National College of Ireland

Text Messaging To Encourage Help-Seeking by College Students Suffering from Psychological Distress

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Declaration

I declare that the work presented in this thesis is, to the best of my knowledge and belief, original and my own work except as acknowledged in the text. The material has not been submitted, either in whole or in part, for a degree at this or any other institution.

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David Joyce

Acknowledgements

We watched our friends grow up together
And we saw them as they fell
Some of them fell into Heaven
Some of them fell into Hell

I sang you all my sorrows
You told me all your joys
Whatever happened to that old song
To all those little girls and boys

Shane McGowan (Rainy night in Soho)

And for Mick and Barry and all those little girls and boys.

Associated Publications

Publications associated with this research are:

Joyce, D. & Weibelzahl, S. (2006). Text Messaging as a Means to Lowering Barriers to Help-seeking in Students with Depression. *Proceedings of IADIS International Conference e-Society, Dublin, Ireland*, pp. 211-214.

Joyce, D. & Weibelzahl, S. (2011). Student counseling services: using text messaging to lower barriers to help seeking. *Innovations in Education and Teaching International* 48(3), 287-299

Abstract: David Joyce: Text Messaging To Encourage Help-Seeking by College Students Suffering from Psychological Distress.

At any one time, 15% of college students suffer psychological distress. Yet most will not seek help. College counseling services typically see just 4% of students annually. Stigma, concerns over confidentiality and confusion are amonst the barriers to help-seeking.We explore if and how broadcast text messaging can be used to overcome these barriers and facilitate help-seeking. Our studies show that students do not object to receiving regular texts from the college relating to college life provided that such texts do not relate overtly to mental or sexual health

A field study was carried out whereby texts were sent on a regular basis to all students at a third level institution to encourage help-seeking amongst those suffering psychological distress. A regular stream of texts was sent relating to careers, sports and exams with one in every four texts relating to the college counseling services. The results of the field test show that help-seeking was speeded up and increased.

The disciplines of persuasion, health behaviour change theory, social marketing and captology were used to help design the intervention and explain the results.

Counselling services were reluctant to use this new channel or cooperate in further research on its potential. This led to a questioning of the attitudes of counseling services towards increased help-seeking.

Among the contributions of this research are the findings that students will accept and act on broadcast text messages which encourage mental health help-seeking to the extent that help-seeking is speeded up and increased and the means by which this is accomplished; and the findings that college counselling services do not appreciate the prevalence of psychological distress within colleges and are reluctant to encourage help-seeking.

Contents

1   Introduction

Almost 40% of students who go through college will suffer from disabling psychological distress (Rimmer, Halkas & Schuckit, 1982**).** At most, 16% of these will attend their student counselling service, over the course of their college career (Royal College of Psychiatrists, 2011). The effects of mental illness are severe in terms of life development. Effective treatments are available, but are not availed of. Why would someone forgo treatment and suffer, or, perhaps more importantly, what would it take to persuade that someone into treatment?

Firstly, as a young 17 year old student at Dublin University I suffered from anxiety and depression, though those terms, at least in a medical sense, were unknown to me. Confusion prevented me from contacting any counselling services. 20 or so students qualified from my year. It should have been 22, but one committed suicide prior to course completion and another left having succumbed to schizophrenia. He, too, committed suicide. I received psychiatric treatment at 25.

Secondly, Ireland has lots of rain, and as a consequence, lots of water. This water is piped to just about every home in the country, free of charge. The notion that anyone in Ireland would pay for bottled water was once considered to be a joke. Currently, the market for bottled water in Ireland is worth 320 million euro, with the average Irish person drinking 45 litres of bottled water per annum. This testifies to the power of marketing.

Thirdly, during my career, I set up a mobile software company and learned the importance of marketing. Every week, the companies' contact database would be emailed with some offer and there would typically be some responses and some sales. No email, no sales. I became familiar with the notion of direct marketing and the important term "contact database".

Fourthly, and anecdotally, in a church in Mexico, the padre, during a sermon at Sunday mass, bemoaned the lack of young people present in the congregation. "How do we", he wondered loudly, "Get in touch with our young people?" The small silence that followed was broken by an answer from the back of the church. "Text them, Father". (Armendariz, 2007).

Fifthly, I first became involved as an engineer with the Irish mobile phone company when there were only 600 mobile phones in the entire country. A few years later I helped write the specification for the Irish GSM system. This was the system which introduced texting to mobile technologies, but I have no recollection of any texting aspect. I assume from this that

there were no great expectations for texting. When the laser was first developed it was seen as "a solution in search of a problem". Now texting is everywhere and lasers play CDs and perform surgery. Perhaps texting as a solution will find help-seeking as a problem!

And a confluence of the above leads to:

"Appropriate text messages, regularly broadcast by a college student service to all college students, can encourage and speed help-seeking by students with emotional difficulties; with the acceptance of the student body at large".

This thesis sets out to support this claim. Empirical evidence is provided that explores the attitides and behaviour of students and student councelling services in regard to help-seeking in general and the use of text messaging in support of help-seeking in particular.

2 Literature Review

2.1 College Students and Mental Health

For many, young adulthood is characterized by the pursuit of greater educational opportunities and employment prospects, development of personal relationships, and, for some, parenthood. While all of these circumstances offer opportunities for growth, they may also result in stress that precipitates the onset or recurrence of psychiatric disorders (Blanco et al, 2008). In this section we will examine the prevalence of mental illness, the disruptive effects of mental illness and the solutions available for these illnesses. It is the intention here to show that the problem is widespread, the effects are debilitating and that solutions are widely and readily available, a combination that may be considered unique to mental illness.

2.1.1 Prevalence of Mental Disorder

The transition from school to becoming a student at university or college can be stressful, especially when students are leaving home for the first time. This is well recognised by educational institutions that often provide induction and social activities in the first week of the new academic year. It is also a time of excitement and expectation, the start of new life, the opening up of new opportunities (Leach, 2003). However, for a considerable number of students, this is simply not the case. We consider six studies, two each in the UK, US and Australia, to examine the prevalence of mental disorder amongst third level students.

United Kingdom

The Oxford Student Mental Health Network has provided evidence for the prevalence of
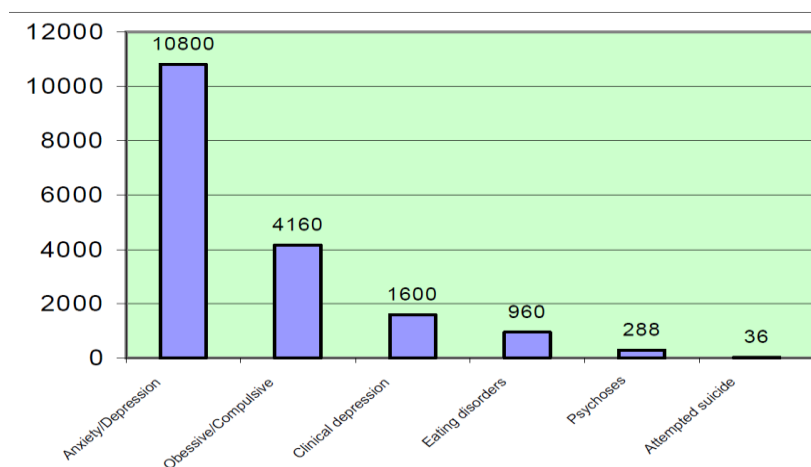
Figure 1: Estimated levels of incidence of mental health problems in a student population of 32,000 (Leach, 2003)

mental health problems amongst college students in Oxford town (Leach, 2003). The results shown in Figure 1 illustrate that anxiety and depression are the most common mental health problems among students.

In a paper which describes the level of psychological distress within university students participating in an evaluation of a web-based intervention for alcohol use, data collected from 1129 students from four UK universities was evaluated (Bewick et al, 2008). Results showed that 29% of students reported clinical levels of psychological distress, of which eight per cent of students had moderate-to-severe or severe levels of distress.

United States

According to survey data collected from 80,121 students enrolled at 106 institutions of higher education in the United States, many college students reported experiencing mental health difficulties (American College Health Association, 2009). Four questions in the survey assessed students' mental and physical health. The percentage of students reporting a diagnosis of depression in their lifetime was 14.9% (n = 11,777). Of these, 32.0% (n = 3,746) reported being diagnosed in the past school year, 24.5% (n = 2,870) reported being currently in therapy for depression, and 35.6% (n = 4,157) reported currently taking medication for depression. During the past academic year, 1.3% (n = 1,004) of students reported attempting suicide at least once and 9.0% (n =7,141) reported seriously considering suicide at least once. An overview of the survey results relating to mental health is shown in Table 1.

Mental health difficulty	0 times		1–4 times		5–8 times		> 9 times	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Felt hopeless	30,010	37.9	30,736	38.8	8,753	11.0	9,719	12.3
Felt overwhelmed	5,017	6.3	24,876	31.4	20,239	25.5	29,114	36.7
Felt exhausted (not from physical activity)	6,457	8.2	25,134	31.7	19,410	24.5	28,200	35.6
Felt sad	16,811	21.3	36,395	46.0	12,223	15.5	13,673	17.3
Felt so depressed it was difficult to function	45,109	57.0	21,614	27.3	5,396	6.8	7,030	8.9
Seriously considered attempting suicide	72,145	91.0	5,624	7.1	696	0.9	821	1.0
Attempted suicide	78,075	98.7	788	1.0	103	0.1	113	0.1

Table 1: Reported Number of Times Students Experienced Mental Health Difficulties in the Past School Year (American College Health Association, 2009).

In a two-year longitudinal study of student mental health at a US university which followed students from 2005 to 2007, over half of students suffered from at least one mental health problem at baseline or follow-up. Among students with at least one mental health problem at

baseline, 60% had at least one mental health problem two years later (Zivin, Eisenberg, Gollust & Golberstein, 2009).

Australia

A survey entitled "National Survey of Mental Health and Wellbeing (SMHWB)" was conducted throughout Australia from August to December 2007 (Australian Institute of Health and Welfare, 2008). This survey found that about one-quarter (26%) of the youngest age group (16–24 years) had experienced a mental disorder in the preceding 12 months. As this age group is typical for the student body, it is an indication of the 12 month prevalence of mental health disorders within the student body. The prevalence for various age groups is shown in Figure 2. The 16-24 age group shows the highest prevalence.
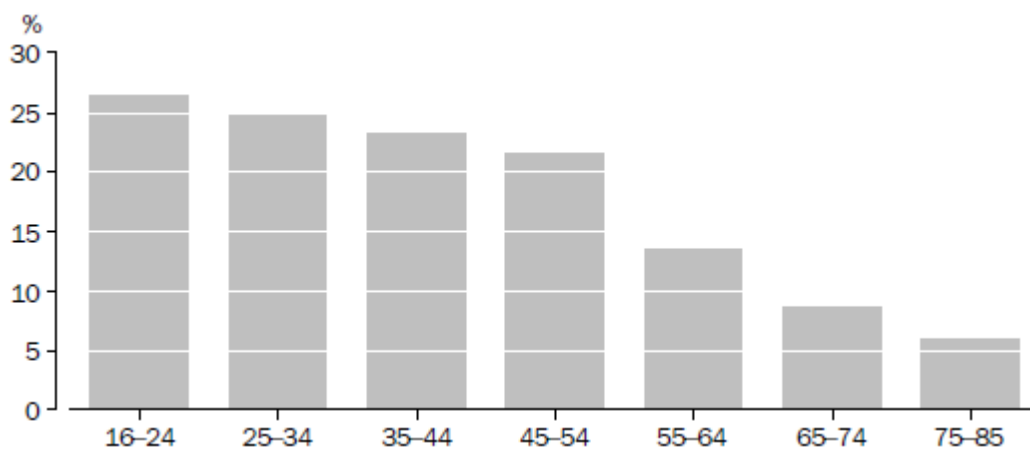
Figure 2: 12-month mental disorders by age (Australian Institute of Health and Welfare, 2008).

In a further study conducted in Australia (Stallman, 2010), all enrolled students from two large Australian universities were invited to complete a web-based survey. A total of 6,479 students participated in the study with sociodemographics generally consistent with the university population. This study estimated the prevalence for mental health problems at 19.2%, with 67.4% reporting subsyndromal symptoms.

In summary, the studies cited above strongly suggest that mental distress is a common factor within institutions of higher education. Prevalence rates mentioned vary from 19.2% to over 50%. The studies mention "mental health illness", "mental health problems", "mental disorder" and "clinical levels of psychological distress". We may consider attempted suicide to be an extreme form of such distress. Suicide was attempted at least once by 1.3% of students, and considered at least once by 9%. At the least severe type of distress, that consisting of subsyndromal symptoms, 67.4% of students were involved. Even at this level,

studies suggest decreased quality of life for sufferers, as subsyndromal depression is associated with impaired physical and emotional functioning (Chopra et al, 2005, Goldney et al, 2004).

The above studies suggest that mental disorder is a fact of life for a considerable number of college students.

2.1.2 Effects of Student Mental Ill Health

Of themselves, the symptoms of mental illness suggest personal cost. The American Psychiatric Association (2012) states that the most common symptoms of depression are a deep feeling of sadness or a marked loss of interest or pleasure in activities, whilst other symptoms include

• Changes in appetite that result in weight losses or gains unrelated to dieting
• Insomnia or oversleeping
• Loss of energy or increased fatigue
• Restlessness or irritability
• Feelings of worthlessness or inappropriate guilt
• Difficulty thinking, concentrating, or making decisions
• Thoughts of death or suicide or attempts at suicide

It is self-evident that it would not be possible to lead a full and fulfilling life whilst burdened by such symptoms.

In 90 percent of suicide cases, there is some underlying psychiatric disorder, with depression being by far the most common. It is the leading condition in half the suicides of adolescent boys and 70 percent of girls (Petti, 2003).

Those who suffer depression early in life are at an increased risk for affective disorder in adult life and have elevated risks of psychiatric hospitalization and psychiatric treatment (Harrington et al, 1990).

For the student population, there are also academic costs. One US study regarding depression in college students found that diagnosed depression was associated with a 0.49 point, or half a letter grade, decrease in student GPA, while treatment was associated with a protective effect of approximately 0.44 points (Hysenbegasi, Hass & Rowland, 2005).

2.1.3 Treatments

Various treatments exist to deal with mental illness. These treatments may be divided into two types, psychopharmaceutical and psychological. We are not interested here in determining which treatment may be better. What is important for our purposes is to evaluate the prospect of recovery from mental illness for a student. Without effective treatments, fully or partially curative or preventative, the prevalence of mental illness cannot be altered. It is the existence of effective treatments, which we wish to demonstrate here, that makes help-seeking so important. Depression and anxiety are used as examples.

Psychopharmaceutical Treatment

Psychopharmaceutical treatments involve antidepressants. In a metastudy examining the efficacy of modern antidepressants (Williams et al, 2000), the authors concluded that newer antidepressants are clearly effective in treating depressive disorders in diverse settings, as shown in Figure 3, where N indicates number of participants; n indicates number of studies; GABA 5 g-aminobutyric acid; HT 5 hydroxy-tryptophan; RIMA 5 reversible inhibitor of monoamine oxidase A; SSRI 5 selective serotonin reuptake inhibitor; SNRI 5 serotonin and noradrenaline reuptake inhibitor.

This metastudy also explored the treatment of depression and dysthymia.

Major Depression

In terms of initial treatment of depression**,** 51% of participants randomly assigned to active treatment and 32% of participants who received placebo experienced at least a 50% improvement in depressive symptoms. In summary, substantial data prove the short term efficacy of newer antidepressants for major depression in adults. In regard to relapse prevention, 10% of participants randomly assigned to receive active treatment experienced a relapse within 24 weeks. The average relapse rate for participants given placebo antidepressants was 35%. Newer antidepressants were significantly more effective than placebo in preventing relapse.

Dysthymia

Among patients randomly assigned to receive a newer antidepressant, 59% experienced at least a 50% improvement in depressive symptoms. Newer antidepressants were significantly more efficacious than placebo.
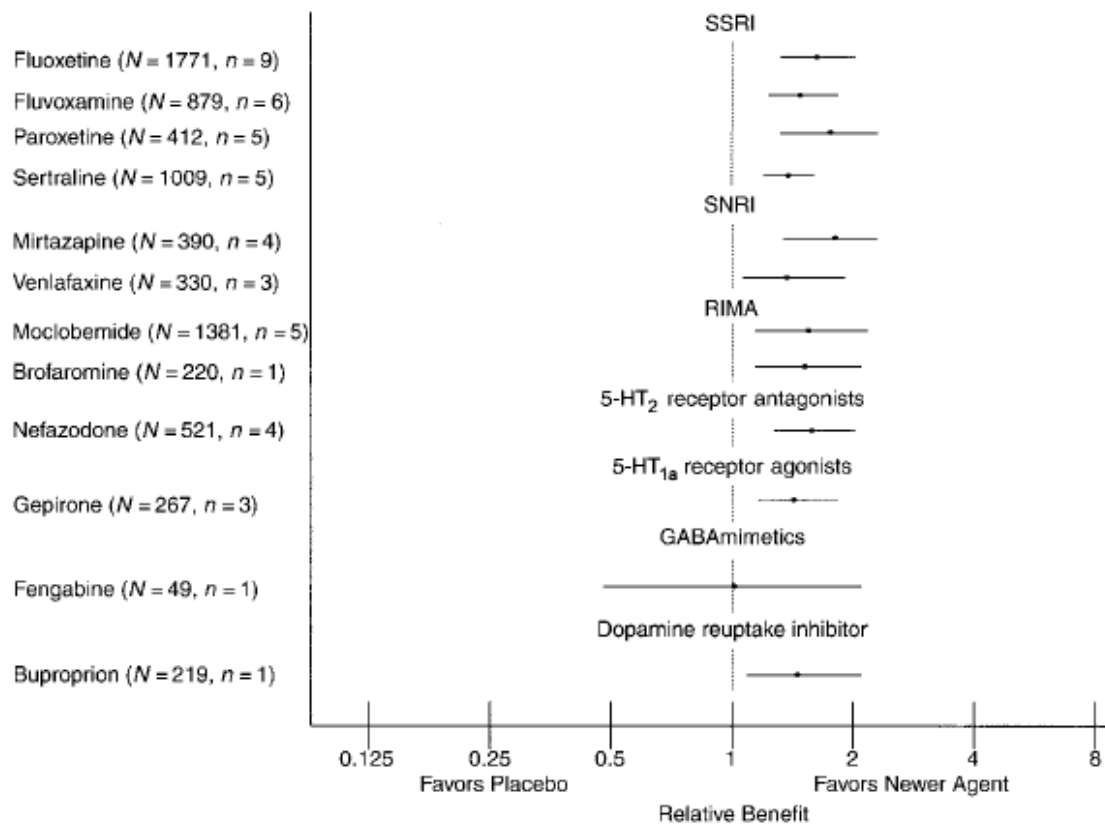
Figure 3: Meta-analysis of placebo compared with newer antidepressants for major depression in adults (Williams et al, 2000).

Psychological Treatment

A study to determine the efficacy of brief psychological interventions for the treatment of depression (Churchill et al, 2001), concluded that patients receiving any variant of psychotherapy were significantly more likely to improve to a degree where they were no longer considered clinically depressed, exhibited significantly fewer symptoms post-treatment and experienced greater symptom reduction from baseline than those receiving treatment as usual. No differences in treatment discontinuation were observed.

A metastudy that reviewed randomised placebo-controlled trials involving Cognitive Behavioural Therapy (CBT) interventions for adult anxiety (Hofmann & Smits, 2008) concluded that CBT is efficacious for adult anxiety disorders. The studies reviewed along with their effect sizes and some other details are shown in Figure 4.

Study Name		Hedges's g	Lower limit	Upper limit	Z-Value	p-Value
ASD - Bryant et al. (1998)	Combined	1.49	0.60	2.38	3.29	0.00
ASD - Bryant et al. (1999)	Combined	1.28	0.52	2.04	3.29	0.00
ASD - Bryant et al. (2003a)	Combined	1.66	0.75	2.58	3.57	0.00
ASD - Bryant et al. (2005)	Combined	1.08	0.47	1.69	3.47	0.00
GAD - Borkovec & Costello (1993)	Combined	0.57	-0.08	1.21	1.71	0.09
GAD - Wethrell et al. (2003)	Combined	0.44	-0.21	1.10	1.34	0.18
OCD - Foa et al. (2005)	Combined	1.65	0.95	2.35	4.62	0.00
OCD - Greist et al. (2002)	Combined	0.74	0.40	1.08	4.32	0.00
OCD - Lindsay et al. (1997)	Combined	2.08	0.91	3.26	3.48	0.00
PD - Bakker et al. (1999)	Combined	0.43	-0.09	0.96	1.62	0.11
PD - Barlow et al. (2000)	PDSS	0.23	-0.35	0.81	0.77	0.44
PD - Black et al. (1993)	Combined	0.26	-0.40	0.92	0.78	0.44
PD - Craske et al. (1995)	Combined	0.49	-0.25	1.22	1.29	0.20
PTSD - Blanchard et al. (2003)	Combined	0.65	0.11	1.20	2.35	0.02
PTSD - Bryant et al. (2003b)	Combined	1.48	0.68	2.29	3.61	0.00
PTSD - Foa et al. (1991)	Combined	0.44	-0.39	1.28	1.05	0.30
PTSD - Marks et al. (1998)	Combined	0.75	0.11	1.40	2.28	0.02
PTSD - McDonagh et al. (2005)	Combined	0.13	-0.50	0.77	0.41	0.68
PTSD - Neuner et al. (2004)	Combined	0.41	-0.32	1.14	1.10	0.27
SAD - Clark et al. (2003)	Combined	0.89	0.25	1.53	2.72	0.01
SAD - Cottreaux et al. (2000)	Combined	0.51	-0.02	1.04	1.89	0.06
SAD - Davidson et al. (2004)	Combined	0.52	0.09	0.96	2.36	0.02
SAD - Heimberg et al. (1998)	Combined	0.94	0.36	1.52	3.15	0.00
SAD - Lucas (1994)	Combined	0.43	-0.23	1.09	1.28	0.20
SAD - Smits et al. (2006)	Combined	0.53	-0.15	1.21	1.52	0.13
		0.73	0.56	0.90	8.62	0.00

Hedges's g and 95% CI. Scale: -4.00, -2.00, 0.00, 2.00, 4.00. Favors PLA — Favors CBT.

