however a study by Sabouri, Gerber, Sadeghi Bahmani, Lemola, Clough, Kalak, Shamsi, Holsboer-Trachsler, & Brand (2016) looked at the socially less acceptable behaviours and identified different dimensions of mental toughness. Particularly the dark triad of Machiavellianism, narcissism and psychopathy and their relationship with mental toughness. Where results highlighted in a sample of young adults that higher mental toughness scores were associated with higher traits of Machiavellianism, narcissism and psychopathy along with physical activity. Vaughan, Carter, Cockroft & Maggiorini, (2017) furthered on from this looking at the variable of physical activity particularly competitive sport and predicted that the relationship between mental toughness and the dark triad would be stronger in elite athletes than amateurs and non-athletes. The results proved this relationship, particularly in narcissism which works as a self-driver. Levy, Polman, Clough, Marchant, & Earl, (2006) results showed how participants with lower mental toughness were better at adhering to their recommended clinical rehabilitation programme as higher mental toughness was correlated with higher pain threshold in the sample. Which would suggest that mentally tough athletes may consider themselves strong

enough to persevere with what they perceive to be a less severe injury. Is it mentally tough to play on for the good of the team while injured and risk long term damage or is the mentally tough decision to stop training and seek medical support? In GAA where club teams might not have a huge panel of players to choose from, players may be under more pressure to play injured or ignore injury.

Rationale

From the research it can be assumed that mental toughness aides an individual to function in a positive way while being faced with the demands that life throws at them. Mental toughness has not been explored in literature in relation to GAA and there seems to be a benefit in exploring this topic further as GAA is such a large part of Irish society with 1,616 clubs in the country. As more and more professional elements are being brought into the games it is important to realise the extra pressures that is affording on the players and the subsequent impact that could be having on their mental health. Research has shown that the student population is more vulnerable to negative impacts on their mental health and particularly students that are involved in sports participation. As GAA has been separated by organisations and game rules by gender differences it would be necessary to undertake research to ascertain gender differences in a study of a GAA playing population. The different levels played in GAA; club, county or college may be interpreted as a difference for the players in how they cope and deal with stressors.

The objective of this research was to investigate the relationship between mental toughness and mental health; depression, anxiety and stress among a GAA playing sample. Included under mental toughness were the variables of confidence, constancy and control measured using the Sports Mental Toughness Questionnaire (Sheard, Golby & Van Wersch,

2009). It is a multidimensional measure of mental toughness specifically related to sports, it contains three subscales; confidence, constancy and control. Confidence measures belief in ability to achieve goals and be better than opponents. Constancy describes an ability to concentrate, be determined and have personal responsibility during competition. Control reflects an ability to control situations and emotions when faced with stressors, (Zeiger & Zeiger, 2018). The participant's mental health was described using the variables depression, anxiety and stress, measured by the DASS-21 (Lovibond & Lovibond, 1995). This study also aimed to expand from the relationship between mental toughness and mental health by examining the difference in genders, age groups and whether there was a difference in the level of GAA played (club, county or college) within the sample.

Hypothesis One

There will be a statistically significant difference in the relationship between mental toughness and mental health; depression, anxiety and stress.

Hypothesis Two

There will be a statistically significant difference in the relationship between mental toughness and mental health; depression, anxiety and stress between males and females.

Hypothesis Three

There will be a statistically significant difference in the relationship between mental toughness and mental health; depression, anxiety and stress with age.

Hypothesis Four

There will be a statistically significant difference in the relationship between mental toughness and mental health; depression, anxiety and stress by level of GAA (club, county, college) played by participants.

2. Methodology

2.1 Participants

A non-probability purposive sample was obtained for this study which contained ($n=115$) participants. Of the 115 participants, 43.5% were female ($n=50$) and 56.5% were male ($n=65$). Age of participants ranged from 18 to 52 with a mean age of 24.98 ($SD=5.694$). The inclusion criteria required participants to be current GAA players of various codes (i.e. football, hurling or camogie) and over the age of 18. All participants were members of a GAA club however, the level of their club was not required (i.e. Junior, Intermediate or Senior).

Recruitment of the purposive sample began by contacting a local GAA club to get permission to sample their members through an online survey. In order to create a snowball sample the survey was linked to various social media platforms, where it was shared by members of other GAA clubs and passed on to their teammates. Participation was anonymous and completely voluntary; which participants were made aware of prior to completing the online survey. No monetary incentives were made available to participants and a summary of results could be provided to participants if they requested such.

2.2 Design

The study is quantitative as it is questionnaire based and all participants recruited through non-probability purposive sampling and completed the same self-report online survey. To investigate the relationship between variables a non-experimental correlational design was employed. A correlational design investigated the relationship between the criterion variable of mental toughness and the predictor variables of depression, anxiety, stress, gender and age.

2.3 *Materials*

The online survey was designed using Google Forms and data downloaded to Microsoft Excel 2016 and imported into SPSS 25 to conduct appropriate statistical analysis. The online survey contained 5 sections, with 42 questions. The first question contained an information sheet (Appendix A) which explained the purpose of the research and consent. Section two (Appendix B) involved 7 demographic questions referring to Sex, Age, GAA Code played, Level GAA Code is played and the participants educational or employment status. The third section included the shortened 21 question DASS-21 scale (Appendix C), the fourth section involved the 14 question Sports Mental Toughness Questionnaire (SMTQ) and finally section five (Appendix D) had a debrief sheet for participants.