Figure 4: Effect size estimates (Hedges' g) and the statistical tests of the acute treatment efficacy of CBT compared to placebo on the primary continuous anxiety measures for the identified studies (Hofmann & Smits, 2008).

The efficacy of CBT for various anxiety conditions as determined by the metastudy is shown in Figure 5.

Figure 5: Bar chart of Odds Ratio (x-axis 0 to 14) for anxiety disorders:
- Acute Stress Dis. — ~8 (**)
- Obsessive-Compulsive Dis. — ~12 (**)
- Post-traumatic Stress Dis. — ~3 (**)
- Social Anxiety Dis. — ~4.5 (**)
- Generalized Anxiety Dis. — ~2
- Panic Disorder — ~2.5 (*)

Figure 5: Average odds ratios of acute treatment response to CBT as compared to placebo and statistical tests for the various anxiety disorders. *: $P < .05$; **: $P < .001$ (Hofmann & Smits, 2008).

The studies above indicate that effective treatment options exist for students with mental illness. The antidepressant studies suggest that on medication, 50% of depression sufferers

will notice an improvement of at least 50%. The odds ratios given in Figure 5 strongly suggest benefits of CBT treatment for sufferers of anxiety.

2.1.4 Summary

The prevalence of mental health issues and in particular of depression in adolescence is high. Effective treatment methods are available. However, treatment will only kick in once the person is known to the relevant sources. This research aims to bridge the gap between prevalence and treatment.

2.2 Student Counselling Services

The Irish Association of University and College Counsellors (IAUCC) suggests, in its code of ethics document (IAUCC, 2000) that the overall aim of counselling in general is to provide an opportunity for the client to work towards living in a more satisfying and resourceful way. Regarding student counselling, it states that counselling in college is a specialist service aimed at helping students to achieve their potential as persons and as students. Counsellors, it continues, may also work with groups of students running workshops and seminars to help them develop the learning skills necessary for their academic progress through college.

A Royal College of Psychiatrists (2003) report on student mental health concluded that university counselling services are, in effect, the primary mental healthcare option for many students.

2.2.1 Prevalence

Almost all Higher Education institutions have their own Student Counselling Services. For example in the UK, almost all universities have counselling services as do the vast majority of higher education colleges. (Royal College of Psychiatrists, 2011). In the US, an annual survey of college counselling directors (Gallagher, 2010) covers 320 college institutions representing 2.75 million students. All universities in Australia hav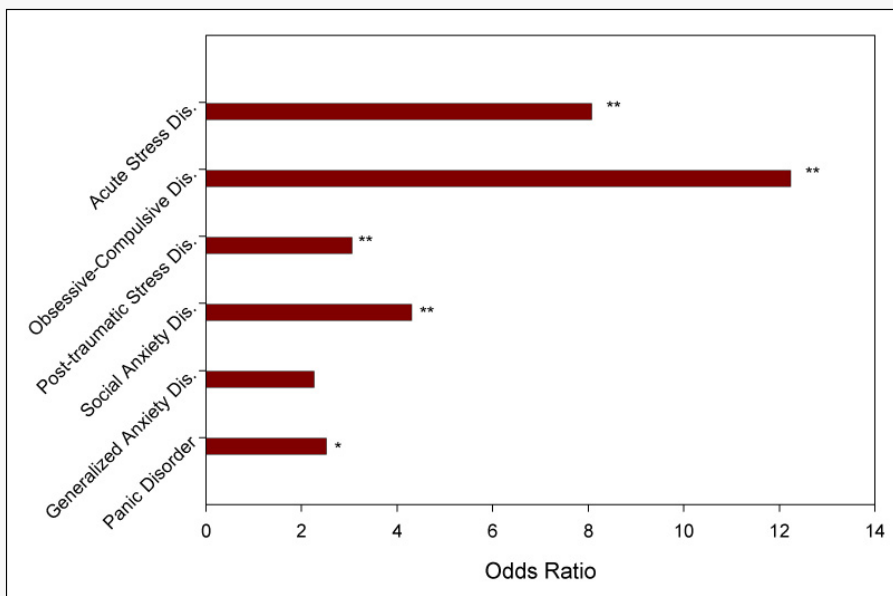e counselling services which typically focus on short-term counselling interventions and are characterised by high levels of professionalism (Quintrell & Robertson, 1996).

2.2.2 Services offered

Counsellors working in higher education are distinguished by their understanding of the connections between psychological and academic difficulties, their knowledge of the educational context and their integration with the wider institution (Royal College of Psychiatrists, 2011). They strive to be accessible and inclusive.

It is usual for them to offer:

● consultation, risk assessment and referral when appropriate

● a range of therapeutic work to students and to staff

● consultation to staff concerned about students

● training (including suicide awareness) for students and staff

● workshops for students and staff

● written materials to guide students and staff in their response to students in distress

● online information about how to help with study and mental health difficulties

● collaboration with others with responsibility for mental well-being within their own organisations

● contributions to institutional policy-making on mental health matters

● liaison with local NHS providers

2.2.3 Usage

A UK survey (Royal College of Psychiatrists, 2011) indicated that across the UK approximately 4% of university students are seen by counsellors each year for a wide range of emotional and psychological difficulties. Information drawn from AUCC annual surveys indicates that the percentage of students who use a counselling service in any year varies widely between universities, but 3% to 6% is the typical range (Kay & Schwartz, 2010).

The findings of one Australian study (Raunic & Xenos, 2008) suggest that only a minority of between 2% and 4% of university students access college counselling services, with females being more likely to use them than males. We note this statement, taken from the abstract to the paper in question, and assume it to mean 2% to 4% per annum, an altogether different number more in keeping with usage rates found elsewhere. International students in particular underutilise these services, and this is primarily due to such students' preference for seeking help from family or friends over outside sources. When students do seek assistance, their

presenting issues most commonly involve symptoms of depression or anxiety, as well as academic and relationship difficulties.

2.2.4 Presenting Conditions

The distribution of mental disorders in the general student population is not necessarily an indication of the distribution of mental disorders in the clients of student counselling services. Here we look at the breakdown of issues for those actually attending a student counselling service. In the 2010 National Survey of Counselling Centre Directors (Gallagher, 2010), respondents reported that 44 percent of their clients had severe psychological problems, a sharp increase from 16 percent in 2000. A survey by the Association for University and College Counseling Center Directors (Barr, Rando, Krylowicz & Reetz, 2011)) reported the frequency of presenting conditions shown in Figure 6. Anxiety and depression conditions are by far the most frequently presented.
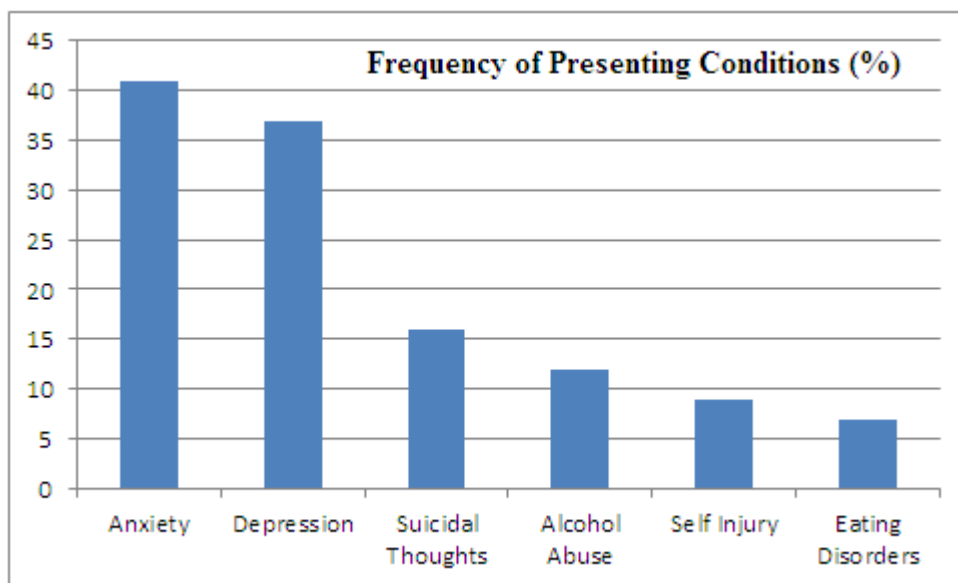
Figure 6: Presenting conditions to student counselling services adapted from Barr, Rando, Krylowicz & Reetz, 2011

2.2.5 Challenges

Challenges faced by college counselling services include (Smith et al, 2007):

- the apparently increasing average severity of clients' presenting conditions

- increased workloads for counselling centre personnel and administrative pressures to "do more with less"

21

- the need to market the usefulness of counselling centre services on campus (i.e., collaboration and networking with other campus offices)

- multicultural competence of services

- crisis management and disaster mental health services

The Irish Association of Student and College Counsellors (IAUCC, 2010) detailed the strategic challenges faced by its members in a general strategy document. These challenges are shown in Figure 7.

Contextual Factors

Expansion of student population and increasing diversity	Competition within sector and internationally
New financial challenges for Institutions and students	E learning; the impact of new technologies
Legislative context, "Duty of Care", Disability legislation	Statutory regulation of the profession; emphasis on continuous professional development
Litigious culture, need to minimize risk for institutions, Freedom of Information etc.	Institutional diversity and benchmarking
HR: pay, performance management, target-driven culture.	Competing values systems in relation to the purpose of education (e.g. traditional academic vs.
Defining the counselling role in relation to other support services	Changing Economic Climate: its influence on enrolment and demand

Figure 7: IAUCC Strategic Challenges (IAUCC, 2010).

The challenge most of note from the perspective of this research into help seeking comes from Smith et al (2007, p64) which states: "the need to market the usefulness of counselling centre services on campus (i.e., collaboration and networking with other campus offices)". There is no equivalent within the list of IAUCC challenges.

2.3 College Students and Mobile Phones

Communication with students must play a large part in encouraging them to seek help. A variety of methods are available e.g. posters, talks, emails, websites as well as the method which concerns us here, the mobile phone, and in particular text. It will be useful, therefore, to gain insight into how students use their mobile phones, to determine how best it may be used for communication with them. There may also be an interesting consequence of a

student's relationship with his or her mobile phone important for help-seeking, namely, the lack of a relationship with any other mode of communication.

2.3.1 Ownership

Ownership of mobile phones is widespread. In a world of 7 billion people, there are 5.9 billion mobile phone subscriptions (ITU, 2010). Penetration rates greater than 100% are not uncommon. Figures published by the Irish telecommunications regulator ComReg indicate that the level of mobile phone penetration, which measures the adoption of mobile services based on the number of active SIM cards per 100 of the population, is 117.1% (ComReg, 2009). Figure 8 shows the growth and current status of mobile phone subscriptions worldwide.
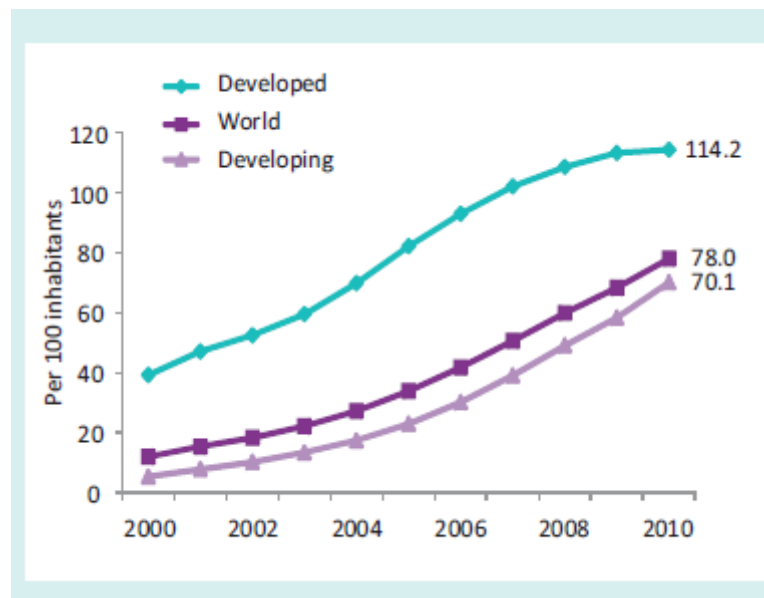
Figure 8: Mobile-cellular subscriptions (penetration), 2000- 2010, world and by level of development (ITU, 2010)

Within the environment of students and adolescents, the mobile phone predominates as the major ICT device (Taylor & Harper, 2002). One survey of 269 students in the US found that 95% of students bring their phones to class every day (Tindell & Bolander, 2012). It would seem that those with an interest in student welfare are presented with an unrivalled opportunity for communicating with this demographic should they chose to use the technology, and an equally unrivalled opportunity for not communicating with this demographic should they chose not to.

2.3.2 Cultural Significance

The mobile phone is an immensely significant social and cultural phenomenon (Geser, 2005), with adolescents making this technology work as a symbolic tool (Caron & Caronia, 2003). Observations and teenagers' own accounts show that the ubiquity of mobile phone use is, in general, commonplace for teenagers; and phone-mediated activities are a routine, taken-for-granted part of teenagers' daily encounters (Taylor & Harper, 2002).

One US study suggests seven motivators for young persons' use of mobile phones: personal safety; financial incentive; information access; social interaction; parental contacts; time management/coordination; dependency; image; and privacy management (Aoki & Downes, 2003).

Through their use of the mobile phone, young people manage and negotiate increased forms of autonomy from, in particular, parental monitoring and control. Equally, the mobile phone allows young people to perform and maintain peer group associations, through which forms of solidarity, identification and differentiation are created. Through this active use of commodities young people create vibrant forms of cultural life (O'Brien, 2010).

For most young people, arrangements are made with an in-built and assumed flexibility; on a given night, young people may choose to make loose arrangements, often for multiple activities, and progressively alter their plans as events progress (Geser, 2005).

2.3.3 Summary

The literature suggests that the students and mobile phones are a particular phenomenon. Automobiles changed how we live our lives, compared to a time when there were no automobiles. Automobiles are no longer a phenomenon. What makes student culture and mobile phones a phenomenon now is the fact that mobile phones are a sufficiently recent technology that not all aspects of it have been appreciated or exploited. We may say that students have moved to mobile, and in the next section we will examine how the world in general is moving to mobile.

2.4 Mobile Environment

The term mobile is fast overtaking electronic as the prefix for various activities. Once we had ecommerce, elearning, ehealth, we now have mcommerce, mlearning and mhealth. The ubiquity and constant presence of one's mobile phone has made businesses, charities and other organizations seek to innovate in this area. Internet access was once the preserve of

computers, laptop and desktop but now mobile devices are making inroads, with 1.2 billion active mobile broadband subscribers worldwide (ITU, 2010). Even urban planning is being examined from the perspective of the mobile lifestyle with one study stating that the widespread use of these devices is quickening the pace of urban life and at an aggregate level, resulting in a dramatic increase in the metabolism of urban systems (Townsend, 2000). It may be that services without a mobile aspect will, if commercial, go out of business, or, if social, become or remain underutilised. To examine this increasing trend towards a mobile environment, we will review literature relevant to commerce, learning and health.

2.4.1 Mobile Commerce

In 2011, eBay mobile commerce generated $5 billion in retail volume, and PayPal mobile generated $4 billion in payment volume (eBay, 2012). A casual examination of the largest online retailer websites shows that Facebook, Google, Amazon and eBay have mobile access via browser or apps. Figure 9, taken from eBay's corporate website, gives some indication of the current scale of mobile commerce.

eBay By the Numbers (As of May 2012)

80,000,000	Number of times eBay Inc.'s apps have been downloaded across the globe
30,000,000	Number of times eBay's core iPhone app has been downloaded
20,000,000	Number of times RedLaser has been downloaded across the globe
12,000,000	Number of times eBay Inc.'s apps have been downloaded across the globe in Q1 2012
1,900,000	Number of new listings currently added via eBay Mobile per week
450,000	Number of new eBay shoppers that made first eBay purchase through a mobile device Jan. – March 2012
269,498	Number of car parts and accessories sold every week
6,098	Number of vehicles sold every week
221	Number of dollars spent every second through mobile purchases
68	Number of pieces of clothing, pairs of shoes or accessories sold every minute through eBay's mobile apps

Figure 9: eBay statistics for mobile commerce (eBay, 2012)

According to a report by Oracle (2011), mobile commerce has not only created high turnover, but is also widespread across the population with 48 percent of all U.S. consumers using their mobile devices to research and browse products and services and 29 percent of consumers having made at least one purchase via a mobile phone.

2.4.2 Mobile Learning

M-learning is at an early stage of evolution. The small screen size of the most prevalent mobile devices must be traded against their ubiquity and constant presence. Kukulska-Hulme and Traxler (2005) describe mobile learning as a new concept in which learners can engage in educational activities without the constraints of having to do so in a tightly delimited physical location.

A review of mobile learning in Asia, UNESCO (2011) suggests that current initiatives in mobile learning aim to: (1) make learning more accessible; (2) promote self-directed learning and; (3) design future learning environments. On the whole, this review shows that mobile learning in Asia has yet to move beyond a mostly emerging and experimental stage.

In Europe, mobile learning is beginning to develop, and telecommunications companies such as Nokia and Vodafone have already integrated these technologies into their training and development systems. However, the real growth across this sector remains to be seen. Any growth in this market is likely to happen in near future (Nath, Ghosh, Agarwal & Nath, 2012).

2.4.3 Mobile Health

Health applications provided via mobile devices are particularly diverse. They range from telematic monitoring of heart rates right through to depression screening. They may involve sending information from a remote location to a central base for diagnosis and processing information input by a user to indicate a diagnosis (FDA, 2011). In July 2011, the United States Food and Drug Administration issued draft guidance concerning the regulation of mobile medical applications (applications on a wireless device that are used as accessories to medical devices or to convert a mobile platform to a medical device) (FDA, 2011) whilst simultaneously encouraging further development of mobile medical apps that improve health care and provide consumers and health care professionals with valuable health information very quickly.

Currently, there are two major app stores for mobile devices, Apple's iTune store for Apple IOS devices (iPhone and iPad) and Google Play for Android devices (Samsung, Huweii, HTC etc). Both stores have two categories of Apps related to health, a Medical Category and a Health and Fitness category. A sample of these apps is shown in Table 2 (Android devices) and Table 3 (Apple devices).

Android IOS Sample of Mobile Health Apps

Type	Title	Description
Depression	Depression CBT Self-Help Guide	This app contains a depression severity test, audios, articles, a cognitive diary, and a motivational points system.
	Depression Inventory	Use this test on a weekly basis to track your history of depression. It also might be used to show your doctor how your symptoms have changed from one visit to the next
	Depression Help Brainwave	Our Depression Help Brainwave uses two specific Frequencies. The first is a Delta Frequency which gives a feeling of unity and helps depression. The second part is a Mid Theta tone that also helps depression and insomnia
Pregnancy	Pregnancy Assistant	Pregnancy Assistant enables women expecting the child to track fetal development week by week. From first week of pregnancy to forty. Just enter the date of the last menstrual period
	Pregnancy Contraction Timer	Pregnancy Contraction timer. - data saved for calls - ability to email log Easy to use single screen interface, Undo/Options press the menu key, NO ads ever, source code on web site. All the best for your labor, this contraction calculator is free but please let me know if is useful
	Drugs for Pregnant & Lactating	Dosing and drug interaction information for pregnant and lactating patients in a convenient mobile app. Over 2000 prescription drugs, over-the-counter medications, and popular herbal supplements are detailed in Drugs for Pregnant and Lactating Women, the comprehensive yet easy-to-navigate mobile app, created specifically for OB/GYNs, midwives, neonatologists, and nurse practitioners.
Hearing	Teen Hearing Test	Use this program to test your hearing ability and to ensure your teen has not damaged their hearing from loud music such as rock concerts. Some of these noises cannot be heard by adults. As you age you lose the ability to hear high frequencies (called presbycusis). Test your hearing with others using this tone generator.
	Smart Hearing Aid	Smart Hearing Aid for Android converts your android phone into a handy hearing aid. It helps you listen more clearly to conversations, music concerts, presentations, television, etc. by amplifying the sound.
	Hearing Check	Action on Hearing Loss's Hearing Check is a quick, simple and completely confidential way to check your hearing, without the trek to the doctor's waiting room. Our check is scientifically verified and is the best method of checking your hearing without seeing a medical professional.

Table 2: Sample of Mobile Health Apps for Android Devices (Complied from inspection of Android App Store).

Apple IOS Sample of Mobile Health Apps

Type	Title	Description
Depression	STAT Depression Screener	Quickly review and score the PHQ-9 on your device. The PHQ-9 is the nine item depression scale of the Patient Health Questionnaire. The PHQ-9 is a powerful educational tool for reviewing the guidelines for diagnosing depression as well as selecting and monitoring treatment.
	iCounselor: Depression	Counselor: Your portable self help tool. Learn skills to reduce your depression! All material was written by a licensed psychotherapist (LCSW) with twenty-five years of counseling experience.
	Happy App - Beat Depression Anxiety & Stress	It's time to be happy! You don't have to go through life feeling depressed and down or struggling with stress and anxiety. Lift your spirits with an encouraging and uplifting hypnotherapy session by Rachael Meddows Hypnosis. You can be happy, bright, fun and positive today!
Pregnancy	Pregnancy Food No-No's	Pregnancy Food No-No's is not an interactive app it is simply a handy list of foods that should be avoided and foods that should be approached with caution during pregnancy. For answers to your questions about your specific dietary needs during pregnancy always consult with your physician.
	Sculpt My Pregnancy	Sculpt My Pregnancy® is a series of stretches and exercises developed by Physical Therapists and Athletic Trainers to increase strength, flexibility, and balance to help keep you healthy and decrease low back and pelvic pain often experienced during pregnancy.
	Preg2Go!	Congrats on your pregnancy! You're starting on an incredible journey! "Pregnancy.org 2 Go!" is your personal support system you can rely on anywhere, anytime! Download our fun and informative FREE app and get started!
Hearing	Siemens Hearing Test	The Hearing Test was created by audiology experts at Siemens to help you determine whether you have hearing impairment. This revolutionary application has been scientifically developed and carefully tested to ensure the most precise results possible.
	VonBruno Hearing Aid	The VonBruno Hearing Aid is designed give you a comfortable and easy-to-control listening experience. Just plug your headphones in and tap the on button. Adjust the volume to the right level using the volume wheel or the rocker buttons on the side of your device. V
	Teen Torture -> Teen Hearing Test	Has your teenager experienced hearing loss due to loud noises? Use this program to ensure your teen has not damaged their hearing from loud music, such as rock concerts. Note that some of these noises cannot be heard by adults. As you age you lose the ability to hear high frequencies (called presbycusis).

Table 3: Sample of Mobile Health Apps for Apple Devices (Complied from inspection of Apple App Store).

It can be seen that these apps range from the serious to the trivial, professional to amateur and from useful to downright dangerous. What can also be seen from these apps is the short time that may elapse between deciding to do something and getting it done. Want to test your hearing? Take out your mobile phone. Want to screen for depression? Take out your mobile phone. Is it ok to eat this when pregnant? Take out your mobile phone.

A considerable number of studies are concerned with texting for health. This aspect of mobile health is considered separately at section 2.5.2 of this document.

2.4.4 Summary

The mobile environment appears to be expanding, and as it does so, it may displace other means of interacting, communications and information gathering. It is possible that this represents a disruptive technology that may be harnessed for social good, and in the case of this research, that social good is the encouragement of help-seeking.

2.5 Significance of Texting

In this section, the scale of the texting phenomenon will be demonstrated. The role that texting plays in teenage life will also be examined, to show that texting is not just a mode of communication, but is, in essence, part of a teenager's psyche.

2.5.1 Teenage Culture

Within the culture of mobile phone use, texting, also known as SMS (Short Message Service) is a modern phenomenon. Its use has become central to everyday personal communications, as borne out by the figures for texts sent issued by the International Telecommunications Union (2010). (Figure 10).

The total number of SMS messages sent globally tripled between 2007 and 2010, from an estimated 1.8 trillion to 6.1 trillion. In other words, close to 200 000 text messages are sent every second (ITU, 2010). Within teenage culture, the role of text messaging looms large. A survey of 1000 Finnish teenagers regarding text messaging details how text messaging has become a cultural phenomenon that goes beyond simple communication. For example teens assume that all carry their mobile phone alongside them all the time. The sender expects a message back in a reasonable time (15-30 minutes) – and if not in time, a reason why (Skinner, Biscope, Poland & Goldberg, 2002).

Amongst students, text messaging is the dominant mode of electronic communication (Harley et al, 2007). There is now evidence to suggest that texting is not just the dominant electronic

Trillions of SMS sent, world

| | 2007 | 2008 | 2009 | 2010* |

56 432   89 289   136 683   192 192

SMS sent per second

Note: *Estimate
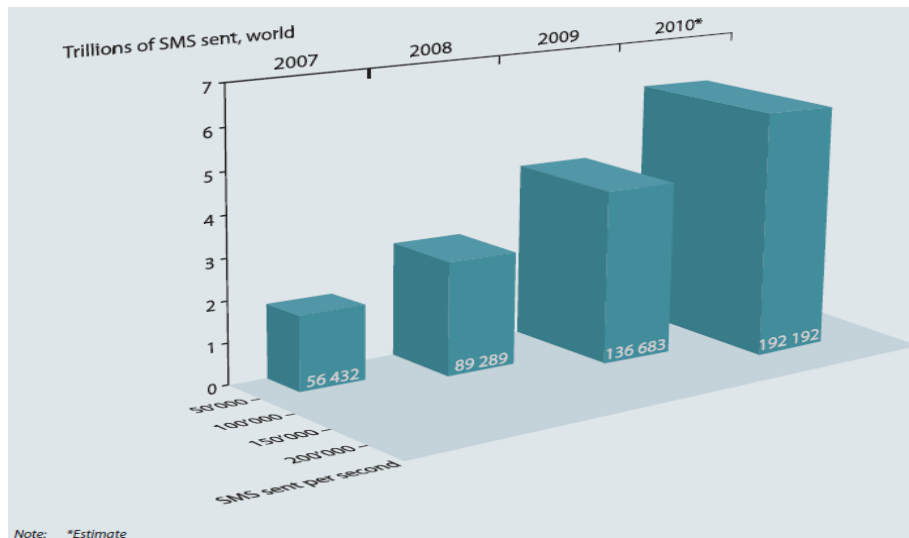
mode of communication, but simply the dominant mode of communication, and indeed the dominant mode of interaction. Pew Research Centre's Internet and American Life Project reports that among all teens, their frequency of use of texting has now overtaken the frequency of every other common form of interaction with their friends (Lenhart, 2010), including face-to-face interactions.

An exploratory study of students which surveyed 168 participants at a mid-Atlantic university to determine if mobile technology is changing the way they communicate found the following (Pinchot et al, 2011).

100% indicated that they own and use at least one cell phone. The survey asked participants to indicate how many text messages they send and receive on average, per day. Responses ranged from a minimum of zero text messages sent and received per day to a maximum of 750 text messages sent and received per day. On average, participants sent an average of 49 text messages per day and received an average of 57 text messages per day.

With all that texting going on, we may well ask what are they texting about? Several studies have analysed the content of adolescent text messages. One study by the Norwegian mobile phone company Telenor conducted in 2002 (Ling, 2004) categorised sent messages as shown in Table 4. He demonstrates that a third of messages were related to coordination and states that a simple "call me" text makes up 1.5% of all text messages.

Theme	%	Examples
Coordination	33	The car is done so we can get it at 4 (M, 52) Can you pick up the children at daycare (W, 30)
Grooming[26]	17	Good that it went so well with your math exam. You are smart, Love grandma (W, 58) Good night sex bomb (W, 35)
Answers	14	Yes, no, ok (2.3% of all messages) I have taken care of that (W, 31)
Questions	11	Have you caught any fish? (M, 40) Are you awake (M, 31)
Information	6	I found the sponge it was in the cork in the bottle (W, 28)
Commands or requests	6	Call me (1.5% of all messages) Remember to buy bread (M, 51)
Personal news	5	Mom has gotten [a] mobile. (W, 58) We are enjoying ourselves in the sun and good weather (M, 58)
Diverse other categories	9	Where are you? (1.4% of all messages) Thanks for the birthday present. love s___ (W, 17)

Table 4: The most common themes in SMS messages (Ling, 2004

Faulkner and Culwin's (2005) content analysis of 337 messages of college seniors in the United Kingdom classified messages into a more detailed system of fifteen categories, as shown in Table 5.

Text Category	Percentage
Advertisements	.39
Questions	18.74
Rendezvous Immediate And Ongoing	2.56
Rendezvous Near Future	5.13
Events	3.06
Instructions	9.42
Reminders	3.6
Jokes	4.54
Sign On	4.68
Signoff	19.63
Gossip	2.61
Dates	3.06
Commercial Information	18.84
Personal Information	1.63
Operational Information	2.12

Table 5: Percentage of messages in each category Faulkner & Culwin (2005).

Comparing the two tables we can see that where the classifications are similar, e.g. questions and sign-off (grooming), the percentages are similar. We may also note that for both tables, no problematic texts of a type that may cause displeasure to a recipient, are identified.

In a third study, Thurlow (2003) analysed the content of 544 messages of first-year college students in the United Kingdom classified the content of the messages into nine categories. Informational-practical (14%) texts were requests for information such as the location of something or a statement of activity. Informational-relational (8%) texts included personal favours or intimate information. Practical arrangement texts (15%) dealt with meeting or coordination of activities. Social arrangement texts (9%) were recreational meetings – at a bar, restaurant or other event. Good-night messages and greetings fall under salutary texts (17%) and were generally brief and did not expect a response. Romantic messages made up 9% of messages with an additional 3% being explicitly sexual. The smallest portions of messages were chain messages (communications intended to be passed along to numerous friends) at 2%. Friendship maintenance was the largest segment of texts at 23%, and included support, apologies, compliments, and congratulations.

In the study previously mentioned relating to the mid-Atlantic university (Pinchot et al, 2011), the authors conclude that "despite the modest size of the survey group, the results reinforce the belief that mobile devices are altering how people communicate." As a result of a study conducted at schools near Dublin, Ireland on teenagers' use of mobile phones, (O'Brien, 2010) the author suggests that within the context of peer group interaction young people (aged between 15 and 17) have established specific codes and a character to texting that often remains indiscernible to adults. Coordinating activities and "finding out what's going on" are the most frequent types of texts communicated between peers.

It is this environment of a shift in popular communications and the development of a texting culture within the adolescent population that this research seeks to position itself.

2.5.2 Health and Texting

In an editorial entitled "Text Messaging in Healthcare: The Elephant Knocking at the Door" (Terry, 2008, p 520) the author had this to say about text messaging and health:

"In discussions of telemedicine modalities, text messaging, also more technically referred to as SMS for Short Message Service, isn't the elephant in the room, the one everybody's ignoring and afraid to talk about. Text messaging is the elephant at the door, the one

everybody knows is trying to get into the room, but nobody's quite sure how it'll fit through the door, how big it is, or what exactly they're going to do with it once it gets through." However, there are examples where the elephant has apparently crossed the threshold and made it into the room.

In a literature review of Mobile Messaging and Health (Bäck & Mäkelä, 2012) the authors suggest that SMS health studies divide into four categories:

- Remote controlling and monitoring applications, used as a tool to support, e.g. home management of some chronic diseases or to send notifications on emergencies.

- Information services, where the goal is to employ mobile messages to send and distribute information.

- Adherenc**e**, where text messaging is used to support treatments, healthy lifestyle programmes or self-management.

- Management, where messaging is used as a tool in health care management practices.

As a result of this doctoral research, it may be possible to add a further category relevant to help-seeking.

A full list of the studies involved is shown in Table 6. Only one of the mentioned studies relates to mental health. Another study carried out at a German hospital indicates how text messaging on mobile phones was used in treatment of a particular mental illness, in this case bulimia. The study was designed to test the acceptance, the practicability, and the effectiveness of the mobile device intervention. Preliminary results indicate that the programme is well-accepted and gives support to bulimic patients after finishing inpatient treatment (Bauer, Percevic, Okon, Meerman & Kordy, 2003).

2.5.3 Summary

Even within the mobile culture, there appears to be a subculture, namely texting. Considering the classifications of texts sent and received by teenagers, there seems to be very little excluded. Communications occur from teenagers to most groups they interact with and vice versa, and about all activities they are involved in, and with specific codes and a character to texting that often remains indiscernible to adults. Meanwhile texting for health is at the early stage of issuing appointment reminders. It may be possible to progress to more elaborate interventions once the codes and character become more discernible.

Authors	Area	Short description	Region	Participation	Duration
Remote control and monitoring					
Terry (2008)	Home telemonitoring application	The patients can sign onto the service every day and answer to the specific questions about their health	USA		
Ferrer-Roca, Cárdena, Diaz-Cardama et al 2004	Diabetes management	Patients sent manually the home measurements to server	Spain	23 diabetic participants	
Istepanian, Zitouni, Harry et al 2009	Diabetes management	Automated glucose measurement by Bluetooth device	UK	137 patients	9 months
Cho, Lee , Lim et al , 2009	Diabetes management	Comparison between "diabetes phone" and Internet- based glucose monitoring system on management of type 2 diabetes.	Korea	69 patients	3 months
Prabhakaran, Chee, Chua et al. 2010	Asthma management	Patients sent manually the home measurements to server	Singapore	120 patients	11 months
Holtz & Whitten	Asthma management	Patients sent manually the home measurements to server	Michigan, USA	4 patients	
Ostojic, Cvoriscec,, Ostojic et al. 2005	Asthma management	Patients sent manually the home measurements to server	Croatia	16 patients	4 months
Information and education services					
Downer, Meara, Da Costa at al. 2005	*R*eminder service	It has been shown that failure to attend rate (FTA) of the patients that received the text message reminders was significantly lower than in the case of patients that did not receive these messages.	Australia	1382 patients	1 month
Mao, Zhang & Zhai.2008	Mobile pharmacy service	The patients were provided with reminders and information about the medication via text messages	China	100 patients	3 months
Mäkelä, Paavola & Stenman 2010	Psychiatry	Text messages sent between the hospital visits can encourage the young people to stay in touch with the hospital staff more frequently	Finland		
Wangberg, Årsand & Andersson 2006	Diabetes education	Parents of children with type 1 diabetes received messages containing diabetes information	Norway	11 parents	
Terry 2008	Sexuality information service	Sexual advice to young people provided via text messages in San Francisco via a	San Fransisco,		
Juzang, Fortune, Black et al. 2011	HIV prevention	Text messages about HIV prevention were sent to a group of young men in Philadelphia	Philadelphia, USA	60 young men	3 months
Gold et al. 2011	Sex and sun safety	The effectiveness of text messages related to safer sex and sun safety was evaluated	Australia	7606 mobile advertising subscribers	
Cochrane, Lowbridge, Maywood et al.2009	Warning about an invasive disease	Text messaging was used to warn contacts of patients with invasive meningococcal disease.	Australia	14 people	
Adherence					
Harris et al. (2010)	Improving adherence among HIV positive people	Usability of a pager-based text messaging system for improving medication adherence was evaluated	Seattle, USA		
Dunbar et al. 2003	Improving adherence among HIV positive people	An automated two-way messaging system to enhance antiretroviral adherence of HIV positive persons	Seattle, USA	25 HIV positive people	208 days (median)
Woolford Clark, Strecher, et al.2010	Weight management	Text messaging was used to increase adherence in a weight-management program	Michigan, USA	20 adolescents	3 months
Gerber, Stolley, Thompson et al. 2009	Weight management	Text messages were used to support weight loss maintenance program among African-American women	Chicago, USA	95 African-American women	4 months
Joo & Kim 2007	Weight management	Text messages concerning about diet, exercise and behaviour modification were used to increase adherence in a weight-management program	Korea	927 participants	3 months
Kornman 2010	Weight management	Text messaging was used to increase adherence in a weight-management program of 13-16 year old obese people	Australia	49 participants	2-12 moths
Whittaker et al. 2008 2008	Smoking cessation	Mobile phone–based targeted to young people used text and video messages to improve adherence	New Zealand	180 young people	1 month
Management					
Al-Hinnawi 2009	"Patient keeper" application	A mobile phone application for doctors to store e.g. the diagnoses and findings and send this information to the server by using a text message.	Syria		
Herriot 2005	SMS notification system for cornea donations	Text messaging is used to notify the Eye Bank of South Australia of potential corneal donors	Australia		

Table 6: A summary of the text messaging applications reviewed by Bäck & Mäkelä, (2012)

2.6   Mental Health and Help-Seeking

Unmet need for mental health care is a serious public health problem (Mojtabai, Olfson,& Mechanic, 2002) with research suggesting that only a small proportion of adolescents with depression have their illness recognized (20%), with an even smaller proportion receiving treatment (Martin & Cohen, 2000). The initial delay in seeking treatment accounts for a significant proportion of the unmet need for treatment of common psychiatric conditions. (Thompson & Hunt, 2004). The most salient finding from one study is that even people suffering from high levels of psychiatric symptoms very often do not have contact with professionals who might help them, (Bebbington et al, 2003), with another study suggesting that individuals with more severe psychiatric problems (in this case relating to eating disorders) may be the most reluctant to seek treatment (Burket & Hodgin, 1993). One of the most striking examples of not seeking help from an appropriate source relates to students and suicide. Of a sample 133 college students who committed suicide in 2010, only 18 were known to the student counselling service at the college they were attending. (Gallagher, 2010).

The situation is reflected in studies which focused on college students with evidence overwhelmingly suggesting that many at-risk college students are frequently not seeking help at college counselling centres (Chung et al, 2007).

2.6.1 Treatment Deficit

In one study from 1982, (Rimmer, Halkas & Schuckit), conducted at a university in the United States a cohort of 158 students were screened on entry to college and followed up at the start of each subsequent year of their college course. Several students dropped out of the study as it progressed. This study allowed for the determination of a treatment deficit, the number of students who require treatment less the number of students who obtain treatment over the duration of their college course.

Table 7 gives an overview of the results. The author states that the total number of students who were psychologically distressed at some time during the four years covered by the interviews, or the four-year prevalence, was 39% of the original 158.

This figure is based on information derived in the study from student status at the end of four years, and is not readily discernible from Table 7.

The author states that relatively consistent over the four-year period was the observation that about one-quarter of those diagnosed as ill sought treatment, and that one-third of those in treatment had a diagnosable psychiatric problem. We may presume from Table 7 that the more correct version of this assertion is the finding that relatively consistent over the four-year period was the observation that, for each year, about one-quarter of those diagnosed as ill sought treatment, and that, for each year, one-third of those in treatment had a diagnosable psychiatric problem.

Year(sample)	Any diagnosis	Depression	Diagnosed and Sought Treatment	Not diagnosed and sought treatment
1st Yr (N=153)	18	15	5	9
2nd Yr (N=139)	14	13	6	11
3rd Yr (N=141)	14	14	4	9
4th Yr (N=134)	19	17	4	9

Table 7: : Prevalence of mental illness, illness and treatment sought, and no illness and treatment sought (adapted from Rimmer, Halkas & Schuckit, 1982)

If we assume the numbers for "diagnosed and sought treatment" had no overlap between the years, we obtain a maximum percentage for the ill student population that sought treatment. This is 21%. So the minimum treatment deficit from these figures is 39%-21% or 18%.

2.6.2 Barriers to Help-Seeking

Many studies have been carried out to determine the reasons sufferers of mental distress are reluctant to seek help, that is, to determine the so called barriers to help-seeking. One study suggests that the most frequently endorsed reasons for delays in seeking help relates to lack of knowledge about mental illness or available treatment (Thompson & Hunt, 2004). Analysis of a report produced by the Oxford Student Mental Health Network (Leach, 2003), along with other studies (Wilson et al, 2002; Rickwood et al, 2005), suggests barriers to help-seeking as shown in Table 8.

Prefer to solve on my own: discussing one's problems may be seen as an admission of weakness
Social Inexperience: shyness and ignorance of how to function socially can prevent the first steps towards help-seeking
Lack of insight: there may not be a framework of normality with which a sufferer can compare his or her situation, and whilst feeling unhappy, cannot realise an alternative.
Confidentiality and anonymity: fear of public revelation leading to stigmatisation
Ignorance: ignorance about mental illness can reinforce inaction

Table 8: Derived barriers to help seeking (adapted from Wilson et al, 2002; Rickwood et al, 2005; Leech, 2003).

A systematic review (Gulliver, Griffiths & Christensen, 2010) of fifteen qualitative and seven quantitative studies which sought to determine barriers to and facilitators for help-seeking found that young people perceived stigma and embarrassment; problems recognising symptoms (poor mental health literacy); and a preference for self-reliance as the most important barriers to help-seeking. It suggests that facilitators are comparatively under-researched.

This review suggested barriers to help-seeking as shown in Table 9.

#	Barrier theme	Number of studies
1	Public, perceived and self-stigmatising attitudes to mental illness	10
2	Confidentiality and trust	6
3	Difficulty identifying the symptoms of mental illness	5
4	Concern about the characteristics of the provider	5
5	Reliance on self, do not want help	5
6	Knowledge about mental health services	4
7	Fear or stress about the act of help-seeking or the source of help itself	4
8	Lack of accessibility e.g. time, transport, cost	4
9	Difficulty or an unwillingness to express emotion	3
10	Do not want to burden someone else	2
11	Prefer other sources of help (e.g. family, friends)	2
12	Worry about effect on career	1
13	Others not recognising the need for help or not having the skills to cope	1

Table 9 Key barrier themes and number of studies (n = 13) in which theme addressed (Gulliver, Griffiths & Christensen, 2010).

This review also notes that most studies (n = 14) were conducted with samples not selected on the basis of participant mental health status. This is important as it indicates that the conclusions are based on a general population of young people and not solely on those in need of help. Given that mental illness affects cognitive functions, it may be that the general population is not indicative of the smaller target population.

The review also notes that there is a paucity of high quality research in the area, little emphasis on identifying facilitators, and a focus on qualitative rather than quantitative data collection.

2.6.3 Intervention Studies

Considering the multitude of studies conducted which seek to identify barriers to help seeking, intervention studies which directly seek to increase help seeking are scarce.

However, there are some, though not all of them were successful.

For example, one study aimed to increase help-seeking by giving a brief presentation of 15 minutes, along with copies of a booklet on mental health distributed to one Australian school. This was associated with improvements in knowledge, but no reductions in perceived barriers to help seeking and no improvements in help seeking behaviour or intentions three weeks later were found (Rickwood et al, 2005).

Similarly, Sharp et al (2006) examined the effect of a 40-minute, classroom-based intervention delivered to university students. Their findings suggest that the use of a brief, classroom-based mental health education program is a promising method to modify help-seeking attitudes and negative opinions of the mentally ill. However, there was no increase in help-seeking behaviour.

In contrast, Christensen et al (2006) used a more long term intervention and examined the effect of a 6-week intervention involving access to a depression information website and weekly telephone contact from a lay interviewer who directed participants to read particular sections of the website. Relative to an attention control condition (brief weekly telephone contact with a lay interviewer who asked questions about factors that might affect depression, but no access to the website), participants in the website condition were no more likely to report an increase in help seeking from GPs or mental health professionals at 6 months follow-up.

A further study by Costin et al (2009) was designed to encourage help-seeking utilising ecards providing health and depression information. The study found no evidence that providing depression information in the form of brief e-cards encourages help seeking for depression among young adults.

It would appear from these studies that encouraging young people to seek help for mental conditions is extremely challenging.

2.7 Persuasion

This thesis is effectively about persuading people to seek help. It is therefore appropriate to examine various theories of persuasion. Persuasion is a broad church, and can be considered in various guises, general persuasion, or behaviour change, or social marketing. We will consider each guise separately and then give consideration to one particular medium of persuasion which is of particular interest here, persuasion through technology.

For reasons of consistency and later examination, all theories and outlines are presented as a set of constructs and construct descriptions. The models are simply introduced here and will be discussed later from the perspective of text messaging.

These theories and insights regarding persuasion are applicable to the general population. It has already been mentioned that the target group of interest in this research may not be represented by the general population and this needs to be kept in mind as this section is read.

2.7.1 General Persuasion

In his celebrated book on influence, Cialdini (1984) proposes six principles of persuasion. He called these the six "weapons of influence" and identified them through experimental studies and by working alongside and attending training courses with what he called "compliance professionals" – salespeople, fund raisers, recruiters, advertisers, marketers, and so on; people whose livelihood depends on their abilities to persuade.

These agents will be familiar, in one guise or another, from general advertisements. The six principles are shown in Table 10. Cialdini uses politics to explain reciprocation. The typical of cry every corrupt politician is that "no favours were asked, none were given". The truer state of affairs may be "no favours were asked for directly, none have been given yet, but it's going to be more difficult to refuse".