2.3.1 *Depression Anxiety Stress Scales 21 Questionnaire (DASS – 21)*

DASS - 21 is the short form of Lovibond and Lovibond's (1995) 42 item self-report measure for depression, anxiety and stress. It is a self-report questionnaire where participants were requested to consider their responses in relation to how much the statement applied to them over the past week and were assured there were no right or wrong answers. The questionnaire consists of 21 items divided into 7 items per subscale of depression, anxiety and stress. Items were scored from 0 (did not apply to me at all) to 3 (Applied to me very much, or most of the time). The depression scale assesses dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest/involvement, anhedonia and inertia. An example of a question in the depression subscale is "I couldn't seem to experience any positive feeling at all". Within the anxiety subscale it assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. This type of question would include "I felt I was close to

panic”. Within the stress subscale it measures difficulty relaxing, nervous arousal, and being easily upset/agitated, irritable/over-reactive and impatient. An example of this type of question would be “I tended to over-react to situations”. The scores for these subscales are calculated by summing the scores, to calculate the final scores they will need to be multiplied by two.

Table 1: *DASS-21 Scoring*

	Depression	Anxiety	Stress
Normal	0-9	0-7	0-14
Mild	10-13	8-9	15-18
Moderate	14-20	10-14	19-25
Severe	21-27	15-19	26-33
Extremely Severe	28+	20+	34+

Sum scores for the total scale can range between 0 and 120, within the subscales can be 0 and 42.

Table 1 (*DASS -21 scoring*) above breaks down the scoring with a set of severity ratings proposed by (Lovibond & Lovibond, 1995).

The length of time to take the online survey was a factor in using the shortened version DASS-21, the aim was to keep the time to the minimum while also gathering necessary information of a picture of overall mental health of participants which the subscales combined provides, (Lovibond & Lovibond, 1995). A Cronbach’s Alpha test of reliability for the current study found that the three subscales depression $\alpha=.79$, anxiety $\alpha=.89$, stress $\alpha=.89$ and total DASS-21 $\alpha=.95$ have strong internal consistency. This is similar to Lovibond and Lovibond’s (1995) original study which indicated internal validity overall for the three subscales as $\alpha=.93$ and for the three subscales depression $\alpha=.91$, anxiety $\alpha=.81$, stress $\alpha=.89$.

2.3.2 *Sports Mental Toughness Questionnaire (SMTQ)*

To measure participants mental toughness the Sports Mental Toughness Questionnaire Sheard et al., (2009) was used. It is a 14-item self-report questionnaire which measures Mental Toughness specifically in a sporting context; including the subscales of confidence, constancy and control. Participants were asked to respond to the questions as they feel that they would while playing GAA. The responses are in a 4-point Likert scale, which ranges from (A) Very True to (D) Not at all true. Sample questions in the subscales include “I get anxious by events I did not expect or cannot control” (control). “I have unshakeable confidence in my ability” (confidence); “I get distracted easily and lose my concentration” (constancy). This scale was used to measure the participant’s mental toughness in a sporting context. A Cronbach’s Alpha test of reliability for the current study found that the three subscales confidence $\alpha=.62$, constancy $\alpha=.64$, control $\alpha=.97$ and the total SMTQ $\alpha=.84$ have acceptable internal consistency. Sheard et al., (2009) indicated internal validity for the three subscales confidence $\alpha=.80$, constancy $\alpha=.74$, control $\alpha=.71$.

2.4 *Procedure*

This research was conducted by using an online survey sent to a GAA club and posting of an online survey to various social media platforms. A discussion took place prior to receiving permission from management of the GAA club regarding the research being conducted and implications if any for its members. Participants were informed through the online survey what the research being conducted was in relation to. All procedures were in line with The Code of Professional Ethics of the Psychological Society of Ireland (PSI, 2011).

The online survey was put together using Google Forms, it contained five sections: (1) an information sheet (Appendix A) for participants relating to the purpose of the study and informing them of consent and confidentiality, (2) a demographics page (Appendix B), (3) Depression Anxiety Stress Scales 21 (DASS – 21) questionnaire (Appendix C), (4) Sports Mental Toughness Questionnaire (SMTQ) and (5) a debrief page containing information on mental health services and thanking participants for completing the questionnaire. The online survey took roughly seven minutes to complete and it was easily viewed by participants online through computer, electronic device and mobile phone. When the online survey was closed the data was downloaded to Microsoft Excel (2016 version). All relevant information was then exported to the Statistical Package for the Social Sciences (SPSS 25) programme in order to complete statistical analysis.

2.5 Ethics

Prior to conducting the research an outline of the research project was submitted and approved from Dublin Business School Research Ethics Committee at the beginning of the academic semester 2018/2019. Ethical considerations were reviewed using the Dublin Business School Ethical Guidelines for Research with Human Participants and The Code of Professional Ethics of the Psychological Society of Ireland (PSI, 2011).

Permission was received from the GAA club used in the research after an informal discussion regarding its purpose and content prior to formal approval. Disclosure of the GAA club has been kept confidential to ensure that the identify of participant's is protected, therefore a copy of the consent cannot be provided in the appendix but had been disclosed to Dublin Business School Ethics Committee prior to commencement of research. Approval of the online

survey was obtained from research supervisor prior to its distribution to the GAA club and posting on social media channels.

Participants were provided with an information sheet (Appendix A) at the beginning of the online survey outlining a brief detail of the study, how the information they would be providing was confidential and would be stored securely on a password protected computer and USB, all according to Psychological Society of Irelands Code of Professional Ethics (PSI, 2011) to ensure informed consent. It was noted at the start of the online survey that there will be questions regarding mental health and if they felt it would be risky for them that they can opt out of the survey. Participants were also informed that as the study is anonymous their data cannot be withdrawn after completion.