An example of one construct that may be applied to student help-seeking is the consistency construct, the student's desire to be (and appear to be) consistent with what he or she has already done. In this case, the student has worked hard to gain admission to college, investing

Construct	Description
Reciprocation	The rule says that we should try to repay, in kind, what another person has provided us.
Consistency	Our desire to be (and appear) consistent with what we have already done.
Social Proof	When unsure of what to do, we do what everyone else is doing.
Liking	We are more easily persuaded by someone we like.
Authority	In line with the findings of Milgram's famous experiment, (Milgram, 1974) we are more likely to act in accordance with instructions from those seen to be in authority.
Scarcity	The notion that we will be persuaded to act at avoid missing an opportunity.

Table 10: Six principles of persuasion (adapted from Cialdini, 1984).

time and effort to secure a place. Living a full college life, which is difficult for someone suffering from psychological distress, may be seen as consistent with this investment. Communications which emphasise that help-seeking will allow the student's investment to be realised will, according to this principle, be persuasive. We may note that for the case of help-seeking, utilising some of the principles, for example scarcity, may be counter-productive, if not downright dangerous.

2.7.2 Behaviour Change

As help-seeking is associated with behaviour change, it will be appropriate to consider the associated theories. Literature suggests four major theories:

- Social Cognitive Theory
- Theory of Planned Behaviour
- Transtheoretical Model
- Health Belief Model

In evaluating health behaviour models, Redding et al (2000) suggest that the following be kept in mind:

- How well does this model describe health behaviour change

- How parsimonious is this theory

- How much variance is accounted for in studies applying this model

- How much intervention development guidance is provided by this theory

- How useful is this model in practice

- How effective in practice are interventions based on this theory

- How well measured or how clear are theoretically defined constructs

- How well specified and tested are theoretically defined mediating mechanisms

In our endeavours to encourage help seeking via text messaging, the two most relevant of these are :

- How much intervention development guidance is provided by this theory

- How effective in practice are interventions based on this theory

2.7.3   Social Cognitive Theory

Developed by Bandura (1986) Social Cognitive Theory suggests that behaviour is determined by interaction between three entities: Personal factors, Environment and Behaviour. Reciprocal determinism, a term used to describe these interactions, states that there is a continuous, dynamic interaction between the individual, the environment and behaviour. The key constructs involved in this model are shown in Table 11.

How might this theory lead to an intervention? We consider just some if the constructs to see how they might contribute to a help-seeking intervention. The Situation construct relates to one's perception of the environment. Is it likely that a student would perceive the college environment to be open to help-seeking and how can such a perception be effected and reinforced? The Behavioural Capability construct suggests that the more students are aware

of the counselling facilities in the college and how to use them, the more likely help-seeking behaviour is to occur. The Environmental construct, relating to factors outside the person

Social Cognitive Theory	
Constructs	**Description**
Environmental	Factors outside the person
Situation	One's perception of the environment
Behavioural Capability	One's knowledge and skills to perform a behaviour
Expectations	One's anticipation of the outcome of a behaviour
Expectancies	How good or bad one evaluates the behaviour to be
Self-Control	Regulation of one's own behaviour
Observational Learning	Acquiring a new behaviour by watching someone else perform it and observing the outcomes –a.k.a. as modelling
Reinforcements	Responses to a person's behaviour that affect how likely it is that the behaviour will reoccur
Self-efficacy	One's confidence in one's own ability to perform a behaviour
Emotional Coping Responses	Strategies used by someone to deal with emotionally challenging thoughts, events, or experiences
Reciprocal Determinism	Dynamic interaction of the person, the behaviour, and his/her environment

Table 11: Constructs of Social Cognitive Theory (adapted from Redding et al, 2000).

may be an unlikely construct to build into an intervention, as these factors are also likely to be outside the control of the provider of the intervention but we will see, when the texting intervention itself is discussed, how this construct and others can be utilised in the design and explanation of the intervention.

2.7.4 Theory of Planned Behaviour

The theory of planned behaviour (Ajzen & Fishbein, 1975, 1980) was designed to predict behaviour from intention, and suggests that behaviour is influenced by the intention to perform the behaviour. According to this theory, three major variables influence intention: Subjective norms, Attitude and Self-efficacy.

Subjective norms consist of an individual's perceptions of the opinions of a significant other regarding the behaviour.

Attiude comprises an individual's beliefs and attitudes concerning the outcome of a particular behaviour.

Self-efficacy is the confidence an individual feels that s/he can successfully perform the behaviour.

The constructs involved with this behaviour are shown in Table 12.

Theory of Reasoned Action/Planned Behavior	
Constructs	**Description**
Behavioral Intention	Perceived likelihood of performing the behaviour
Attitudes	The product of the behavioural belief multiplied by the evaluation of it
Behavioural Belief	Evaluation of the likelihood that performance of the behaviour is associated with certain outcomes
Evaluation of B.B.	How good or how bad those outcomes would be
Subjective Norm	The product of the normative belief multiplied by the motivation to comply
Normative Belief	Perception of how much each personal contact approves or disapproves of the behaviour
Motivation to Comply	Motivation to do what each personal contact person wants
Perceived Behavioral Control	The product of the control belief multiplied by the perceived power
Control Belief	Perceived likelihood of each facilitating or constraining condition occurring
Perceived Power	Perceived effect of each condition in making the performance of the behaviour easier or more difficult

Table 12: Constructs of Theory of Planned Behaviour (adapted from Redding et al, 2000).

If we consider these behaviour theories as sets of constructs, there seem to be no impediment to combining the theories into an a la carte menu of constructs to be used as required. If the parent of a student was worried about a son or daughter who was reluctant to seek help, two constructs may provide advice on what that parent should do, each construct from a different theory. The Subjective Norm construct an (individual's perceptions of the opinions of a significant other regarding the behaviour) from the theory under consideration in this section can be combined with the Environmental construct of the Social Cognitive theory. On the basis of these two construct, one would advise the parents to express their concerns to the son or daughter along with the suggestion that he or she seeks help. If these concerns are expressed on a regular basis, but not to the point where they begin to irritate, then they may be expressed at a time when factors outside the person are favourable to help-seeking.

2.7.5 Transtheoretical Model

The transtheoretical model (Prochaska, 1979) suggests that behaviour change is a series of stages. These stages are precontemplation, contemplation, preparation, action and maintenance. Precontemplation is the stage at which an individual has no intention of adopting a behaviour, contermplation is the stage at which an individual begins to think about adopting a particular behaviour; preparation is considered to be the stage at which an individual outlines a plan of action. Action is the stage at which an individual makes the behaviour change and this is followed by the maintenance stage during which the individual must maintain the behaviour e.g. keep from smoking cigarettes or continue to take regular exercise.

The constructs associated with this model are shown in Table 13.

Transtheoretical Model Constructs	
Constructs	**Description**
Precontemplation	No intention to take action within the next 6 months
Contemplation	Intends to take action within the next 6 months
Preparation	Intends to take action within the next 30 days and has taken some behavioral steps in this direction
Action	Has changed overt behaviour for less than 6 months
Maintenance	Has changed overt behaviour for more than 6 months

Table 13: Constructs of Transtheoretical Model (adapted from Redding et al, 2000).

Consideration of help-seeking from the perspective of this model can show that action is an important construct in this theory, while maintenance is hardly relevant. This is because we seek to encourage the act of help-seeking. It is obviously important that once help-seeking has been initiated that treatment as required is provided and that the person receiving the treatment complies with it, but this is not what is being considered here. Help-seeking is a "one off" action. The construct as described in Table 13, mentions a change in behaviour lasting six months. The action as described in the texting intervention simply requires a change in behaviour lasting seconds.

2.7.6 Health Belief Model

This is one of the oldest models and was originally designed to predict who would attend health screening and who would avail of offered vaccinations. The constructs are shown in Table 14. The theory was developed with illness prevention in mind and so some aspects are not relevant to those who are already suffering from psychological distress. It does, however,

specifically mention barriers, in terms of how much a behaviour will cost in psychological terms. The barriers to help-seeking are well documented, but other aspects of help-seeking, as

Construct	Description
Perceived Susceptibility	One's evaluation of chances of getting a condition
Perceived Severity	One's evaluation of how serious a condition, its treatment, and its consequences would be
Perceived Benefits	One's evaluation of how well an advised action will reduce risk or moderate the impact of the condition
Perceived Barriers	One's evaluation of how difficult an advised action will be or how much it will cost, both psychologically and otherwise
Cues to Action	Events or strategies that increase one's motivation
Self-efficacy	Confidence in one's ability to take action

Table 14: Constructs of health Belief Model (adapted from Redding et al, 2000).

noted in this theory, are not. The literature is mainly concerned with discerning why individuals may not seek help, rather than investigating why individuals decide to come forward for help, and what cues to action contributed to seeking help. Again, when discussing the texting intervention, we draw on the Cues to Action construct to explain and predict the effects of texts.

2.7.7 Captology – Technology and Persuasion

The term Captology was originally introduced by Fogg (2003) and is an acronym for "Computers as Persuasive Technologies." Studies in experimental psychology have shown that computer devices can act as persuasive agents by various means. (Reeves & Nass, 1996). Captology can be seen as an interaction between the two spheres of technology and persuasion. It is not simply computer mediated communications, but occurs as a result of human-computer interaction.

Figure 11 illustrates the relationship between computing technologies, persuasion and captology.

Fogg (2003) suggests that technology works to persuade via three major modes: tool (e.g. making target behaviour, such as help seeking, easier to do), medium (e.g. helping people rehearse a behaviour), and social actors (e.g. providing social support) as shown in Table 15.
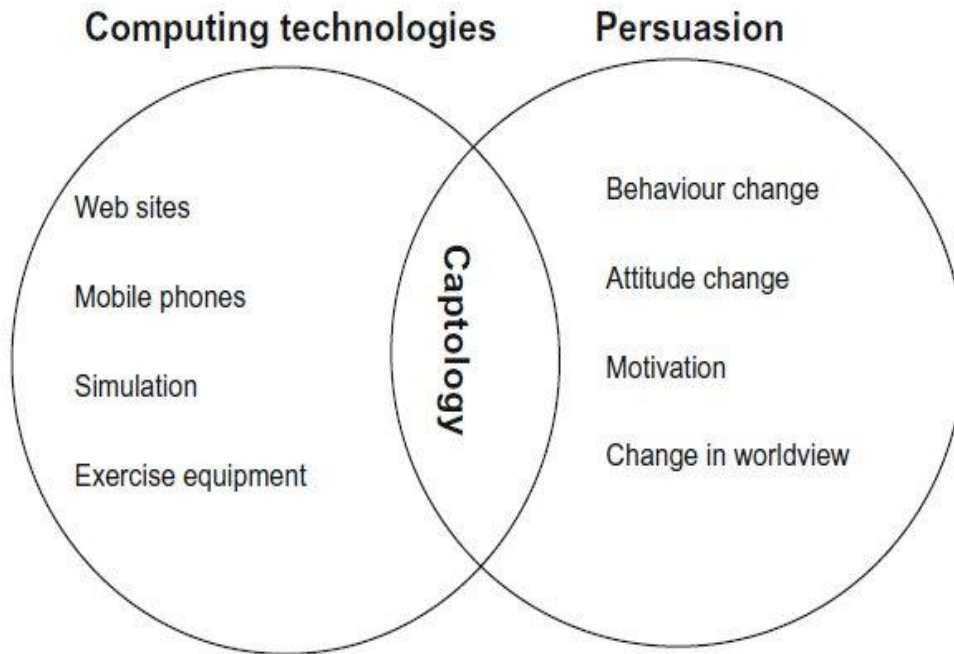
Construct	Description
Tool	Computers can serve as tools, making activities easier or more efficient
Medium	Video, sound etc can be combined into computer simulations which can effect interactive environments which can help persuade
Social Actor	People can react to computers in human terms, becoming annoyed or pleased with them and treating them as part of a team.

Table 15: Major constructs of captology

Within these three major constructs of captology are further minor constructs as shown in Table 16.

Captology is currently used in attempts to influence behaviour change. Anyone driving along a motorway will be familiar with the signs that display the speed of the approaching vehicle

Construct	Description
Tool	
Reduction:	Using computer technology to reduce complex behaviours to simple tasks influences performance of the behaviour
Tunnelling	Using computer technology to guide users through a process or experience
Tailoring	Customising information to aspects of an individual, eg interests, which may influence action
Suggestion	The ability of computers to offer suggestions at an opportune time
Self-monitoring	Taking the tedium out of tracking, allowing number of actions or events to be monitored, ed a pedometer that counts the number of steps
Surveillance	Observing an individual's behaviour
Conditioning	Using positive reinforcement to affect behaviours,commonly used in computer games.
Medium	
Simulated cause-and-effect	Simulations can persuade by allowing people to observe immediately the link between cause and effect
Simulated environment	A motivating simulated environment can allow people to rehearse behaviour before applying to the real world
Simulated object	Portable simulation technologies can highlight the impact of certain behaviours and motivate avoidance or compliance
Social Actor	
Physical cue	Providing a realistic social presence through face, eyes and body movement
Psychological cue	Providing a realistic social presence by displaying preferences, humour, personality, feelings, empathy and saying "I' m sorry " or "thank you"
Language cue	Interactive language use, spoken language, language recognition
Social dynamics cue	Providing social interaction through turn taking, cooperation, praise for good work, answering questions, reciprocity
Social roles cue	Assuming a social role by presenting as a doctor, teammate, opponent, teacher, pet, guide

Table 16: Minor constructs of captology.

in an attempt to get speeding vehicles to slow down. This is an example of the Surveillance construct. Anyone who has purchased a book on Amazon will be familiar with the page that asks, as part of the purchase procedure, if the purchaser wishes to have the book gift wrapped, an example of the Suggestion construct. The Social Actor set of constructs suggest that people can consider computers as friends and can engender social interaction, though perhaps most people will be more used to treating their computers as enemies when, to use a social term, it misbehaves. As an example of the simulated environment construct, holiday websites occasionally attempt to persuade a visitor to rent a hotel room by providing a 3D tour of the hotel and the room itself.

Not all technologies can make use of all constructs. Texting, in itself, is a relatively simple technology, but the technological environment in which it can operate can be used to extend the number of constructs available within a texting system.

2.7.8 Social Marketing

Yet another actor on the stage of persuasion and behaviour change is the discipline of social marketing. The term is used to describe the application of commercial marketing techniques to effecting social good, specifically through behaviour and attitude change. Andreasen (1995, p7) describes it thus:

"Social marketing is the application of commercial marketing technologies to the analysis, planning, execution and evaluation of programs designed to influence the voluntary behaviour of target audiences in order to improve their personal welfare and that of society."

Behaviour change	the intervention seeks to change behaviour and has specific measurable behavioural objectives
Consumer research	formative research is conducted to identify consumer characteristics and needs. Interventions are pretested with the target group.
Segmentation and targeting	different segmentation variables are used and a strategy tailored to the segments.
Marketing mix	the intervention must consist of communications plus at least one other 'P' N.B. these Ps may include Policy or People
Exchange	the intervention considers what will motivate people to engage voluntarily with the intervention and offers them something beneficial in return, whether that is intangible or tangible.
Competition	the intervention considers the appeal of competing behaviours (including the current behaviour) and uses strategies to decrease competition

Table 17: Andreasen's benchmark criteria, (Andreasen, 2002).

Andreasen (2002) identified six benchmarks to help define what might constitute a social marketing intervention (Table 17).

A review on the effectiveness of social marketing (Stead et al, 2007) noted that the term is not well defined nor understood and it was notable that the label 'social marketing' was not a helpful guide in identifying interventions which adopted social marketing principles. Only four of the 54 interventions included in the review were labelled by the original authors as social marketing, and a number of interventions retrieved in the searches which were labelled social marketing were actually excluded from the review as they were not judged to meet all six social marketing criteria. Typically, studies mislabelled as 'social marketing interventions' were comprised of only advertising or other forms of media communication.

It is obviously useful to have a common definition when comparing such interventions, for example to determine the efficiency of "social marketing", but in the cause of a common good it would seem inappropriately limiting to be restrained by definition. As reported by French et al (2012), a formal debate held at the world social marketing conference in April 2011 proposed a definition of Social Marketing that concentrates on economic exchange and the "4Ps", price, product promotion and place. This view was supported by a majority, albeit a small one, of those people who voted at the debate. The authors suggest that this narrow view of social marketing ignores the on-going diversity of thinking about the nature and purpose of social marketing that is evident in the lively debate between many practitioners and academics about what constitutes authentic practice. In this doctoral research, we seek to invoke social marketing, or aspects of it, in its broader sense, to explain or to predict outcomes, strategies and processes involved in this research.

Health promotion is frequently done through social marketing. The rapid increase in obesity has led to campaigns encouraging people to exercise and eat healthily (Haapala et al, 2009), whilst the spread of aids has led to encouragements to practice safe sex (Price, 2001). Other such examples involve cancer screening (Bryant et al, 2000) and the promotion of hand washing to avoid the spread of diseases (McDonald, Ross & Xavier. 2011).

Another domain where social marketing has been utilised for health promotion is mental health. Examples include studies on effective coping strategies for adolescents (Miraudo, 2002) and the use of community based social marketing (Donovan, James & Jalleh, 2007). Lancaster (1989) described the benefits of adopting a marketing approach to mental health initiatives and commented on developments and trends in the field.

2.7.8.1 Downstream vs. Upstream Categorisation

Social Marketing can be classified into Upstream Social Marketing and Downstream Social Marketing according to target audience (Hastings, MacFadyen & Anderson, 2000). If the target audience are the people whose behaviours we wish to change to benefit themselves, then we are dealing with downstream marketing. If we wish to change the behaviours and attitudes of one group, with a view to beneficial behaviour change in another group, then we are dealing with upstream marketing. The following example illustrates the meaning of these two concepts. In trying to encourage help-seeking, we target our marketing solely towards those students whose behaviour we wish to change and who will benefit from such change. This is an example of downstream social marketing. We could also target our marketing at lecturers, suggesting that they look out for distressed students during lectures and work towards getting those students into counselling. As we wish to affect the behaviour of lecturers with a view to providing benefit to students, this is an example of upstream social marketing. Typically upstream marketing involves influencing partners and / or policies.

It will be shown later that this upstream vs downstream categorisation had a major impact on this research.

2.7.8.2 Effectiveness

In a systematic review of social marketing effectiveness involving 54 studies relating to alcohol, tobacco, illicit drugs and physical activity and utilising the benchmarks shown in Table 12, Stead et al (2007) found that social marketing can form an effective framework for behaviour change interventions and can provide a useful 'toolkit' for organisations that are trying to change health behaviours. A further systematic review of social marketing involving child maltreatment was conducted by Horsfall, Broomfield & McDonald (2010). For this review, a literature search identified thirty-six publications about child maltreatment campaigns released between 1995 and 2009. These publications formed the evidence-base for the review. The review concluded that there is relatively little evidence regarding the effectiveness of social marketing campaigns in preventing or reducing child maltreatment.

 A review of 12 social marketing interventions aimed at reducing teenage pregnancies concluded that of the 12 studies, 9 reported significant effects on at least one of the sought for outcomes and long-term interventions were generally more effective than short-term ones for most outcomes. The impact on male participants' sexual behaviour was minimal in most studies. Overall, social marketing appears to be an effective approach in reducing teenage

pregnancies and influencing sexual behaviour change, but the evidence is limited to particular outcomes and context (Wakhisi, Allotey, Dhillon et al, 2010).

An individual study that examined the effect of a social marketing intervention on student alcohol use and abuse found that self-reported high-risk drinking, drinking and driving, and the perception that alcohol facilitates sexual opportunity rates decreased 33%, 45%, and 21%, respectively whilst DUI violations, alcohol-related judicial violations, and student transports to the emergency department for alcohol overdose decreased 13%, 28%, and 37%, respectively (Glassman, Dodd, Miller et al, 2010).

2.7.8.3 Ethics

Ethics figures prominently in social marketing, perhaps because of the distrust aroused by commercial marketing (Eagle, 2008). Persuading people to change behaviour is a challenge which must be addressed in an ethical manner. In a book on social marketing ethics, Smith (2001) offers the diagram shown in Figure 12 as a framework in which to contemplate social marketing ethics.
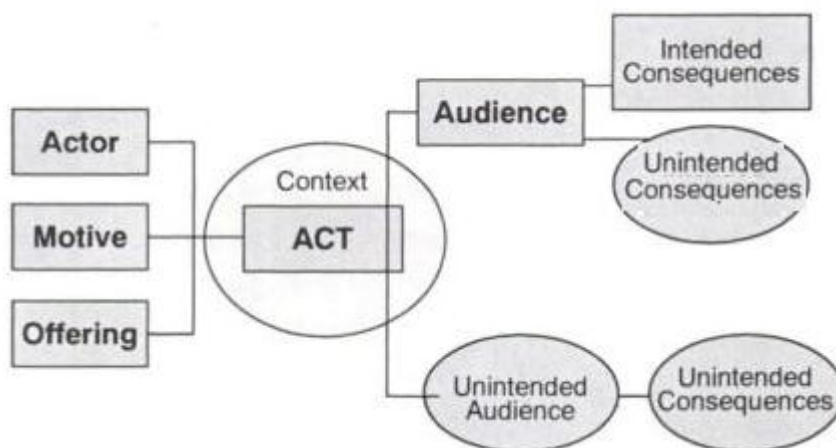

Figure 12: An Ethical Framework for the Practice of Social Marketing (Smith, 2001).

The actor produces or sponsors an offering which can be an object, a service or a behaviour. The act of offering as well as the context in which the act occurs, are guided by the actors' motives. The act affects two types of audiences, intended and unintended, leading to

consequences, intended and unintended. An example of an ethical dilemma in the area of social marketing was reported in Britain's Daily Telegraph (Beckford, 2009) newspaper in an article entitled "Toddlers told to stop parents smoking in 'sinister' move by health service". The article states "Anti-smoking advisors are going into nurseries for the first time to give children as young as three lectures on the evils of cigarettes. They are showing them dolls that demonstrate how the lungs of smokers and non-smokers differ, then handing them NHS leaflets and questionnaires to take home for their parents. But critics claim young children will be scared if they are warned that the health of their mother or father could be at risk, and say it is wrong for the state to intrude on pre-school education". Five years prior to this report, in a paper on the use of fear in social marketing Hastings & Webb, (2004) state that ethical concerns about fear appeals include maladaptive responses such as chronic heightened anxiety among those most at risk and, paradoxically, complacency among those not directly targeted, and increased social inequity between those who respond to fear campaigns, who tend to be better off, and those who do not, who tend to be the less educated and poorer members of society.

We may consider another example in the area of mental health. At the time of writing, Amnesty International Ireland is conducting a poster campaign to reduce stigma associated with mental health. It will be instructive to examine these posters from the perspective of Figure 12.The Amnesty website (2012) states: "In 2010 Amnesty International Ireland published "Hear my voice: challenging mental health prejudice and discrimination", research conducted by DCU School of Nursing. It uncovered uncomfortable truths about how we treat people with mental health problems in Ireland today and prompted us to launch a social marketing campaign that challenged mental health prejudice and discrimination."

It is clear that the campaign sought to reduce the stigma that sufferers of mental illness experience from members of the general public. So the campaign was aimed at the general public. Filling out the other boxes we have the configuration shown in Fig 16.

The actor is Amnesty International. The motivation here is interesting. Amnesty's raison d'etre is to increase human rights, and is distinct from various mental health organisations which aim to help, however this may be defined, those suffering from mental illness. As such it sees those with mental illness as suffering from discrimination and prejudice in the form of
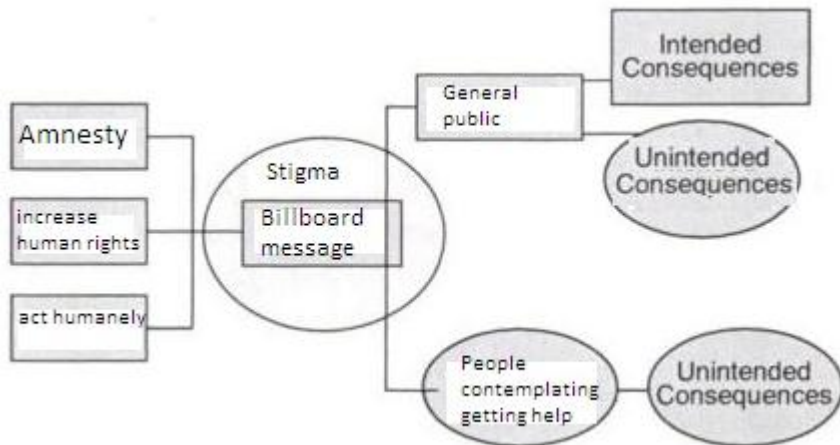
Figure 13: An Ethical Framework for the Practice of Social Marketing relating to Amnesty Campaign (adapted from Smith, 2001).

stigma originating from the general population. The offering is tolerance, the act is the billboard message and the context is stigma. The billboard poster is shown in Figure 14.
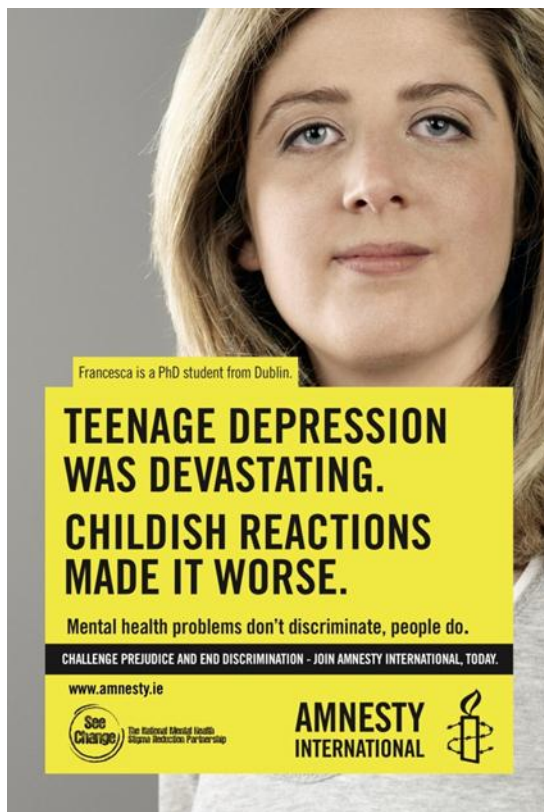

Figure 14: Amnesty billboard poster

During a brief phone discussion about this campaign, the Amnesty manger involved stated that the billboard posters were presented to two types of focus groups, those suffering from mental illness and those not suffering from mental illness. However those in the first group had declared their illness. This left one further audience, those with undeclared mental illness

as a possible unintended audience with the potential to be affected by unintended consequences. These are people suffering from depression who are contemplating seeking help, but have yet to seek it. How will the campaign affect such people? One possible unintended consequence is that the campaign will simply reinforce the fear of stigma amongst suffers: "Teenage Depression was bad, Childish reactions made it worse." Why come forward to seek help for depression when the consequences of coming forward may be even worse than the depression itself?

One further aspect relating to social marketing ethics which will have considerable relevance to this research is the notion of "low hanging fruit". In her report on ethics prepared for the UK's National Social Marketing Centre, Eagle (2008) asks "Is it ethical to target sectors of the population who are easiest to reach or who likely to be the easiest to reach? Is it ethical to target the most receptive to an intervention ('low-hanging fruit') rather than those who might benefit the most from changes to their behaviour? If a 'hard to reach' group is targeted, but their intervention costs significantly more than interventions aimed at lower priority groups, is it ethical to focus resources on one specific group at the expense of others?". We will see that the answers to these questions have a significant bearing on the outcome of the help-seeking intervention under consideration in this thesis.

2.7.9 Direct Marketing

Direct marketing is a form of advertising that is widely used for promoting products and services straight to the customer. Its various guises include direct mail, database marketing, email marketing and text marketing.

There are various definitions available from the literature. The official 1981 Direct Marketing Association (DMA) definition (Katzenstein and Sachs 1992), as proposed by the DMA's statistical subcommittee is as follows: "Direct Marketing is an interactive system of marketing, which uses one or more advertising media to effect a measurable response and/or transaction at any location".

Bauer and Miglautsch (1992) propose an alternative definition of direct marketing: "Direct marketing is a relational marketing process of prospecting, conversion, and maintenance that involves information feedback and control at the individual level by using direct response advertising with tracking codes".

We need not overly concern ourselves here with precise definitions other than to note that both definitions emphasise the notion of "measurable response" stated explicitly in the first definition and implicitly by the term "tracking codes" in the second.

One particular type of direct marketing is mobile marketing. Text marketing, also known as SMS marketing, is a form of mobile marketing. The Mobile Marketing Association defines mobile marketing as the use of wireless media (primarily cellular phones and PDAs) as an integrated content delivery and direct response vehicle within a cross-media marketing communications program (MMA, 2006). In our case, text marketing is that aspect of mobile marketing which can be carried out using solely the texting capabilities of the mobile phone.

Direct Marketing has a number of advantages over other types of marketing. For example, Nash (2000) identified the advantages as shown in Table 18.

Measurement	The effectiveness of direct marketing can be readily measured, based on responses received.
Concentration	The target audience can be contacted, whether this be a segment of college students (for instance those studying business) or an entire population (all of a college student population).
Personalization	The ability to address different segments differently, for example in a college student population, one message appropriate to first years can be sent solely to first years, and other messages to other years.
Immediacy	While other forms of advertising seek to promote awareness and affect attitude, direct marketing seeks to motivate action, by eliciting a response.

Table 18: Advantages of direct marketing (Nash, 2000).

There are also disadvantages to direct marketing. From the perspective of the receiver, there are several possible adverse reactions to direct marketing. Intrusiveness, loss of control and irritation have been identified as negative attributes of direct marketing (Morimoto & Chang, 2006). The disadvantage seems particularly pronounced in terms of text marketing, given that mobile text marketing has a more invasive nature than other media (Barnes & Scornavacca, 2004).

We may consider if this advantage / disadvantage dichotomy is resolved in favour of the disadvantages or the advantages. This dichotomy is well represented in a study on text (SMS) marketing relating to chlamydia, conducted in Australia which states: "Overall, SMS advertising was viewed negatively as participants thought it was annoying, an invasion of privacy and inappropriate as it removes people's choice to read such information. Nevertheless many participants acknowledged that despite this, it *is* (italics in original) an

effective strategy because it would make people think about chlamydia and they may show their friends the SMS, which would promote dialogue around the topic". (Wilkins & Mack, 2005, p.10).

The literature suggests that there may be ways around this dichotomy, by making text marketing more acceptable to recipients. A study to determine what influenced consumers' willingness to accept mobile advertising (Leppäniemi and Karjaluoto, 2005) found four factors as having an influence. For favourable acceptance, the authors conclude that mobile marketing should:

- provide relevant information
- provide rewards
- be delivered by a trusted organisation
- give the recipient control over messages

There are some examples of direct marketing used as social marketing (Wilkins & Mack, 2005), though generally other methods such as print, media advertising, personal selling and special events predominate (Luca & Suggs, 2010). Where social direct marketing is used in the area of health, it tends to be in areas such as encouraging healthy eating and health lifestyle, areas which are free of stigma (Luca & Suggs, 2010; Cole-Lewis & Kershaw, 2010).

Certain studies have been carried out to measure the effect of direct marketing on aspects of health. In three separate smoking cessation studies direct mail was used to recruit mothers into a smoking cessation program (Tillgren, 2000), to prompt smokers to call a quit-line (O'Connor et al, 2008), and to promote the prevention of heart disease (O'Loughlin, Paradis & Meshefedjian, 1997). Direct mail strategies have been used to encourage participation in other health-related behaviours such as smoking cessation programmes (Schmid et al, 1989), weight-loss programmes (Schmid et al, 1989) and screening for hypertension (Murray et al, 1988). It can be seen that these studies relate to conditions unassociated with stigma i.e. people tend not to feel embarrassed about being a smoker or suffering from hypertension, especially when compared to mental health issues.

Whilst it is difficult to measure with precision the amount of social marketing initiatives which involve both direct marketing and stigma associated health issues, two meta-studies suggest that their number is indeed low. In one of these studies involving 17 social marketing

interventions, four relating to nutrition, two relating to physical activity, three relating to diabetes, one relating to heart disease, three relating to STDs, two to HIV and two to smoking cessation, only two (nutrition and diabetes) used direct marketing (email) as part of their promotion strategy (Luca & Suggs, 2010).

While text marketing is effectively a subset of direct marketing, direct marketing is not a subset of social marketing but is one mode of conducting social marketing, though not much used in this sense, particularly for sensitive areas such as mental health. A large part of this doctoral research is concerned with using social marketing, conducted as direct marketing in the form of text marketing, to encourage help-seeking.

3   Research Question

3.1   Origin

From the literature review, we have determined that a considerable number of students suffer mental distress. We have also outlined that effective treatments are available to them which will considerably help alleviate such distress. However we have seen that most students, for reasons mentioned, do not avail of these treatments. There are major social, personal and economic benefits in persuading them to seek help. The problem of a lack of help-seeking amongst college students for mental distress, leading to a treatment deficit along with its consequences has been explored in the literature review. The many challenges involved in developing an effective intervention to increase help-seeking have been surveyed. The cultural bond that this student demographic has with the mobile phone has also been demonstrated along with the importance of texting within this culture. Various theories of persuasion and health behaviour change have been considered, with a specific emphasis on captology and social marketing. The literature of texting in health and in persuasion, still at an early stage of development has been added to the mix. From consideration of the literature a simple research question emerges:

"Can text messaging be harnessed to the cause of help-seeking for students suffering psychological distress?"

3.2   Hypothesis Formation

3.2.1   Student and college attitudes

Of considerable importance to this research is the notion of acceptability by the student population at large. As the only way the help provider can reach the unidentified requirers, texts must be sent to all members of the student body. The texts which aim to exhort help-seeking will relate in some way to mental health. To avoid any sense of haranguing regarding mental health, these texts will be sent as part of a stream of weekly texts relating to matters relevant to students such as sports, finance, careers, exams etc. It may be that students will object to receiving messages on their mobile phones regarding mental health, considering such messaging to be an invasion of privacy. Complaints to management regarding text messages sent by the college may result in the service being withdrawn. Students will already be familiar with messages presented as posters in public areas and toilets relating to sexual health. The literature review has shown text messaging is an integrated and everyday part of

student life and we posit that, because of this, messages will be seen as no more invasive or annoying than the posters on toilet walls.

3.2.2   Texting to encourage help-seeking

We posit several attributes of text messaging, and particularly attributes regarding a stream of regular text messages sent to students, which may be of relevance. The content of the text message sent is important, but is not of itself specific to text messaging. The message itself can, for example, be presented on posters, during speeches, sent as an email or posted on a web portal. Without underestimating the importance of content to persuasion we note that what sets text messaging apart are the attributes associated with the process of text messaging, and the persuasive and behavioural properties of these attributes.

We consider these attributes to be

- Anonymity
- Ubiquity
- Service side initiative
- Guise of normal practice
- Written – retention
- Low threshold communication
- Message exposure
- Simple response mechanism
- Streams

Each of these is attributes is now examined in more detail with reference to the barriers to help seeking, general persuasion and health behaviour change theories. We show how texting may harness these theories to overcome the barriers and encourage help-seeking. As captology is specifically concerned with technology, we will consider this discipline in a separate section.

Anonymity

The two foremost barriers to help seeking shown in Table 9 on page 37 concern stigma and confidentiality. Anonymity may be seen as an antidote to these barriers and this anonymity can be preserved during an exchange of text messages. There is no need to drop in to a public office or hide away to make a phone call. Social cognitive theory, as discussed, through the Situation construct, suggests that one's perception of the environment may be a concern in

behaviour change, so preserving and promoting an environment of anonymity may also help in this regard.

Ubiquity

Texts can be sent and received from practically anywhere. Time and location are important factors in persuasion. Location of the service provider but also location of the individual the provider is trying to influence can be important. The fact that an individual's mobile phone is with them at all times means that they can respond to a message from any location and act on an impulse to seek help from anywhere. This can help overcome the barrier concerned with lack of accessibility shown in Table 9. The environmental construct of SCT may also be brought into play. Factors outside the person may contribute to behaviour change. Given the ubiquity of the texting service, a change in any factor, anywhere or at any time which may facilitate help-seeking can be acted upon.

Service side initiative

Social isolation, confusion and fear characterise the sufferers of depression. To expect such an individual to somehow summon the wherewithal to spontaneously initiate the action of help-seeking seems to be somewhat far-fetched. With text messaging a service provider can initiate contact by sending a broadcast message to all students, though specifically targeted at help-requirers. The barriers to help seeking which can be overcome by this aspect of the service are, firstly, concern about the characteristics of the service provider and fear or stress about the act of help-seeking. The service provider can introduce itself in a way which can help allay these concerns. The second barrier relates to knowledge about mental health services. There is no need for a student to seek this knowledge, or even be aware of the services. The information is simply sent to them by the provider.

In terms of persuasion, the Situational construct of SCT can again come into play whereby messages from the provider can create an environment where help-seeking is seen to be encouraged and accepted. Two of Cialdini's persuasion agents are also of relevance, namely, authority and likeability. The text is from the college authorities, so may benefit from the authority agent. It is also from the caring face of the college, and so may benefit from the likeability agent.

Guise of normal practice

Once again, this helps overcome barriers of stigma and concerns about confidentiality. A billboard advertising a counselling service may include a mobile number. However, a student wishing to act on this will have to somehow record the number, leaving him or herself open to exposure. A student responding by text to a text from a counselling service, compared for example to a student entering a counsellor's office, appears to be acting completely normally. As one student expressed it in a study by Kopomaa (2005) "Interaction with others and the carrying of a mobile phone and writing messages are the most natural things in the world."

Written – Retention

A text is sent to a student's mobile phone which contains an invitation to respond along with details of how to respond. This remains on the phone unless the student decides to delete it. As the phone is always with the student, the student has the information, and not just the means, to respond at any time. In terms of barriers, knowledge about mental health services is constantly available and so this barrier can also be overcome to some extent.

Low threshold communication

The threshold for communication is lower for text messaging than for voice calls. As there is no need to speak directly to someone it is easier to initiate and respond to communications by text. The study by Kopomaa (2005) found that those who prefer setting up dates by text message feel that it is socially less awkward than making a phone call and that sending an invitation by text message decreases tension and avoids embarrassment. Of particular interest in terms of arranging a meeting with a counsellor, Kopomaa also found that for dating, SMS messaging allows the conditions of the meeting to be softened, so that perhaps only the time and place are determined, and the pressures concerning the success of the date are moved to a future time, to the time of the meeting.

This can facilitate those who suggest that a difficulty or unwillingness to express emotion can be a barrier to help-seeking, as well as those who experience fear or stress about the act of help-seeking, two barriers mentioned in Table 9.

Message exposure

According to the persuasion framework outlined by Zaller (1992), two steps must occur for a piece of information to affect an individual's attitudes or behaviour. In the first instance, the

individual must be exposed to the information. Then they evaluate the substance of the message and may accept it or not. Because the delivery mechanism of text messages makes them difficult to ignore, recipients are more likely to be consciously exposed to them and to reflect on the information they contain, than would be the case with other communication mechanisms, eg posters, speeches etc. While this feature may not specifically correspond to a particular barrier, it can help ensure that information messages, such as those relating to distress symptoms and student services, get through to the intended targets.

Simple response mechanism

If one can forgive the texting analogy, this attribute seems to push the most buttons, in terms of barriers and theoretical constructs. As Fogg (2003, p. 33) states in his book on captology: "When a long-distance phone company tries to persuade you to change your carrier, it doesn't make you fill out forms, cancel your previous service, or sign any documents. You simply give your approval over the phone, and the new company takes care of the details. This is an example of a reduction strategy — making a complex task simpler." From the perspective of barriers, it can diminish reluctance caused by fear or stress about the act of help-seeking by making this act considerably simpler than would be the case without texting. The entire process of help seeking is reduced to responding to a text. Similarly the concern regarding lack of accessibility and time and transport are much diminished. Social cognitive theory suggests that this attribute can help in terms of the Behavioural Capability construct, defined as one's knowledge and skills to perform a behaviour, as well as the Self-efficacy construct relating to one's confidence in one's own ability to perform a behaviour. Constructs from the theory of planned action such as Behavioural Intentions, Perceived Behavioural Control and Perceived Power can also be seen to be helped by this texting property. In terms of the transtheoretical model, the simple response mechanism can facilitate action, and from the health belief model, in keeping with other models, the construct of Self-efficacy is brought into play.

Streams

A study by Gerber et al (2011) suggests that personality traits affect how people respond to one particular category of environmental stimuli—persuasive appeals. A further study by Jacob et al. (2012) suggests that adapting persuasive messages to the personality traits of the target audience can be an effective way of increasing the messages' impact, and highlights the potential value of personality-based communication strategies. Given differences in

persuadability amongst individuals, and in each individual as circumstances or mood changes over time (factors external to oneself, as SCT would have it), a stream of messages can be varied in terms of content style, time sent and place received to ensure maximum persuasive effect for the target population. The constant stream will also reinforce previous messages. Another interesting construct which is brought into play is Reciprocal Determinism from Social Cognitive Theory. This suggests the dynamic interaction between the person, the behaviour and his or her environment can influence behaviour. This dynamic will be affected by constant interaction, initiated by the service provider within the college environment.

Captology

Captology specifically addresses the issue of using technology to persuade. Simple text messaging cannot cover all aspects of captology. It can, however, cover some, and on examination it can be seen that most of these aspects relate to the tool mode. This is shown in Table 19 along with examples.

SIMPLE TEXT

Captology	Example
Tool	
Reduction: complex to simple	Contact with counselor: Texting is simpler than making a phone call
Tunneling: narrowing scope	A series of texts can help lead to a specific objective
Tailoring: general to specific	Texts can be tailored for recipients, eg 1st yrs etc
Suggestion: intervening at the right time	Texts can be triggered at appropriate times, eg close to exams
Self-monitoring: feed back	
Surveillance: observation	Texts can seek an immediate response on location or activity
Conditioning : positive reinforcement	Texts can be worded to provide encouragement
Medium	
Simulated cause-and-effect scenarios	
Simulated environments	
Simulated object	
Social Actor	
Physical cue	
Psychological cue	Wording can be altered to suit environment or purpose
Language cue	
Social dynamics cue	
Social roles cue	Text receipt can be seen as a norm and allow for the possibility of response

Table 19: Examples of how modes of captology may be applied to text messaging in the context of help-seeking

In Table 20 we outline how the application of simple text messaging can invoke a number of different captology mechanisms which may be expected to lower barriers to help seeking as outlined in Table 8, on page 37.

Barrier	Solve Alone eg unmanly	Social Inexperience eg extreme shyness	Lack of Insight eg believes problem is too small	Confidentiality eg concern friends will find out	Ignorance eg believing that nothing can be done
Captology Tool	Weak moment (intervening at right time)	Simple Response (Reduction) Suggest time for appointment (Tunneling) One 2 one (tailoring)	Doubts (Intervening at right time)	Anon, less steps (Reduction) Step by step (Tunneling)	Exam stress (intervening at right time) Gentle invite to chat (Tunneling)
Captology Medium		Medium aspect not readily applicable to simple text messaging			
Captology Social Actor	Friend/Teammate (Social Role Cue)	Language (Psychological Cue) Friend/Teammate (Social Role Cue)	Friend/Teammate (Social Role Cue)	Friend/Teammate (Social Role Cue)	Friend/Teammate (Social Role Cue)

Table 20: Mechanisms of captology involved in lowering specific barriers to help-seeking

3.2.3   Student services and help-seeking

We have mentioned that gaining the cooperation of student counselling services for text messaging trials proved to be a considerable challenge. It is appreciated that typically in any research project of the type proposed here, gaining cooperation can be problematical. However, the feedback obtained during attempts to gain cooperation and the similarity of responses suggested that the attitudes of student counselling services to help-seeking in general merited investigation, as these attitudes could have a major impact on the research question. Various meetings and correspondence with student counselling services and their management led me to question how fully these services were aware of the difficulties involved in help-seeking. Perhaps they were pre occupied with students presenting themselves for treatment and did not appreciate the need for effective service promotion as well as effective service provision. One paper by Bohns & Flynn, (2010), relating to general (not specifically mental health) help-seeking, outlined four studies which demonstrated that people in a position to provide help tend to underestimate the role that embarrassment plays in decisions about whether or not to ask for help. As a result, potential helpers may overestimate the likelihood that people will ask for help.

3.3 Downstream Hypotheses

We derived a number of hypotheses in order to pin down the expectations in regard to a text messaging service as outined earlier. The first four hypotheses refer to the impact of the service itself.