As the study asked questions about a participant's stress, depression and anxiety levels at a given time it could raise concerns for the participant regarding their mental health, therefore a debriefing sheet with contact information for organisations that could help them if they felt they needed it was provided at the end of the survey along with a thank you message to show appreciation for participation in the research (Appendix D).

2.6 Data Analysis

Prior to statistical analysis histograms were ran for DASS-21 and SMTQ to determine whether the data was normally distributed. (See *Figures 1 & 2* below).

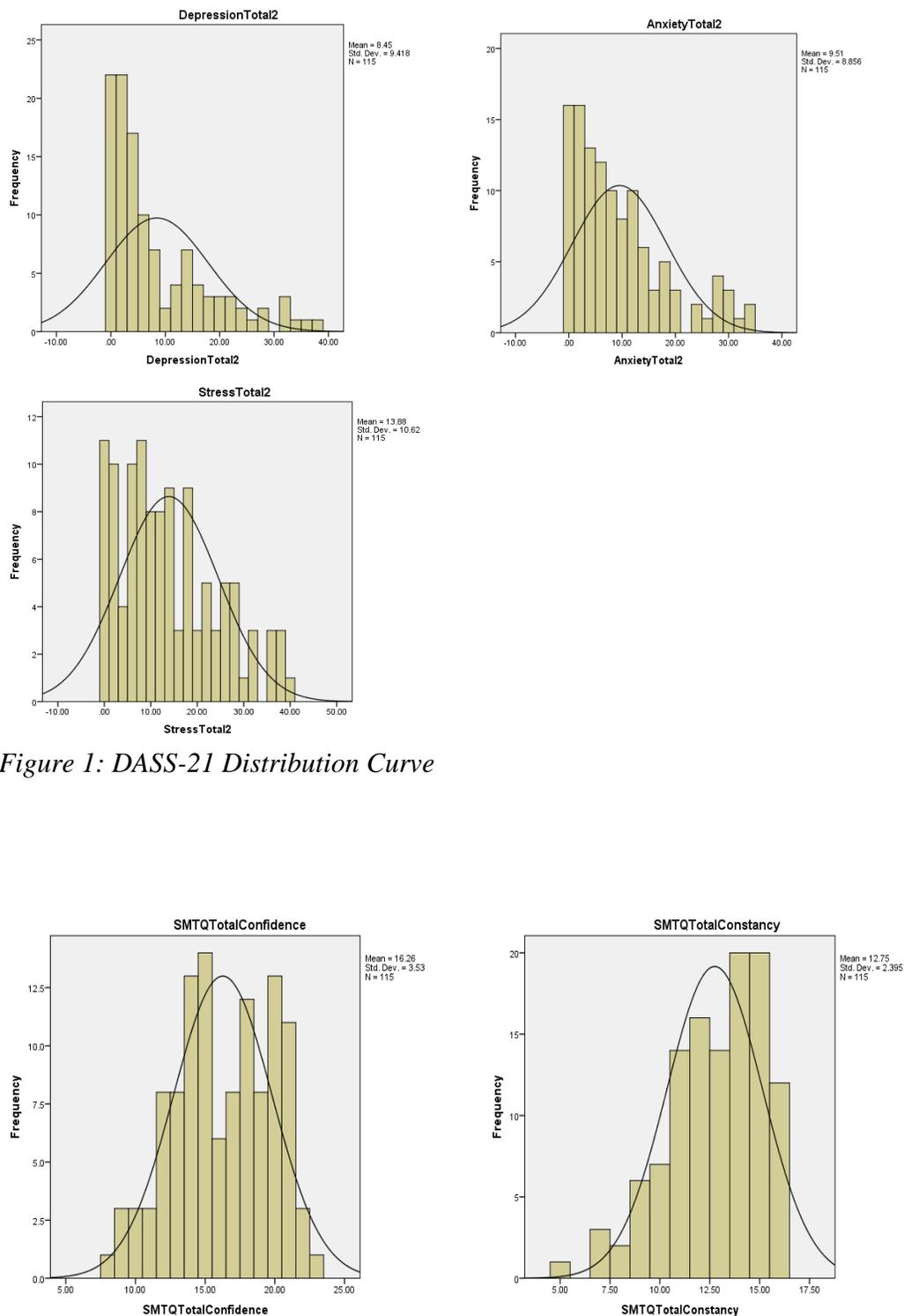


Figure 1: DASS-21 Distribution Curve

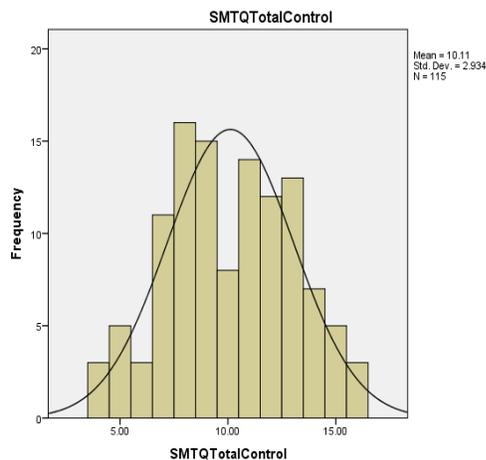


Figure 2: SMTQ Distribution Curve

As data is not normally distributed statistical analysis was undertaken using the following non parametric tests.

Hypothesis one

In order to determine if there is a statistically significant difference in the relationship between mental toughness and mental health; depression, anxiety and stress, a Spearman's rank order correlation was run to determine the strength and direction of this relationship between participants.

Hypothesis two

There will be a statistically significant difference in the relationship between mental toughness and mental health; depression, anxiety and stress between males and females. A Man-Whitney U test was run instead of an independent samples T-test as the data is not normally distributed in order to determine this relationship.