Hypothesis 1.

Appropriate text messaging initiated by a provider to their mobile phones can speed help-seeking for those help-requirers in a student population who suffer from psychological distress.

Hypothesis 2.

Appropriate text messaging initiated by a provider to their mobile phones can increase help-seeking for those help-requirers in a student population who suffer from psychological distress.

Hypothesis 3.

A stream of texts sent on a regular (weekly) basis to students, with one text a month exhorting help-seeking, will be acceptable to students in general and will not cause difficulties for the college.

3.4 Upstream Hypothesis

The interaction with student counselling services and their hesitation to implement such a service led to the last hypothesis.

Hypothesis 4.

There is reluctance on the part of service providers to encourage help-seeking.

4 Downstream: Directly Encouraging Help-Seeking

As mentioned in the section on Social Marketing (Section 2.7.8), there are two aspects to behaviour change, downstream and upstream. In this section, we shall look specifically at the downstream implementation of the text messaging service. We examine the impact of the intervention on those whose behaviour we wish to change, namely the student body. This impact will be assessed in terms attitudes to the intervention and actual help-seeking behaviour change.

4.1 Research Methodology

The basic setup environment involves sending texts to students of a tertiary educational institution exhorting them in some way to seek help should they need it.

To my knowledge this has never been done before, and so presents challenges relating to processes and ethics. It is difficult to estimate the type and amount of responses that will be generated, and processes must be put in place to ensure that the system integrates with current methods for dealing with students in difficulties. Ethical issues involving data protection and privacy must be assessed and codes of conduct and legal requirements satisfied. This research will therefore provide a map for future interventions involving broadcast texting to students and similar bodies.

We wish to observe and document what the effects of this action are. Whilst we are primarily interested in effects on help-seeking behaviour, we must be open to other possible effects, such as student disaffection.

The feasibility of any research setup and experimental design will depend on the cooperation received from the educational institute at which the research activities are carried out. Even at a most basic design level, there are factors which would cause the management of any educational institute to baulk. We may quickly examine some of these issues here:

Mobile numbers database

The management of the institution are being asked to allow the mobile numbers of all or a substantial number of students at the institute to be used for the purposes of encouraging help-seeking. While some institutions may have a texting service for certain situations such as texting reminders to individual students regarding library books which are overdue or texting specific groups when a lecture is cancelled, persuading an institution to make their mobile number database available so that texts can be sent unilaterally regarding a

stigmatised emotional condition is non-trivial to say the least. Under data protection legislation, the database will be registered with the national data regulator and will be legally subject to usage restrictions.

Broadcast Text Sending

In almost all jurisdictions there are severe legal sanctions against any person or institution which sends inappropriate broadcast electronic messages to a population. The texts envisaged in this research may be seen by some, after an initial consideration, to be spam, and institutions may consider that sending such texts would leave them open to legal action.

Service Inundated

Whilst research suggests that encouraging help-seeking is difficult and beneficial, if texting were to substantially increase help-seeking, this would have a considerable impact on student counsellors. Also, there is the concern that people who do not need to avail of the service might be encouraged to use it having received a text. "What if we are swamped?" is a refrain that was heard several times as this research was initially discussed with student counselling services.

Student Alienation

People object to receiving spam. Without any prior studies or research to go on, management at any potential research location would have no way of knowing how students as a whole would react to messages sent by text - perhaps the most invasive type of communication there is.

To carry out any research in this arena requires that the management and counselling services cooperate regarding the mobile number database, formulation of text messages and handling responses and the provision of some anonymised data to the researchers. To insist, initially, on a level of cooperation from student counselling services which would allow for a gold-standard randomised control trial research setup, whereby the texts were sent to a randomly selected proportion of students, whilst the counselling services noted details of students availing of the service and made them available to the research study in an anonymised form, along with other cooperation in terms of provision of historic data, message creation, handling responses etc. risked complete alienation of these services and the cessation of this research before it had even begun. The RCT was considered untenable, if not unsuitable, for two reasons. Firstly the intervention was to be sold to the counselling services as a major possible benefit to the students in the college. Other benefits suggested that by putting the

intervention in place, the college showed that it was concerned about its students, that the college was adapting innovative processes and that it was working to aid retention. The researchers could be seen to be aiding the student counselling service in its goals.

Any attempt thereafter to limit this intervention to 50% of the student population whilst using the other 50% as a control, it was clear from discussion, would present the intervention purely as a research intervention, lessen the bona fides of the proposers in the eyes of the counselling services and lessen the benefits outlined above. Providing a proposed benefit to half the student population whilst the other half are deprived of that intervention may suggest callousness rather than concern. Although it is obvious that all students could be reached, but at different times for a specifically constructed RCT, the counselling service was not particularly interested in helping with research. The only way any level of cooperation could be obtained was to propose an intervention that was immediately beneficial to students and that could enhance the reputation of the counselling services, and seek to carry out research on the back of this. The alternative approach, whereby the intervention was proposed as a research project, which may at some later stage benefit students, was simply a non-runner, and this approach would be required for an RCT.

The second argument against an RCT was the available sample size. We have seen from the literature review regarding direct marketing that a response rate of 1% to 2% is considered achievable, whilst for certain methods, such as email, the response rate can be as low as .03%. Within a college population of approximately 1000, we know from the literature that between 2% and 4% of students attend the counselling services within one year, leading to a figure of 20 to 40 students. A response rate of 1% to 2% from the general student population suggests that 10 to 20 students may respond, a response rate of .03% suggests there would be no responses. We do not know if this represents response rate per text sent, or the number of students who respond to at least one text, or how responses to texts are likely to occur. We do know, however that we are dealing with small numbers for purposes of comparison, so using an RCT in this case where the sample size is a given, will make such numbers even smaller and reduce the ability of the intervention to uncover an effect, if, indeed, such an effect were to exist. Obviously an RCT will also reduce the possibility of finding an effect where none exists as it can take account of confounders, but in our chosen method we show how confounders are dealt with.

Primarily, the level of cooperation sought and obtained from student services therefore, largely determines the research methodology. The research setup which would provide useful outcomes consistent with a feasible level of college cooperation is the one group post-test setup. As counselling texts are to be sent at intervals, it will be possible to make multiple pre-test, post-test comparisons, rather than simply relying on one measurement, allowing for increased reliability.

4.1.1 Experimental Model

We wish to compare outcomes for a group at pre-intervention and at post-intervention. The group in question is the full time student population at a third level college in Ireland, the intervention is the sending of broadcast text messages and the outcome is help-seeking for psychological distress.

Figure 15 represents the situation prior to any intervention. Of the student population a certain number will seek help over time. This situation is represented as TAU help-seeking, with TAU, borrowed from medical nomenclature, standing for treatment as usual.
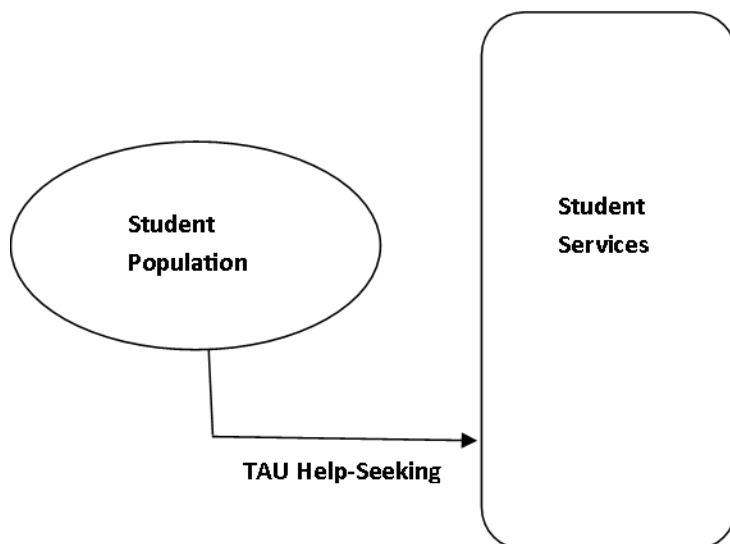

Figure 15: Pre-test experimental setup

Figure 16 represents the situation in which a text message (or several text messages) exhorting help-seeking is sent to the student body with the aim of generating responses. The types of responses that may be generated are detailed in Table 21.
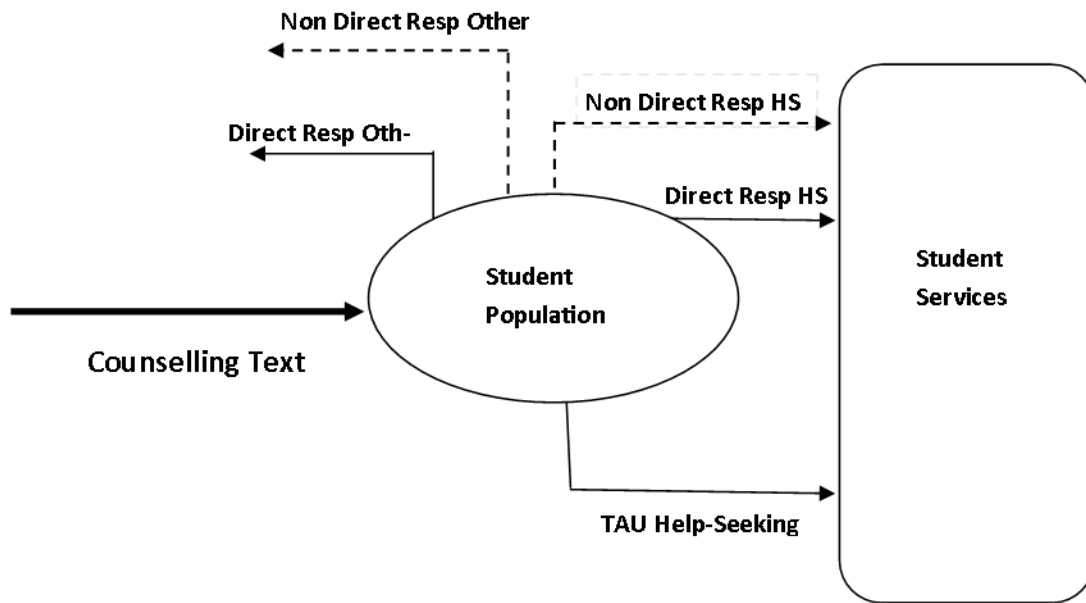
Response Type	Abbreviation	Description
TAU Help Seeking	TAU	This represents the usual mode used by students to seek help in the absence of the texting intervention, with TAU borrowed from "medical nomenclature" standing for treatment as usual.
Direct Response Help Seeking	DRHS	This is a text response which is sent directly to a mobile number specified in the counselling text message. For instance, a recipient of the counselling text message texts back seeking assistance.
Non Direct Response Help Seeking	NDRHS	This is a help seeking response whereby a recipient of a counselling text message seeks assistance as a result of receiving the message, but not by texting back. For example such an individual may seek help by presenting in person at the office of the student counselling service.
Direct Response Other	DRO	A direct-response other represents a text sent in response to a counselling text to the number specified in the counselling text but which does not have to do with help-seeking, for example a request to stop sending further messages
Non Direct Response Other	NDRO	A non-direct other response is a non-help seeking response whereby a recipient of a counselling text message responds as a result of receiving the message, but not by texting back. For instance, a student receiving the counselling text may object to it and respond by complaining to the students' union service.

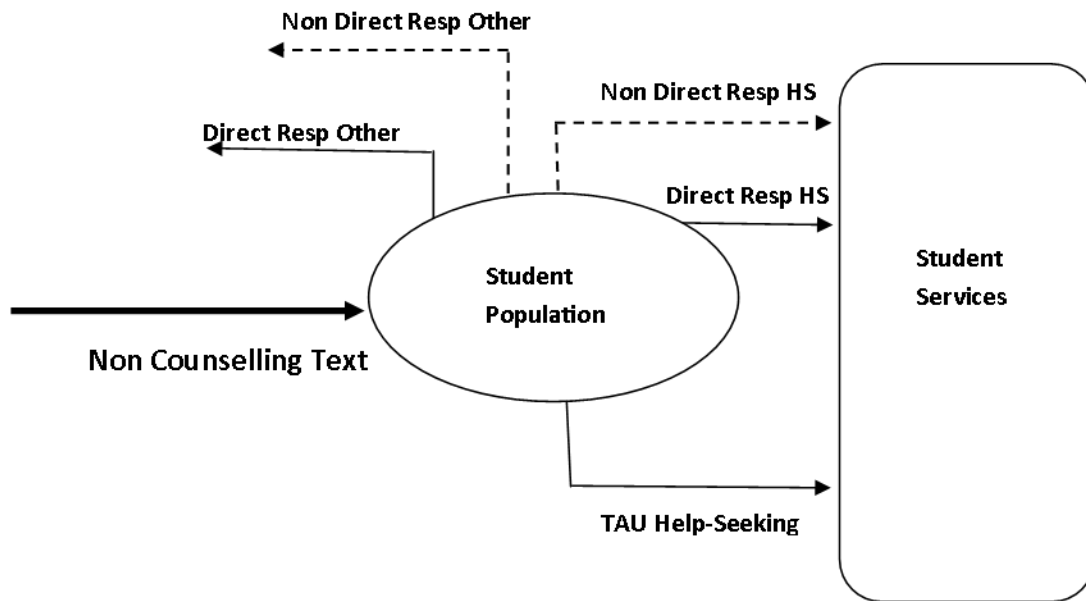Table 21: Description of variables

Figure 17: Setup with non-counselling text

Figure 17 is directly analogous to Table 16, but in this case a non-counselling text (or several) is sent.

In terms of variables we can see that the independent variable is text sending and this variable can have three categorical states:

- No text sending
- Counselling text sending
- Non counselling text sending.

The dependent variables are:

- TAU help-seeking
- Direct response help-seeking
- Non-direct response help-seeking
- Non-direct response other
- Direct response other.

We now examine these variables with reference to the hypotheses.

4.1.2 Hypothesis 1.

Hypothesis 1 states that appropriate text messaging initiated by a provider to their mobile phones can speed help-seeking for those help-requirers in a student population who suffer from psychological distress.

In our experimental model, help seeking behaviours are represented by TAU help-seeking, direct response help-seeking and non-direct response help-seeking. The matrix shown in Table 22 can help us determine what may need to be measured and noted.

	TAU Help-seeking	Direct Response Help-Seeking	Non Direct Response Help-Seeking	Direct Response Other	Non Direct Response Other
No text	TAU(0)	DRHS(0)	NDRHS(0)	DRO(0)	NDR(0)
Counselling text	TAU(C)	DRHS(C)	NDRHS(C)	DRO(C)	NDRO(C)
Non-counselling text	TAU(N)	DRHS(N)	NDRHS(N)	DRO(N)	NDRO(N)

Table 22: Independent and dependent variable matrix

At pre-test, in the absence of any texting, TAU(0) will be the only element of this matrix that can be non-zero. DRHS(0), NDRHS(0), DRO(0) and NDR(O), representing response values at pre-test, are, by definition, zero. To demonstrate that help seeking has been speeded, we need to show that for a period of time after a text exhortation has been sent, the numbers seeking help increases compared to a similar time period during which exhortation texts are not sent. In other words, we must show that for comparative time periods

$$TAU(C) + DHS(C) + NDHS(C) > TAU(O)$$

4.1.3 Hypothesis 2.

Appropriate text messaging initiated by a provider to their mobile phones can increase help-seeking for those help-requirers in a student population suffering from psychological distress.

Consideration of Hypotheses 1 and 2 leads to a question, what is the difference between speeding up and increasing help-seeking? If an individual receives a text and as a result seeks help on the same day, but without the text would have sought help the following day, then certainly help-seeking has been speeded up, though not by much, just one day. This may be interpreted as speeding up of help-seeking, but not increasing it. If another individual receives help, and as a result seeks help within a week, say, whereas without the text he or she would never have sought help, we have certainly increased help seeking. If help-seeking is speeded up by two weeks, one month or a perhaps a year can we consider that we have "increased" help-seeking?

The point here is that "speeding up" and "increase" may be considered to be the same phenomenon, but over different time periods. What time period should we choose? There is an adage in business which states that "time is money". Perhaps there should be an equivalent adage in the psychology of distress which states "time is suffering". The time period to determine an "increase" may be considered relative to the course of the illness but for now we will simply note that increasing help seeking and speeding help-seeking are analogous phenomena, but involve different timescales. So, to demonstrate the veracity of Hypothesis 2, we must examine Hypothesis 1, but with varying time periods.

4.1.4 Hypothesis 3.

A stream of texts sent on a regular (weekly) basis to students, with one text a month exhorting help-seeking, will be generally acceptable to the student population.

This hypothesis will be tested using surveys, focus groups and the experimental model outlined above. "Other" responses, i.e. non help-seeking responses will be analysed by number and content to determine the extent and type of any objections to receiving texts.

4.1.5 Survey Methodology

We sought to evaluate the acceptability of the texting service outlined to students at a particular College in Ireland. At the time the surveys were conducted, approximately 80% of the 1000 or so full time students at the College were business students. A typical business degree course at the college takes three years to complete, so most students are in first or second year.

To ensure the best possible response rate, two groups of students were asked to complete a survey in situ which was distributed to them at the end of a lecture by the researcher. Once the surveys were completed they were collected by the researcher. One group consisted of first years attending a business lecture, whilst the second group were second years attending a business lecture.

For Study 1, we sought to determine the acceptability of texting in terms of frequency of texts sent, the topic of the text, e.g. mental health, sports etc, students' communication preferences and acceptance by gender.

As such, the survey questions (Appendix 1) were typically closed ended, allowing for nominal type responses, which were scored on a frequency basis. Study 3 (Appendix 2) was conducted with a different sample (second years compared to first years for Study 1) and so similar questions were included. Study 3 also sought information regarding students' attitudes to responding to texts, to determine what types of texts they would respond to and what proportion would not respond to any texts. Again, the survey consisted of closed ended questions allowing for a nominal response.

4.2 Experimental Infrastructure:

To implement this experiment we need a technical infrastructure which can:

- Send texts to all students

- Receive subsequent responses

- Record those responses

- Ensure that responses as they are received are relayed immediately for appropriate processing in accordance with standard college procedures.

4.2.1 Sending Infrastructure

Figure 18 shows the layout for the text sending infrastructure. Using a commercial SMS sending service (in this case Essendex) loaded with the mobile numbers of full time students, it is possible for student services personnel to access this service from any PC connected to the internet and type in a message to send to the students. Students can be categorised into groups and different messages sent to different groups. This service is used by many schools and colleges in the UK and Ireland to allow the school to send texts to parents, for example in the event of a child being absent or a general school closure, and in the case of a third level institution, to allow libraries send overdue reminders or lecture cancelled messages. Loading a database of student numbers over the internet to such a service is not unusual.
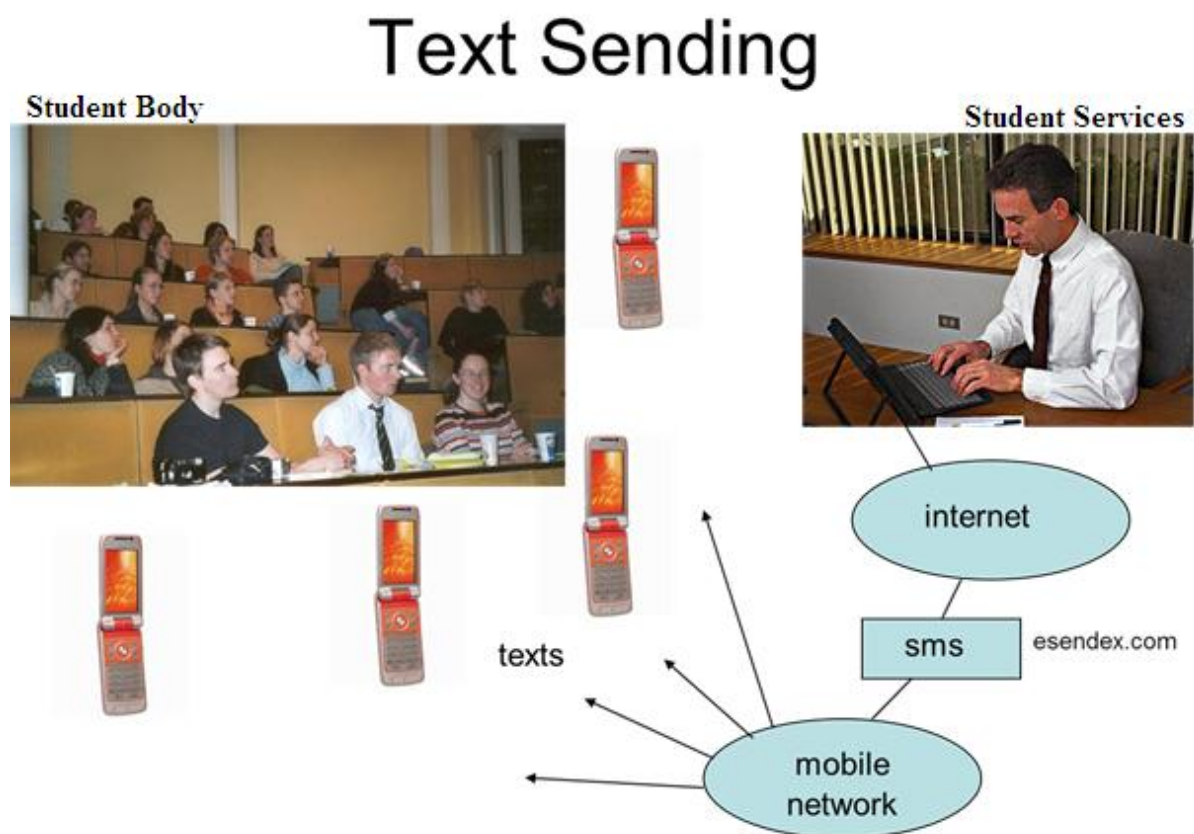

Figure 18: Text sending infrastructure

Figure 19 shows the interface used for text sending. The text is sent from NCI, the name of the institution, and this will appear in the FROM field in the received text on the student's mobile phone. In this case the student cannot directly hit the respond button on the mobile phone but must navigate to the number in the message body, highlight the number and then hit the respond button. The message is being sent to the NCI_Yr1 group which is the group containing the mobile numbers of all first years at the college. The message itself is as shown and the message can be sent immediately to all members of the group by clicking on send, or can be scheduled to be sent at a future time and date without any further intervention.