Hypothesis Three

To find a statistically significant difference in the relationship between mental toughness and mental health; depression, anxiety and stress with variances in age. A Spearman's rho correlation was run to determine the strength and direction of this relationship.

Hypothesis Four

There will be a statistically significant difference in the relationship between mental toughness and mental health; depression, anxiety and stress by level of GAA (Club, County, College) played by participants. A Kruskal-Wallis one-way ANOVA was run to compare the three samples of different sample sizes.

3. Results

3.1 Descriptive Statistics

Data collected for this study was analysed using IBM SPSS-25. The following descriptive statistics were obtained to gain further information on the participants to give a wider picture into the sample. Total number of participants amounted to $n=115$, of which 50 were female (43.5%) and 65 (56.5%) male. Age ranged between 18 and 52 years of age. $M=24.98$ $SD = 5.69$.

Of the 115 participants 97 reported playing Football (45 female and 52 male), 35 participants reported playing Hurling and 12 reported playing Camogie (*Figure 3*).

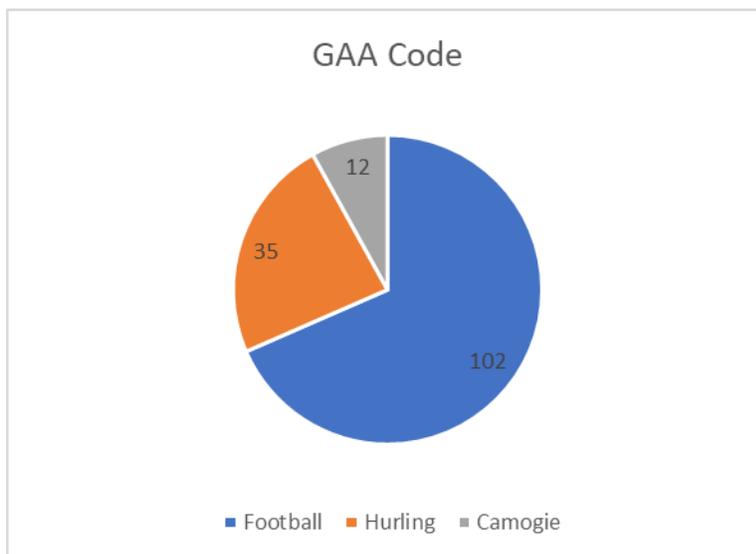


Figure 3: GAA Code

Participants were further asked to report what level that they played each code, (*Figure 4*). Which was split into three options; Club, County or College. In relation to Football participants reported 102 played at club, 15 county and 17 college. Hurling accounted for 35 club

players, 1 played county and 2 college. In Camogie, 12 played for their club, 1 at county level and 2 at college.

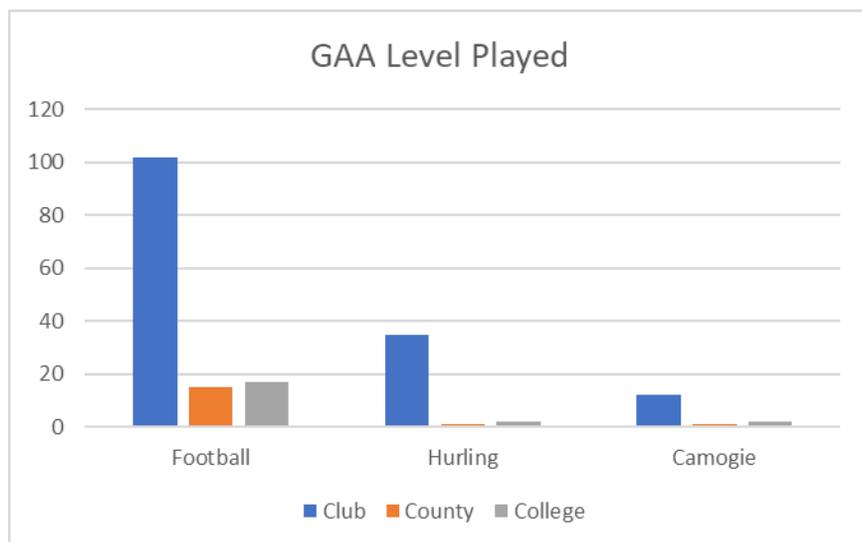


Figure 4: GAA Level Played

To gain information in relation to education and employment status, participants were asked to indicate if they were in third level education was it full or part time. Of 115 participants, 45 reported being in third level education of which 8 was part time and 37 full time. Similarly, 92 participants were employed, of which 70 was full time and 22 part time.

3.2 Inferential Statistics

3.2.1 Hypothesis one

H₀ There will be no statistically significant difference in the relationship between mental toughness with mental health; depression, anxiety and stress. **H₁** There will be a statistically significant difference in the relationship between mental toughness and mental health; depression, anxiety and stress.

A series of Spearman's Rho correlations were run (*Table 2*) to examine the relationship between depression, anxiety and stress with mental toughness; particularly to examine whether higher levels of mental toughness relate to lower levels of depression, anxiety and stress.

Table 2: Correlation matrix of mental toughness, depression, anxiety and stress.

Variables	Depression	Anxiety	Stress	DASS	Confidence	Constancy	Control	Mental Toughness
Depression	1							
Anxiety	.64**	1						
Stress	.74**	.68**	1					
DASS	.85**	.85**	.93**	1				
Confidence	-.38**	-.27**	-.25**	-.32**	1			
Constancy	-.49**	-.42**	-.32**	-.41**	.48**	1		
Control	-.60**	-.62**	-.62**	-.67**	.48**	.45**	1	
Mental Toughness	-.60**	-.54**	-.49**	-.58**	.85**	.74**	.80**	1

** . Correlation is significant at the 0.01 level (2-tailed)

Depression

A Spearman's Rho correlation was used to see if there was a correlation between depression and confidence, there is a weak negative correlation between depression and confidence which is statistically significant ($R_s (115) = -.38, p \leq .01$).

A Spearman's Rho correlation was used to see if there was a correlation between depression and constancy, there is a moderate negative correlation between depression and constancy which is statistically significant ($R_s (115) = -.49, p \leq .01$).

A Spearman's Rho correlation was used to see if there was a correlation between depression and control, there is a moderate negative correlation between depression and control which is statistically significant ($R_s (115) = -.60, p \leq .01$).

A Spearman's Rho correlation was used to see if there was a correlation between depression and overall mental toughness, there is a moderate negative correlation between overall mental toughness and depression which is statistically significant ($R_s (115) = -.60, p \leq .01$).

Anxiety

A Spearman's Rho correlation was used to see if there was a correlation between anxiety and confidence, there is a weak negative correlation between anxiety and confidence which is statistically significant ($R_s (115) = -.27, p = .003$).

A Spearman's Rho correlation was used to see if there was a correlation between anxiety and constancy, there is a moderate negative correlation between anxiety and constancy which is statistically significant ($R_s (115) = -.42, p \leq .01$).

A Spearman's Rho correlation was used to see if there was a correlation between anxiety and control, there is a moderate negative correlation between anxiety and control which is statistically significant ($R_s(115) = -.62, p \leq .01$).

A Spearman's Rho correlation was used to see if there was a correlation between anxiety and overall mental toughness, there is a moderate negative correlation between overall mental toughness and anxiety which is statistically significant ($R_s(115) = -.53, p \leq .01$).

Stress

A Spearman's Rho correlation was used to see if there was a correlation between stress and confidence, there is a weak negative correlation between stress and confidence which is statistically significant ($R_s(115) = -.25, p = .006$).

A Spearman's Rho correlation was used to see if there was a correlation between stress and constancy, there is a weak negative correlation between stress and constancy which is statistically significant ($R_s(115) = -.32, p \leq .01$).

A Spearman's Rho correlation was used to see if there was a correlation between stress and control, there is a moderate negative correlation between stress and control which is statistically significant ($R_s(115) = -.62, p \leq .01$).

A Spearman's Rho correlation was used to see if there was a correlation between stress and overall mental toughness, there is a moderate negative correlation between overall mental toughness and stress which is statistically significant ($R_s(115) = -.49, p \leq .01$).

A Spearman's Rho correlation was used to see if there was a correlation between total mental health and overall mental toughness, there is a moderate negative correlation between

overall mental toughness and mental health which is statistically significant ($R_s(115) = -.58, p \leq .01$).

The results supported the research question that there is a relationship between mental toughness and lower levels of depression, anxiety and stress. Therefore, the null hypothesis is rejected.

3.2.2. Hypothesis two

H₀ There will be no statistically significant difference in the relationship between mental toughness and mental health; depression, anxiety and stress between males and females. **H₂** There will be a statistically significant difference in the relationship between mental toughness and mental health; depression, anxiety and stress between males and females.

A Mann-Whitney U test was used to test whether there will be a statistically significant difference in depression between males and females. No statistically significant difference was found between males (mean rank=56.42) and females (mean rank=60.06); ($z = -.59, p = .558$) in relation to depression.

A Mann-Whitney U test was used to test whether there will be a statistically significant difference in anxiety between males and females. No statistically significant difference was found between males (mean rank=56.42) and females (mean rank=60.40); ($z = -.68, p = .496$) in relation to anxiety.

A Mann-Whitney U test was used to test whether there will be a statistically significant difference in stress between males and females. No statistically significant difference was found between males (mean rank=59.48) and females (mean rank=56.07); ($z = -.55, p = .585$) in relation to stress.

A Mann-Whitney U test was used to test whether there will be a statistically significant difference in mental health between males and females. No statistically significant difference was found between males (mean rank=57.89) and females (mean rank=58.08); ($z=-.03$, $p=.975$) in relation to mental health.

A Mann-Whitney U test was used to test whether there will be a statistically significant difference in confidence between males and females. There was a statistically significant difference found between males (mean rank=68.28) and females (mean rank=44.62); ($z=-3.79$, $p \leq .01$) in relation to confidence.

A Mann-Whitney U test was used to test whether there will be a statistically significant difference in constancy between males and females. There was no statistically significant difference found between males (mean rank=58.54) and females (mean rank=57.30); ($z=-.20$, $p =.842$) in relation to constancy.

A Mann-Whitney U test was used to test whether there will be a statistically significant difference in control between males and females. There was a statistically significant difference found between males (mean rank=64.05) and females (mean rank=50.14); ($z=-2.23$, $p=.026$) in relation to control.

A Mann-Whitney U test was used to test whether there will be a statistically significant difference in total mental toughness between males and females. There was a statistically significant difference found between males (mean rank=66.08) and females (mean rank=47.50); ($z=-2.97$, $p=.003$) in relation to overall mental toughness.

The series of Mann-Whitney U tests that were ran to determine if there is a statistically significant difference in the relationship between mental toughness and mental health;

depression, anxiety and stress between males and females. The results determined that there is not a statistically significant difference. Therefore, the null cannot be rejected.

3.2.3 Hypothesis Three

H₀ There will be no statistically significant difference in the relationship between mental toughness and mental health; depression, anxiety and stress with age. **H₃** There will be a statistically significant difference in the relationship between mental toughness and mental health; depression, anxiety and stress with age.