Figure 19: Text sending interface

4.2.2 Receiving Infrastructure

As mentioned, the text message sent typically contains a response number that can be called (voice call) or texted back (text). The infrastructure diagram in Figure 22 shows how responses are handled and measured. Text responses and voice call responses are handled somewhat differently. The number included in the sent text message is that of an advanced phone that has software which allows received texts to be forwarded on to another mobile phone. In common with most mobile phones incoming voice calls can be forwarded to another number either immediately or on "no answer". For "no answer" the phone will ring for approximately twenty seconds before the call is forwarded to another phone.

In our case, texts were copied immediately on receipt to the mobile phone of the student services officer for action as appropriate. The text remained on the advanced phone and so the number of texts could be counted, content could be evaluated and the mobile number of the respondent was also available.

Voice calls were forwarded after twenty seconds to the student services office to be dealt with in accordance with standard student services practice. These calls registered as missed calls on the phone, along with the number of the caller. The number of calls could be counted, though obviously there was no way of evaluating the content.

Extensive measures were taken in accordance with ethical practice to ensure that this advanced phone was always held at a secure location, always charged and always capable of forwarding calls and texts.

In terms of experimental setup, it is important to note that the response number is contained within the text sent and is not advertised in any other way. So any responses sent to this number must be as a result of the sent texts.

It is apparent that any direct responses can be recorded and measured. Leaving aside voice call responses for a moment and concentrating instead on text responses, we can readily ascertain from this system the numeric properties of the variables shown in bold in Table 23

Measurement of Response

Figure 20: Text response infrastructure

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	TAU Help-seeking	**Direct Response Help-Seeking**	Non Direct Response Help-Seeking	**Direct Response Other**	Non Direct Response Other
No Text	TAU(0)	**DHS(0)**	NDHS(0)	**DRO(0)**	NDRO(0)
Counselling Text	TAU(C)	**DHS(C)**	NDHS(C)	**DRO(C)**	NDRO(C)
Non-Counselling Text	TAU(N)	**DHS(N)**	NDHS(N)	**DRO(N)**	NDRO(N)

Table 23: Electronically captured variables

We shall explore later how to obtain, estimate or otherwise deal with the variables which cannot be directly measured by this infrastructure. Emphasis will be placed on text responses over voice as these can be analysed according to quantity and content.

4.3 Research Studies

Four studies (Table 24) were conducted to explore students' attitudes to receiving and responding to texts, and to measure the impact of text messaging on student help seeking behaviour. (A survey on receiving texts, a focus group on receiving texts, a survey relating to responses and a field trial to measure actual responses were conducted).

Study	Type	Receiving Texts	Responses	Behaviour
Study 1	Survey	x		
Study 2	Focus Group	x		
Study 3	Survey		x	
Study 4	Field Test			x

Table 24: Studies undertaken

A sample survey of 1st Year Students at an Irish third level institute (Study 1) was conducted to determine attitudes towards receiving texts. The students were present at a lecture on business, during which they were asked to complete the survey. Study 2 was a follow-up focus group involving 10 first year students who had taken part in Study 1. A second survey (Study 3) was conducted to determine which types of texts were most likely to elicit a response. Students were shown sample texts varying from impersonal to personal, and were asked to give their reactions. Guided by the responses of the surveys and focus group, a field test (Study 4) was carried out to determine the actual student responses to texts. On enrolment on a course with the College, each full time student is asked to provide his or her mobile phone number, and to indicate, via an opt-out system, if they are prepared to accept communications from the College. Over 95% of students typically agree to receive messages. This database of mobile numbers was utilized during the field trial. The researchers discussed messages with student support services, which then sent texts at a rate of approximately one a fortnight to students. Further details are given in the section on the field experiment.

4.3.1 Study 1: Attitudes towards receiving texts

The literature regarding texting to students reports on studies in which individual students were texted by a college with reminders of when assignments were due. There are also studies involving health interventions where participants are recruited onto a programme and sent texts at various intervals. At the time the study was carried out, there were no studies relating to a general student body being texted by college services, and so there was no way of knowing how students would react such messages. Obvious questions which arose were, "will students take offence at being sent these messages, perhaps considering them to be an

intrusion into their everyday life?", "what type of wording will be acceptable and what type of wording may cause offence?", "how often should messages be sent?", "is texting even appropriate?" and given that the research focus is mental health, how will students react to messages relating to mental health.

The survey also examined the attitude of students to texting communication compared to other forms of communication, such as email. Do they prefer to communicate via text or email? And will the general preferences carry over to communications from the College. Is texting, even if acceptable, the best way to communicate with students, at least according to themselves? The questionnaire is shown in Appendix 1.

Demographics

A total of 71 first year students (m=28, f=43) participated in the survey. Their average age was 19.6. All responses were complete and no records had to be removed before analysis.

Survey Results

We were most interested in whether students would accept messages being sent to them from the College on a regular basis. In general, the large majority would accept messages. Of the 71 students surveyed, only seven students would rather not receive texts from the College at a frequency of once a week or less.

However, the majority of students surveyed (41) would also rather not receive texts relating to mental health. The remainder (28) found such communication to be acceptable.

To determine the acceptability or otherwise of various types of texts, students were asked if they would object to receiving texts from the college relating to fees, careers, sexual health, exams, student union activities, mental health and sports. The results are shown graphically in Figure 21. A gender breakdown is given in Figure 22 and Figure 23.

We can see that the students found texts relating to mental health to be the most problematic, followed by texts relating to sexual health. Texts relating to exams appear to be the least problematic. There appears to be no significant gender difference as far as acceptability is concerned. To determine if the apparent objection to mental health texts and sexual health texts is statistically significant, we compare these types of texts with the acceptability of the
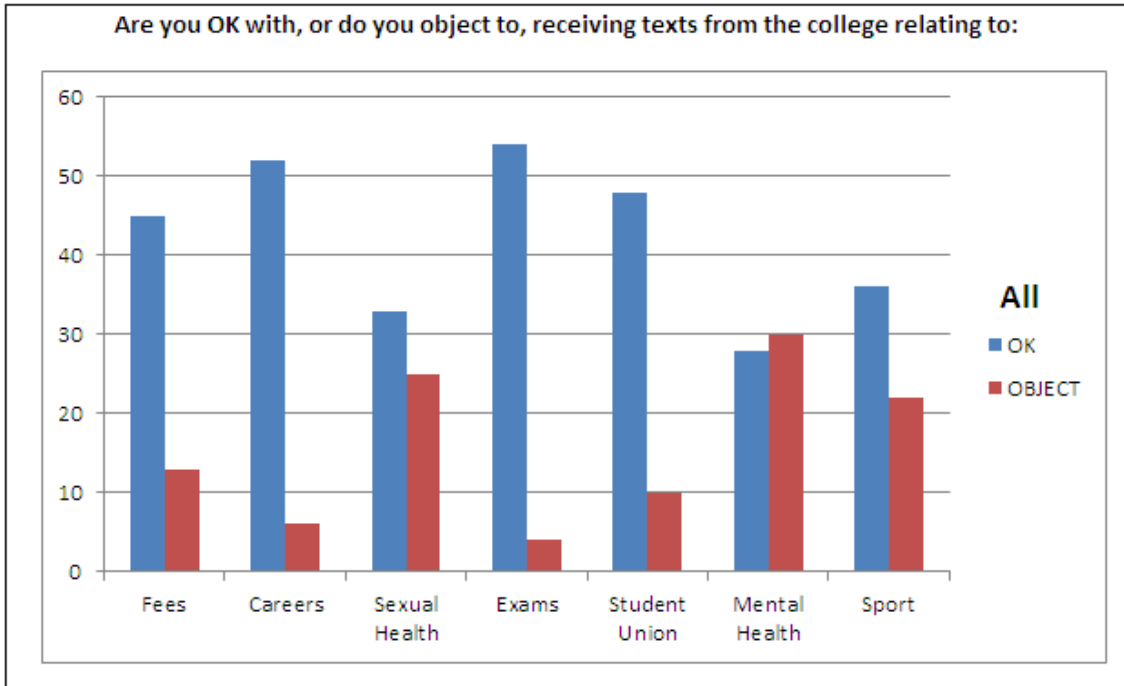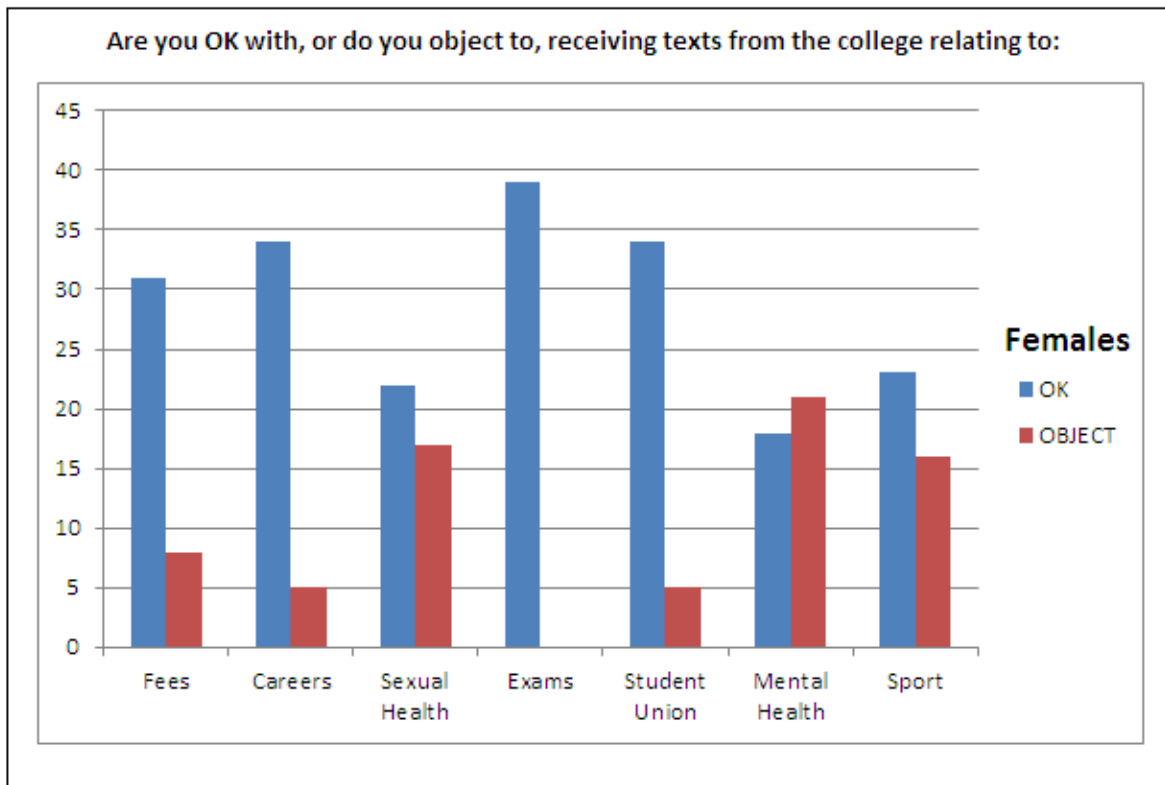
Figure 21: Graphed response - All

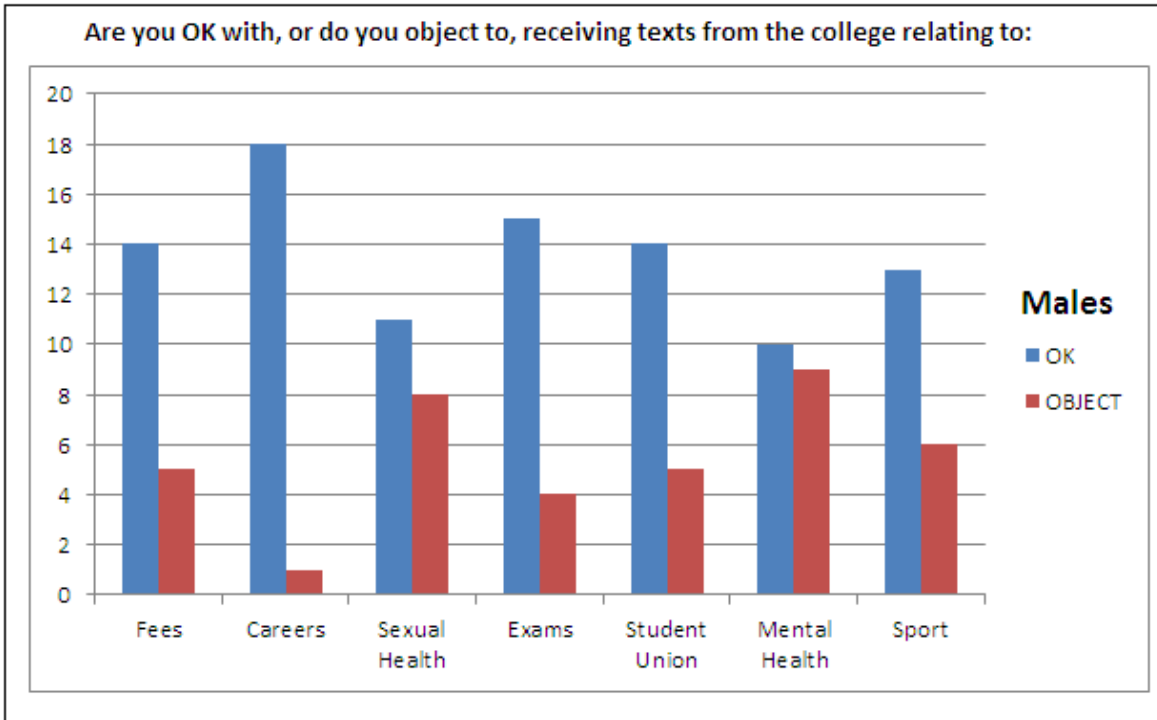**Figure 22: Graphed response - females**

81

Figure 23: Graphed response - males

other four types. The acceptable to problematic ratio for the 58 students whose survey answers allowed for comparison, normalised across the five types not involving sexual or mental health is 47:11. This will be used to determine if there the objections expressed by students to sexual and mental health messages are statistically significant. The appropriate ratio for females is 32.2 : 6.8, and for males 14.8 : 4.2. These numbers are rounded up or down for use in a Fisher exact test to provide the most conservative p value. In all cases a two-tailed test will be conducted. The values are given in Table 25 and Table 26.

	Non Problematic		Mental Health		
	Accept	Prob	Accept	Prob	pvalue
Total	47	11	28	30	.0004
Female	32	7	18	21	.0019
Male	14	5	10	9	.3133

Table 25: Fisher exact test results - mental health

	Non Problematic		Sexual Health		
	Accept	Prob	Accept	Prob	pvalue
Total	47	11	33	25	.0086
Female	32	7	22	17	.0262
Male	14	5	11	8	.4951

Table 26: Fisher exact test results - sexual health

It can be seen that for the total of male and female students there is a very statistically significant difference in the numbers objecting to both mental and sexual health texts compared to the number objecting to other types of texts. When females are considered in isolation, this significance remains statistically significant, but for males the significance falls short of statistical, perhaps because of the lesser number of males in the sample.

Considering the preferred mode of communication, text was the most preferred, particularly over email, though male participants suggested a slight preference for talk over text (see Figure 24). Given that communications between college and students is likely to be via email, with text a possible option and talk not an option for such communication, it is interesting that colleges continue to communicate with students by their least preferred mode. The 95% confidence interval for this ratio as determined by the modified Wald method extends from .0382 to .2591, amply demonstrating that students do indeed prefer to communicate by text as opposed to email.
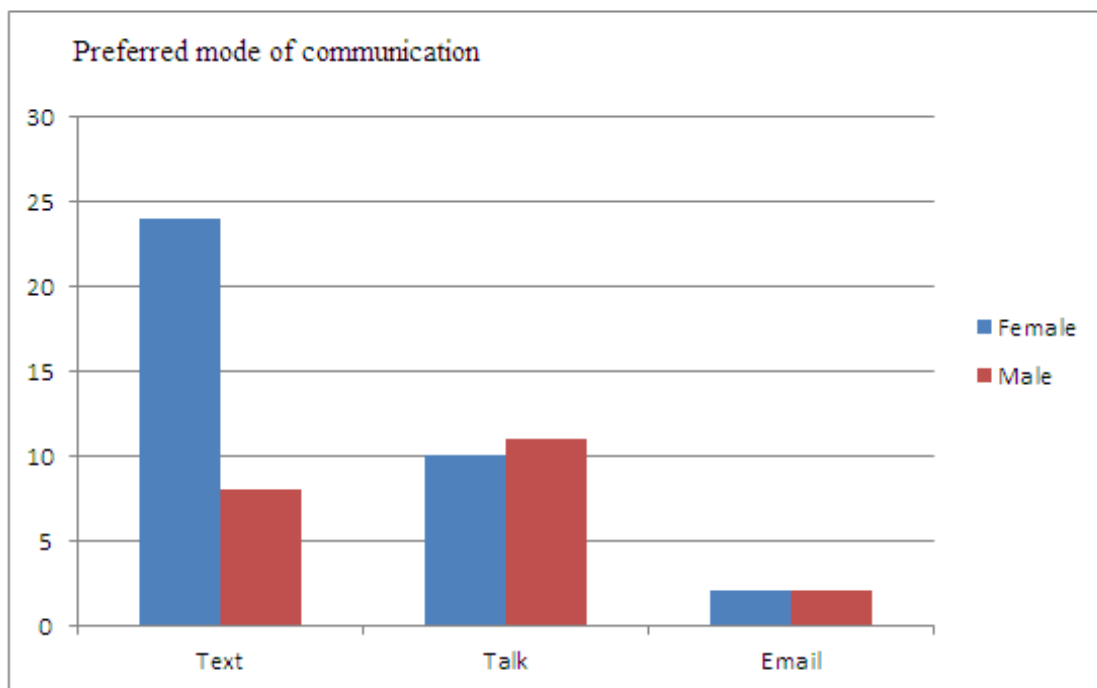
The proposed research involves sending out messages on a regular basis. Will this be seen as spam? Will the students appreciate the efforts the college is making to communicate

effectively with them? What is an appropriate frequency? To determine answers to these questions, the survey queried students on how often they felt it would be appropriate to receive texts from college. The answers are shown graphically in Figure 25.
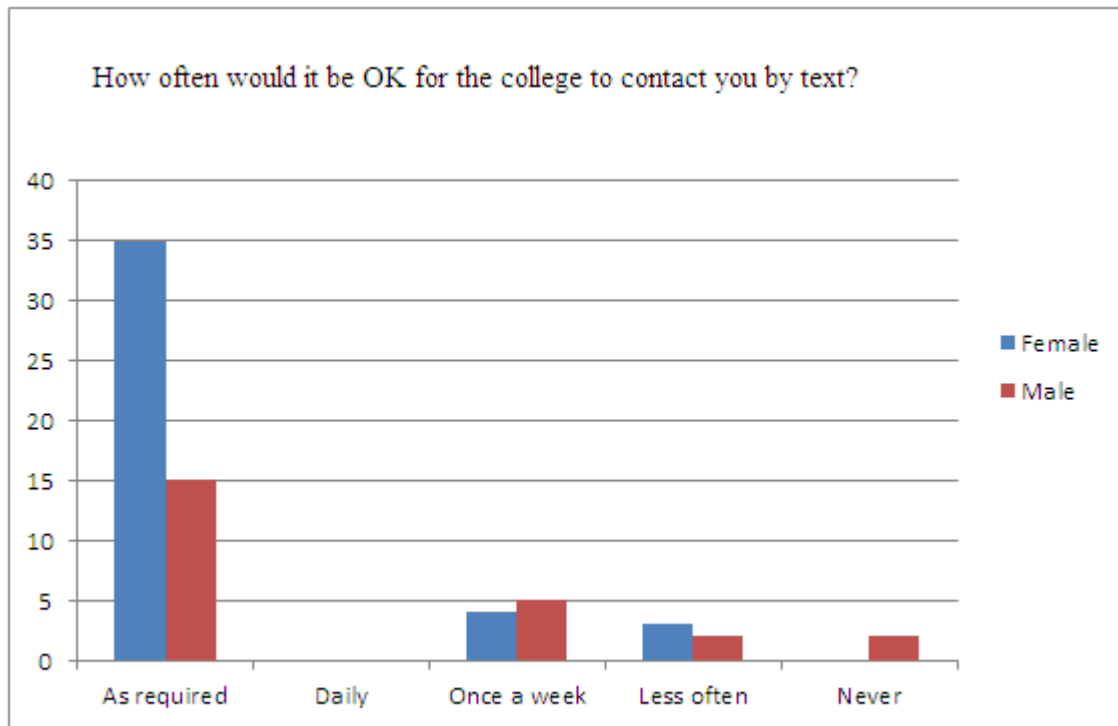
Figure 25: Frequency of contact

It can be seen that the majority of students (50) opted for receiving texts from the college as required, with nine suggesting once a week. So 59 are happy to receive texts at a frequency of once a week or less, though we may note that no one opted for the daily message. There is no particular difference between genders in this regard. Two males would prefer not to receive any texts from the college. In total seven students would rather receive texts at a frequency of less that once a week. Again using the Wald method this 7:59 ratio suggests that the confidence interval at the 95% level extends from .0494 to .2060. We can therefore surmise that at least 80% of students have no objection to receiving texts at a frequency of once a week or less.
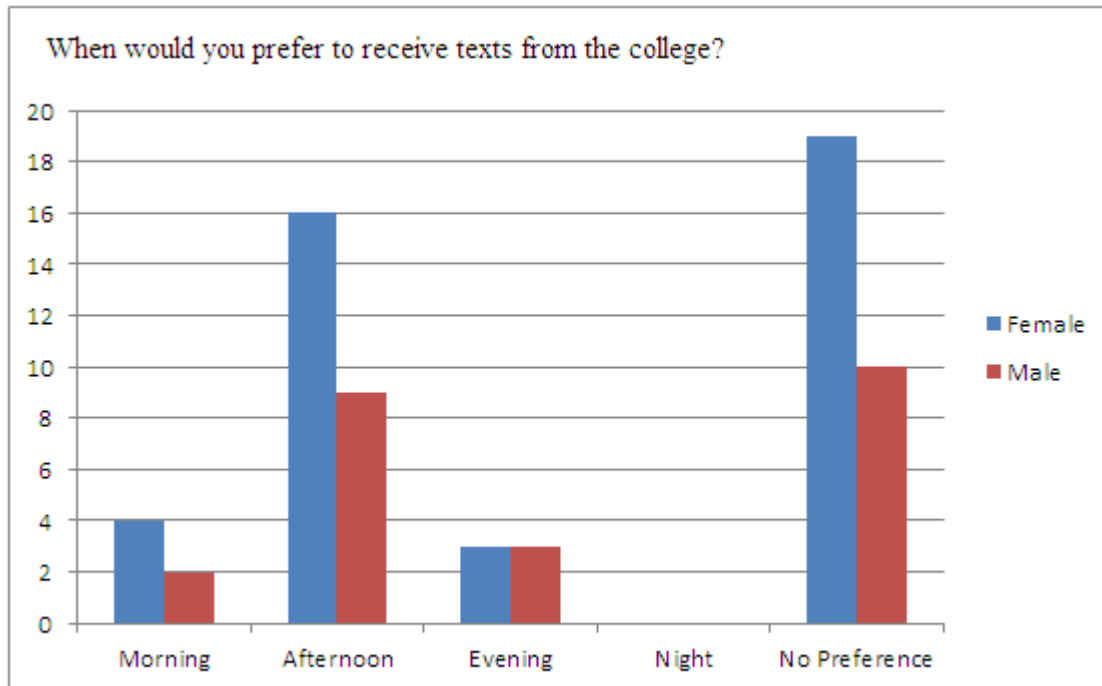
Figure 26: Timing of texts

When is the most acceptable time to send texts for receipt by students? Responses to this question are graphed in Figure 26. Again, there are no apparent gender differences. 29 students had no preference compared to 37 who had. Sending a text in the afternoon would suit the preferences expressed by 54 or 82% of the students, suggesting that texts should, where possible, be sent at this time. Night time, perhaps unsurprisingly, receives no support from those expressing a preference.