To look at demographic variances in age with relation to depression, anxiety, stress with mental toughness a series of Spearman's Rho correlations were run. The following results were obtained, (*Table 3*).

There is a weak negative correlation between age and depression $R_s(115) = -.258, p = .005$, there is a weak negative correlation with age and anxiety $R_s(115) = -.303, p = .001$, there is a weak negative correlation with age and stress $R_s(115) = -.248, p = .008$, there is a weak negative correlation between age and overall DASS $R_s(115) = -.299, p = .001$, there is a weak positive correlation with age and confidence $R_s(115) = .372, p \leq .01$, there is a very weak positive correlation with age and constancy $R_s(115) = .186, p = .047$, there is a weak positive correlation with age and control $R_s(115) = .330, p \leq .01$ and there is a weak positive correlation with age and overall mental toughness $R_s(115) = .383, p \leq .01$.

Table 3: Correlation matrix of Age, Mental Toughness, Depression, Anxiety and Stress.

Variables	Depression	Anxiety	Stress	DASS	Confidence	Constancy	Control	Total MT
Age	-.26**	-.30**	-.25**	-.30**	.37**	.19*	.33**	.38**

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed)

These results reject the null; therefore, there is a statistically significant difference in the relationship mental toughness and mental health; depression, anxiety and stress with age.

3.2.4 Hypothesis Four

H₀ There will be no statistically significant difference in the relationship between mental toughness and mental health; depression, anxiety and stress by level of GAA (club, county, college) played by participants. **H₄** There will be a statistically significant difference in the relationship between mental toughness and mental health; depression, anxiety and stress by level of GAA (club, county, college) played by participants.

A Kruskal-Wallis one-way ANOVA showed that depression did not differ statistically significantly amongst participants who play different levels of GAA; Club, County or College ($\chi^2(2) = 4.88, p=.087$).

A Kruskal-Wallis one- way ANOVA showed that anxiety did not differ statistically significantly amongst participants who play different levels of GAA; Club, County or College ($\chi^2(2) = 6.45, p=.040$).

A Kruskal-Wallis one- way ANOVA showed that stress did not differ statistically significantly amongst participants who play different levels of GAA; Club, County or College ($\chi^2(2) = 2.68, p=.262$).

A Kruskal-Wallis one- way ANOVA showed that overall DASS was statistically significantly different amongst participants who play different levels of GAA played; Club, County or College ($\chi^2(2) = 6.04, p=.05$).

A Kruskal-Wallis one- way ANOVA showed that confidence did not differ statistically significantly amongst participants who play different levels of GAA played; Club, County or College ($\chi^2(2) = 4.03, p=.133$).

A Kruskal-Wallis one- way ANOVA showed that constancy did not differ statistically significantly amongst participants who play different levels of GAA played; Club, County or College ($\chi^2(2) = 4.67, p=.097$).

A Kruskal-Wallis one- way ANOVA showed that control did not differ statistically significantly amongst participants who play different levels of GAA; Club, County or College ($\chi^2(2) = 6.48, p=.039$).

A Kruskal-Wallis one-way ANOVA showed that overall mental toughness was statistically significantly different amongst participants who play different levels of GAA; Club, County or College ($\chi^2(2) = 7.08, p=.03$).

A series of Kruskal-Wallis one-way ANOVA's was run, due to the assumption of normality being violated. The results showed that there was no statistically significant difference in the relationship between mental toughness and mental health; depression, anxiety and stress by level of GAA (club, county, college) played by participants. Therefore, the null cannot be rejected.

4. Discussion

The objective of this study was to investigate the relationship between mental toughness and mental health; depression, anxiety and stress among a GAA players. Included under mental toughness were the variables of confidence, constancy and control measured using the Sports Mental Toughness Questionnaire (Sheard et al, 2009). The participant's mental health was described using the variables depression, anxiety and stress, measured by the DASS-21 (Lovibond & Lovibond, 1995). This research also aimed to expand from the relationship between mental toughness and mental health by examining the difference in genders, age and whether there was a difference in the level of GAA played (club, county or college).

The first hypothesis proposed that there would be a statistically significant relationship between mental toughness and mental health; depression, anxiety and stress. That participants who scored high on mental toughness would score low on depression, anxiety and stress. The results showed that the hypothesis was supported, and the null is rejected. These findings were consistent with the findings of previous research, (Crust, 2007; Kaiseler, Polman & Nicholls, 2009; Sheard,2009; Crust & Azadi, 2010). This study looked to extend on previous research by investigating in a GAA playing population which had not been undertaken previously. Research by Malhotra & Kaur, (2018) found that mental toughness was positively related to mental health, however mental toughness was not significantly negatively correlated with stress. It was due to sports persons experience lower levels of stress and they have higher levels of emotional control. This study used a different measure to Malhotra & Kaur (2018) for mental toughness and could be why differences were seen.

A series of Mann-Whitney U tests were ran to determine if there is a statistically significant difference between depression, anxiety, stress and mental toughness between male and female GAA players. The results determined that there is not an overall statistically significant difference between male and female GAA players. Therefore, the null cannot be rejected. This supports the literature; studies by (Clough, 2002; Crust, 2009; Hossein et al. 2016) no major differences were displayed between genders in relation to mental toughness. In the current study it was thought that there might be difference in gender due to the amateur status of the GAA and female GAA players do not received the same sponsorship, recognition or support as their male peers. However further research should investigate female GAA players compared with non-sport playing females.

The relationship of the age of GAA players with mental toughness, depression, anxiety and stress is the focus of the third hypothesis. The results of a series of Spearman's Rho correlations rejected the null and showed that there is a relationship of the age of GAA players with mental toughness, depression, anxiety and stress. The results outlined in *Table 4* indicate that when the age of GAA players increase their mental toughness increase also and subsequently when the age of GAA players increase their levels of depression, anxiety and stress decrease. These results have highlighted that younger GAA players are more susceptible to mental health issues, depression, anxiety and stress. This result corresponds with a lot of the literature; college students are particularly vulnerable to mental health issues as they are in transition period of their lives, (Castillo & Schwartz, 2013). Interactions in their lives between sport, personal lives, family, competition and risk of injury can put a lot of pressure on this already vulnerable group. This result could also have been influenced by the period that participants took part in the study; many of the younger participants could have been undergoing

exams or assignments as part of college and maybe felt under extra pressure. Also, the study took place at the beginning of pre-season for county teams and during the college GAA season where many would be hoping to keep or obtain their position on the team.

Whether mental toughness is a natural ability or developed and to understand how mental toughness can develop in an individual would be of paramount importance to sport psychologists to help to enhance performance. In a study by Sadeghi Bahmani, Gerber, Kalak, Lemola, Clough, Calabrese, Shaygannejad, Puhse, & Holsboer-Trachsler, (2016a) showed that psychological profiles in childhood predicted levels of mental toughness in adolescence. In 77 participants they reported higher prosocial behaviour, lower externalising behaviours like disrupting classroom and lower internalising. It was also reported in the sample by parents and teachers that they received a more positive relationship with the child at the age of five, predicted higher mental toughness at age fourteen. This would indicate that mental toughness can be shaped by life experiences. This may explain the results in this study that older participants had higher mental toughness than younger; the experiences they are had in their lives sport and individual has shaped them. This could also indicate from the literature that it's reacting to challenges and using them as opportunities is a trait of mental toughness that the younger GAA players are yet to learn that skill yet. The more experiences an individual has they develop coping mechanisms.

The final hypothesis investigated whether there would be a statistically significant difference in the level of GAA (club, county, college) played by participants with depression, anxiety, stress, confidence, constancy, control and overall mental toughness. A series of Kruskal-Wallis one-way ANOVA's were run and determined that there was no statistically significant difference in the level of GAA played by participants and depression, anxiety, stress, confidence,

constancy, control and overall mental toughness; therefore, the null cannot be rejected. It was hypothesised that playing at the highest level in GAA would follow patterns of previous research by Cowden (2017), which reported that participants who were playing at a higher level in their sport reported higher levels of mental toughness than those playing at a lower level. Vaughan et al., (2017) discussed how more elite athletes had not just higher mental toughness but also of narcissism which would work as a driver for them in competitive situations. However, within this study there was a limited number of participants playing at county level which would be the most elite level of GAA, and this could have contributed to why there was not a difference seen. Future researchers should look to conduct a similar study with players at county level in comparison with club players who would not be considered elite.

4.1 Strengths

The strengths of the present research particularly are that validated and widely used measures were used; Sports Mental Toughness Questionnaire (SMTQ) and (DASS-21). The questionnaire used was brief and concise, it comprised of forty-three questions, the appeal of which is highlighted by the fact that there was no missing data. The gender balance in the research is very strong, with 50 females and 65 males, which is particularly unusual in a snow ball sample where there isn't the ability to control for gender.

A notable strength of this current research is that it has contributed to research on mental toughness and mental health within a GAA playing population. Research in GAA populations in sports psychology is limited, the present research findings add to this by suggesting that mental toughness is an important characteristic offering GAA player's protection from negative psychological health outcomes.

The general response to the study by participants was very positive; many showed huge interest in the concepts of the study. Many appreciated that their mental health was being considered and the huge commitment playing an amateur sport like GAA take in their lives. The GAA and the Gaelic Players Associations are recognising the importance of supporting their players with their mental health, by introducing a mental health charter into GAA legislation and filtering it down to club level and the GAA and GPA commissioned research by Kelly et al, (2018) focused on player welfare. There have been many high-profile athletes in Ireland that have openly discussed their struggles with mental health particularly GAA players, (Irish Independent, 2015). Bauman, (2016) indicated organisations that are slow to address the management of mental health can have a negative effect on athletes. Breslin, Shannon, Haughey, Donnelly, & Leavey, (2017) highlighted the importance of delivering mental health training to coaches and players within their own sport settings and from this the awareness to managing mental health concerns can increase.

4.2 Limitations

When interpreting the finding within this study there are some limitations which should be considered. The use of self-report questionnaires can make the study vulnerable to dishonest responses from the participants. While the participants were assured of anonymity which can be a deterrent for giving dishonest answers, the accuracy of the data cannot be completely assured. The DASS-21 questionnaire requires participants to respond in accordance with how they have been feeling over the previous week; this can lead to the impact of extraneous variables affecting the responses of the participants. For example, participants who are in College, the data was collected during a time when a lot of Colleges have exams so they might be in a period where

they are feeling more stress than usual or any number of personal circumstances for the individual could impact how they respond.

Data collection took place at a time where most of the participants would be on a break from playing GAA which may have impacted how they responded to the Sports Mental Toughness Questionnaire. This measure requires participants to respond in accordance to how they would react in the situation while playing GAA. While out of season participants may not give an accurate representation of how they would react in the situation.

4.3 Future Research

Due to the possible impact of external stressors on participants, future research could look at longitudinal research over a college semester, GAA playing season or college playing season to investigate if these have an impact on participants and whether they affect results.

As research on mental toughness in a GAA playing population is limited future research should compare a sample of college student GAA players with a sample of college students who do not play any sports to compare their mental toughness with depression, anxiety and stress. The results from this study have highlighted that age is correlated with mental toughness, depression, anxiety and stress; most particularly that age was negatively correlated with depression, anxiety and stress. Therefore, a sample of college students would highlight further whether the correlation of mental toughness with age was directly linked to sport participation or are a non-sport playing student sample similar. Student athletes have higher demands on their time, trying to balance education, social and athletic commitments (Suruijal, et al, 2013).

Research into how to grow mental toughness in a population has been limited, in a previous study Sheard & Golby (2006) used psychological skills training to increase mental

toughness in adolescent male and female competitive swimmers between the ages of ten and eighteen, they also seen an increase in their performance and promoted psychological development. Similarly, in a study by Golby & Wood (2016) on a population of female student rowers between the ages of eighteen to thirty-one, participants received one to one psychological support over the course of a competitive season. The psychological skills intervention programmed was designed to enhance the mental toughness and psychological well-being of students and the results showed that the participants mental toughness significantly improved along with participants perceived self-efficacy, self-esteem and positive affect. During the study the students the participants did not report any signs of psychological distress and therefore the sessions were designed to nurture whatever mental toughness was already there and develop it to a greater sense.

Previous research has focused mainly on the relationship of mental toughness in elite athletes (Cowden, 2017); however, research is moving into mental toughness in the general population. There has been debate whether mental toughness can be viewed as a trait or a mind-set which could vary across time and would be situational. It is important concept as the adaptability of mental toughness could be developed over time to increase performance for athlete's and improve an individual's ability to deal with adversity and therefore their mental health.

Future research may also look at the relationship between mental toughness and resilience; resilience may apply to mental toughness in a certain situation. For example, when a GAA player is behind in a match or how they will overcome a loss.

4.4 Conclusion

From this research it is possible to pertain that mental toughness is positively related to mental health. It implies that mental toughness is a positive characteristic of GAA players which enables them to dispel the negatives impacts of depression, anxiety and stress. If GAA players can develop this characteristic it will enhance their abilities to buffer the effects of mental health. It would seem from the study that younger GAA players do not have the same results, however mental toughness is a characteristic that can be developed further in this regard as that demographic is susceptible to mental ill health. Populations are currently living in a highly pressurised world where individuals are expected to balance many aspects of life in a well performing high paced manner on a daily basis. In this type of lifestyle mental toughness is an important tool for an individual to have in their personality construct to get ahead.

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Appendices

Appendix A:

Information Sheet

My name is Lara Gallagher and as part of the requirement for completion of Higher Diploma Arts in Psychology in Dublin Business School I am conducting research that explores the link between Mental Toughness and Mental Health in GAA players. This research is being conducted as part of my final year thesis and will be submitted for examination.

You are invited to take part in this study and participation involves completing and returning the attached anonymous questionnaire. While the questionnaire asks some questions that might cause some minor negative feelings, it has been used widely in research. If any of the questions do raise difficult feelings for you, contact information for support services are included on the final page.

Participation is completely voluntary and so you are not obliged to take part.

Participants must be over 18 years of age and play Gaelic Games.

Participation is anonymous and confidential. Thus, responses cannot be attributed to any one participant. For this reason, it will not be possible to withdraw from participation after the questionnaire has been collected.

The questionnaires will be securely stored on a USB memory stick and password protected computer for a year following examination.

It is important that you understand that by completing and submitting the questionnaire that you are consenting to participate in the study.

Should you require any further information about the research, please contact

Lara Gallagher, xxxxxxxx

Thank you for taking the time to complete this survey.

Appendix B:**Demographics**

1. What sex are you?

a. Male

b. Female

2. What age are you? _____

3. Please mark all GAA codes that you currently play?

Hurling

Camogie

Football

4. If Hurling is it for:

a. Club

b. County

c. College

d. All

5. If Camogie is it for:

a. Club

b. County

c. College

d. All

6. If Football is it for:

a. Club

b. County

c. College

d. All

7. Please mark which most applies to you:

Student

Full Time

Part Time

Employed

Full Time

Part Time

Appendix C:

DASS₂₁

Name:

Date:

Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you *over the past week*. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

- 0 Did not apply to me at all
- 1 Applied to me to some degree, or some of the time
- 2 Applied to me to a considerable degree, or a good part of time
- 3 Applied to me very much, or most of the time

1	I found it hard to wind down	0	1	2	3
2	I was aware of dryness of my mouth	0	1	2	3
3	I couldn't seem to experience any positive feeling at all	0	1	2	3
4	I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
5	I found it difficult to work up the initiative to do things	0	1	2	3
6	I tended to over-react to situations	0	1	2	3
7	I experienced trembling (eg, in the hands)	0	1	2	3
8	I felt that I was using a lot of nervous energy	0	1	2	3
9	I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
10	I felt that I had nothing to look forward to	0	1	2	3
11	I found myself getting agitated	0	1	2	3
12	I found it difficult to relax	0	1	2	3

13	I felt down-hearted and blue	0	1	2	3
14	I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3
15	I felt I was close to panic	0	1	2	3
16	I was unable to become enthusiastic about anything	0	1	2	3
17	I felt I wasn't worth much as a person	0	1	2	3
18	I felt that I was rather touchy	0	1	2	3
19	I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)	0	1	2	3
20	I felt scared without any good reason	0	1	2	3
21	I felt that life was meaningless	0	1	2	3

Appendix D:

Debrief:

Thank you for participation in this questionnaire. If you feel that by answering this questionnaire it has raised some issues for you, please consider contacting some of the support services below or speak to a teammate, friend, family member or health care professional.

Aware:

Telephone: 1890 303 302 (7 days from 10am-10pm).

Samaritans:

Freephone: 116 123 (24-hours, 7 days a week).

Pieta House:

Freephone: 1800 247 247 (24-hours, 7 days a week).