Conclusions

From analysis of this survey we may conclude that for first year students:

- Students object to receiving mental or sexual health messages more strongly than other types of messages.
- A substantial proportion of students object to receiving mental or sexual health messages.
- Texting is preferred to email for general communications by at least 75% of students.
- At least 80% of students have no objection to receiving texts at a frequency of once a week or less.

- The afternoon is a suitable time for sending out texts, while night time sending is to be avoided.
- At least 69% of students have no objections to receiving texts which are not related to sexual or mental health.

4.3.2 Study 2: Reasons for Acceptance and Rejection of Messages

Subsequent to the survey a focus group was conducted with first year students to gain further insights into the findings from Study 1. A total of ten students (m=4, f=6, mean age 20.2) participated, each of whom had completed the initial survey.

In a general discussion on the College sending texts to students, all members of the focus group stated that they would have no objection to receiving such texts. There was general agreement that it was good to hear and be made aware of the various student services. It was felt that if certain people received texts and others did not, those who did not would be annoyed if they missed out on something they felt they needed to know. In a discussion on the acceptability of texts, there was wide agreement that students should not feel annoyed at receiving them, even if they dealt with health and personal issues, with one participant suggesting, to general agreement, that such texts were an extension of the types of advertisements seen in toilets. One female participant, however, strongly objected to texts being sent to her which related to sexual health, feeling these would be invasive, but all other participants could see benefits of such messages.

When asked to express their feelings on receiving texts informing students that fees were due, all stated that they would object to such texts, even if the message was general in nature and not specific to the student. They would feel pressurised by such texts and did not want to receive any texts which might add to the pressures of being a student. All agreed that a "lecture cancelled" message would be very useful.

Asked about the suitability of texting compared to other methods of communication such as posters or email, texting was considered superior, with one participant stating that he "wouldn't read a sign on a door, but have to read text". There was also consensus as to the unsuitability of email correspondence from the college as an information channel with one participant stating "more likely to read texts than emails" and another, "no-one reads college emails, too difficult, too much security".

There was also general agreement on the benefits of repeated messages, with one participant noting "may not need the service on the first text but could use it on reminder". The interval between repeat messages was discussed and a consensus of one month was reached after discussion, with one participant stating "no one will remember the first message at all after two months". Participants were shown an example of an MMS (a picture message) showing an image of a counsellor along with some text encouraging students who may be in need to contact her. There was some concern that not all students had MMS capable phones, and that sending and receiving picture messages was not straightforward. However, all participants thought that it was useful to see the picture showing the face of the counsellor so that if required, they could approach the person. "Putting a face to the name", as suggested by another participant was also felt to be a useful feature.

The MMS message included the wording "See the counsellor now". One participant felt that this was a good "in your face" message and was appropriate as some individuals may need an "extra push". All other participants agreed with this, with no-one objecting because, in the words of one participant, it was "in a good cause".

All participants felt that they would be more likely to react to the visual impact of a picture message (MMS) compared to a standard text (SMS).

From the discussion we may surmise, that for these first year students, texting was acceptable providing it did not add to the pressures of being a student. There was some objection to receiving messages relating to sexual health, though all seemed happy to receive a "talk to the counsellor" type message. There are perhaps, lessons to be learned here regarding the wording of texts sent to students. The "See counsellor now" wording was considered to be somewhat "in your face", yet acceptable. It may be that in choosing wording of texts to send to students, the difference between "in your face" and invasive is relevant.

The focus group and previous survey suggest that email is simply not an option for communication as far as students are concerned, a view reflected in an article with the charming title "Email is for Old People" (Carnivale, 2006).

Whilst the impact of Multi Media Messages may be considered greater than for standard texts, the students understood the difficulties, largely technological, associated with these types of messages. We may mention here that bulk sending of MMS messages is vastly more complex and costly than is the case for SMS, and so SMS forms the basis of this research.

Sending a weekly stream of messages to students relating to college life can be a challenge in terms of creativity. It is possible that repetitive messages may become routine and boring for students. When sending texts relating to careers, or sports, or counselling, the issue of how often one can repeat non news type messages may become important. For instance, in college sports, there is a frequent turnover of news, today the college plays such a college in one sport, tomorrow it may be another sport and so on. Academic life also fluctuates to an extent, with exams at the end of semesters, or occasional lectures. Counselling is a more constant endeavour. Effectively, the same message is sent in each counselling text. It is important to the sending patterns of the texts that students find monthly repeats acceptable, and this information can be used to determine the sending frequency of different types of texts.

4.3.3   Study 3: Attitudes towards responding to texts.

Following on from the focus group a further survey was conducted amongst 2nd year students (n=45, m=26, f=19, mean age 20.16). These students had not taken part in any previous survey or focus group. This study was designed to gain insights into how students might respond to various texts. Certain other issues concerning receipt of texts not covered by the previous studies were also investigated. As this cohort of students were 2nd years compared to the 1st years of the previous studies, questions regarding messages relating to sexual and mental health were repeated. The questionnaire is shown in Appendix 2.

Receiving Texts

Asked how they wished to be communicated to by the College, a majority (31) preferred text compared to 12 for email and 1 for phone, as shown in Figure 27.
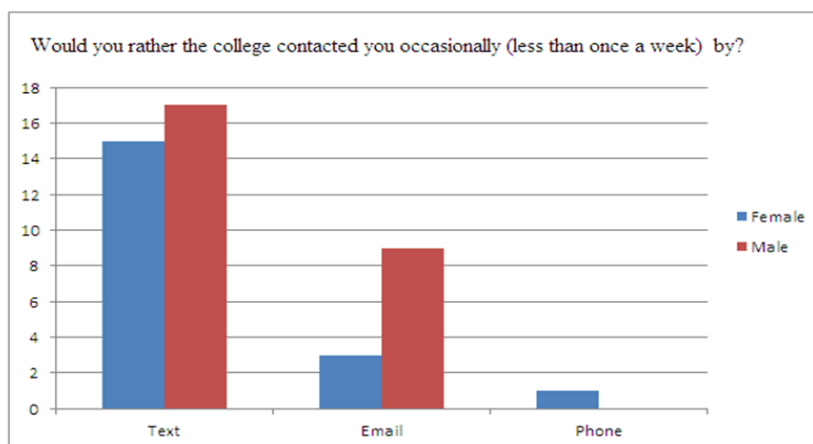

Figure 27: Preferred mode of contact

Using a 95% confidence interval, this suggests that between 58% and 84% of students would prefer to be contacted by the college via text rather than email. Considering that texts may be seen as intrusive, this is highly relevant to this study and in keeping with the general preference expressed for texts compared to emails in the previous survey of first year students.

As shown in Figure 28, a majority of students (31) had no objection to receiving various types of texts from the college.
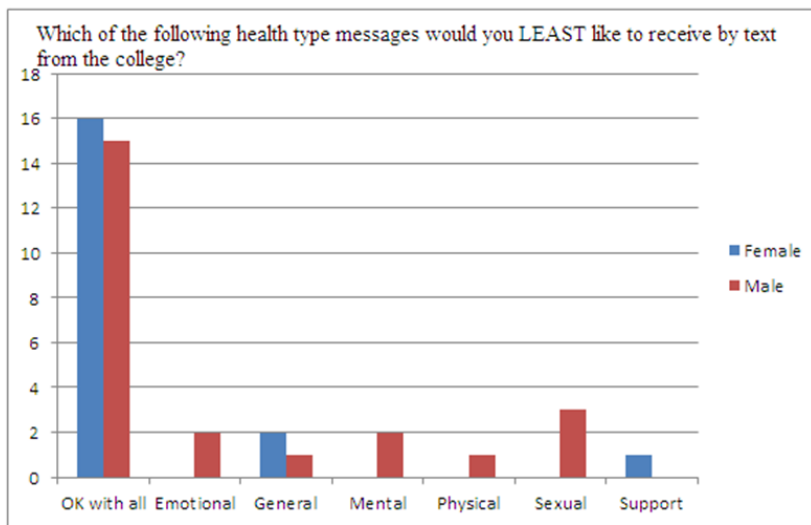
Figure 28: Least acceptable message type

A total of 13 students objected to receiving at least one type of text. This is a quite different result compared to the first survey. Even if all the objections related to mental health texts, the difference between this result and the result from the previous survey is statistically significant, with a Fisher exact test yielding a two tailed p value of .0278. This difference is difficult to explain. The students are in second year compared to first year for the previous survey, but the mean age difference between surveys is just six months. The male female makeup for the second years is 26:19 compared to 28:43 for the first years and the wording of the questions, though similar, is not identical.

Mirroring the results of the previous survey, a strong majority (36) stated that they had no objection to receiving texts from the college at a frequency of one a week (Figure 29). A minority (7) expressed an objection, yielding a 95% CI of .6971 to .9220 for no objection.
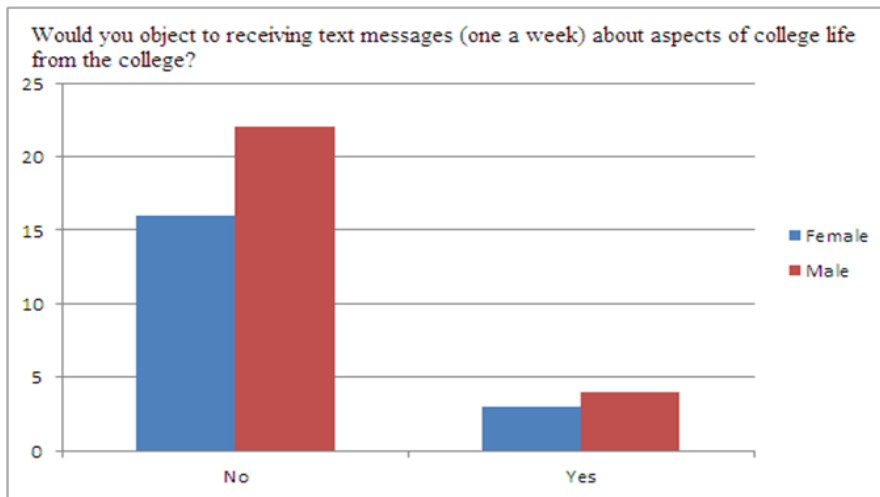
Figure 29: Object to weekly messages
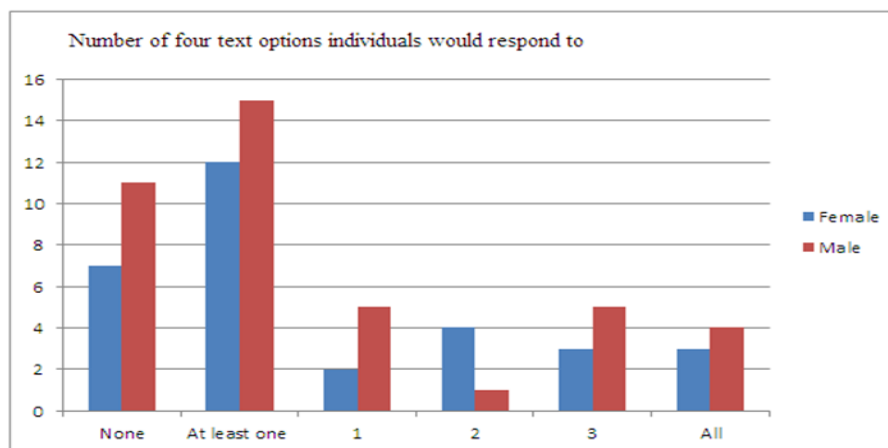
Figure 30: Number of texts student would respond to

Responding to texts

Four questions in the survey involved responses to various type messages. Two asked students if they would respond to questions about how they were getting on at college, one asked if they would complete a risk assessment sent to their mobile phone and the final question asked if they would respond to sample counselling type messages. For each question the students were given the option of answering that they would not respond, with the option for the counselling message stating "I wouldn't respond to any, no matter what problem I had."

15 students stated that they would not respond to any of these messages, while 27 would respond to at least one (see Figure 30).

When offered the option of completing several personal types of health risk assessments (Figure 31) on their mobiles, a majority (29) said they would not respond. Five had no objection to completing them all.
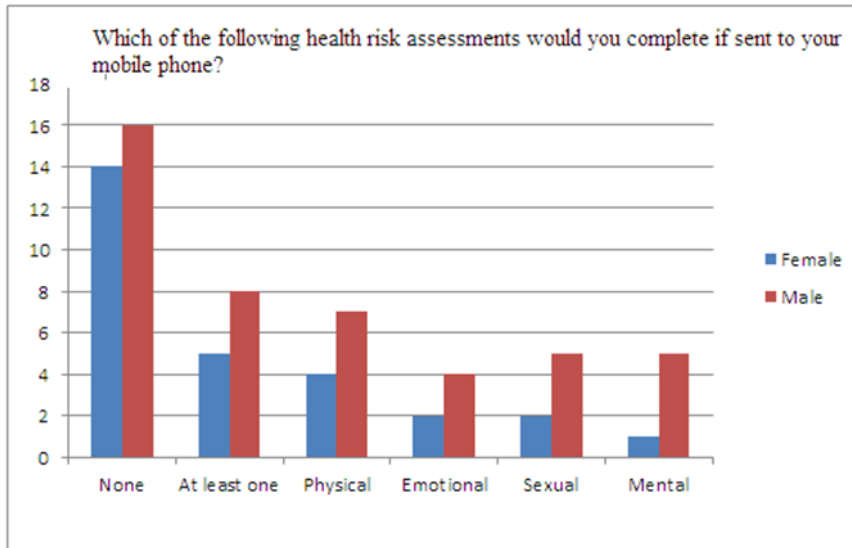
One of the four questions asked "If you were having problems, which are you most likely to respond to" with four counselling type texts given as possible answers and a fifth option of: "I wouldn't respond to any, no matter what problem I had". 26 of the 46 students chose this final option (Figure 32).

Figure 32: Counselling text response

These students would choose not to respond no matter what problem they had. The survey asked the student to give a reason for his or her answer and these answers are shown in Table 27. It can be seen that the answers here are in line with the general literature on barriers to help seeking. There is ev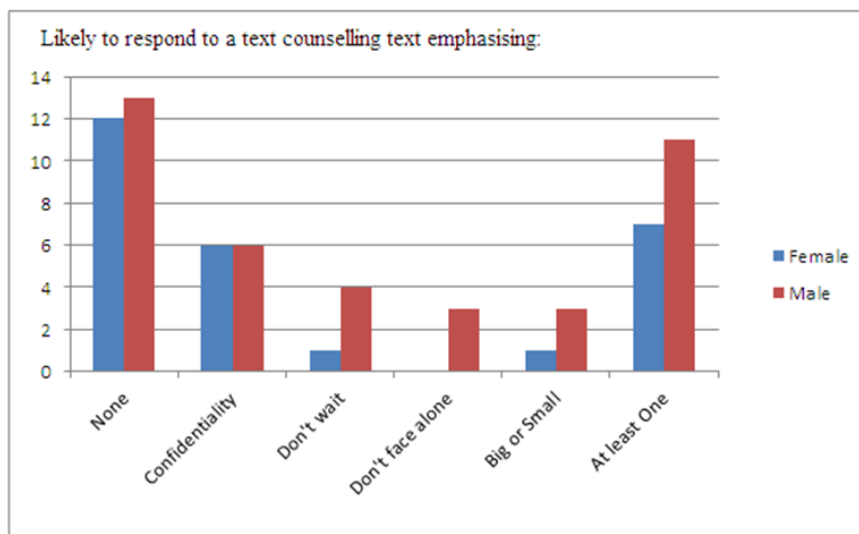idence in the literature to suggest that intentions to seek help are only weakly correlated with actual help-seeking. It may be interesting to consider if the intentions to abstain from help-seeking found here are similarly correlated with a lack of help-seeking behaviour.

Prefer to solve on my own
I like to deal with my own problems
This sort of stuff is very personal nature to me. Don't wash your dirty linen in public
My life is my business

Lack of Insight
If had problem would talk to someone but can gen sort it out myself. Not overly stressful, plan ahead
Could deal with it more personally outside college
Have family and friends to help with any problems
I would have other people to talk to
I probably would not come to college with a problem at all unless it was something got to do with study and lectures

Confidentiality, anonymity
Don't feel I would ever talk to someone in college about a problem
I wouldn't feel happy talking to someone else due to confidentially issue
Confidentiality issues. Who would read them
Confidentiality. How would you guarantee this ?
Texts impersonal and you don't know who is sending. Info asked for is too personal to talk with strangers especially over this method of communications

Table 27: Reasons for non-response

20 of the 46 students would respond to one of the counselling texts if they had a problem. This proportion suggests that at a CI of 95% between 30% and 58% of students would respond, though not necessarily by text, to a counselling message sent by text. 4% per annum of a student population use the college counselling services, so this 30% to 58% intention figure can be compared to a 12% accumulated usage figure over the 3 year duration of a typical course at the College.

Of those who would respond to a counselling text, the text most likely to elicit a response emphasised confidentiality (12) compared to five who choose the text highlighting early intervention (don't wait until it gets out of hand), four participants choose the text suggesting that no problem was too big or small and three choose the text which emphasised that they need not face the problem alone.

Again this reflects the general literature on barriers to help seeking where stigma is cited as the number one issue, and can inform the wording of texts sent as part of the field study.
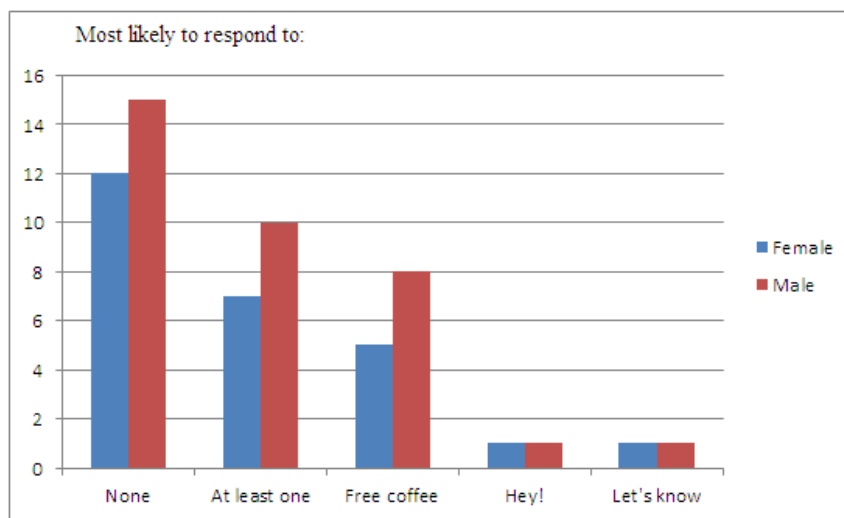

Figure 33: Most likely to respond to - q1
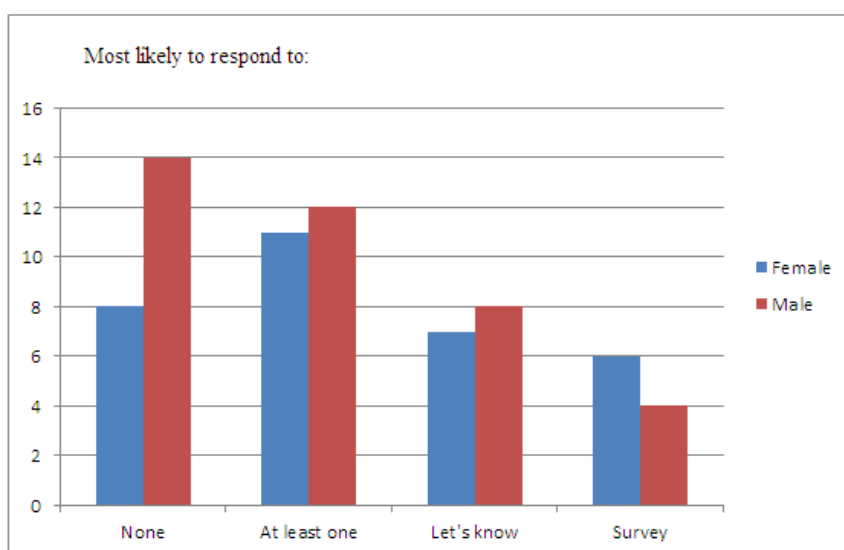
Figure 34: Most likely to respond to - q2

93

When offered two sets of texts concerning college life which sought a response from students, 19 stated that they would not respond to any, whilst 28 would respond to at least one text, of which 9 would respond to a text in one set only whilst 19 would respond to a text in both sets. 11 stated they would respond to an incentive text (free coffee) as shown in Figure 33 and Figure 34.

4.4 Field Experiment

Once counselling services had agreed to implement the texting intervention, ethical agreement for the research was obtained from the college's postgraduate and research committee and the infrastructures described previously were put in place. Processes were drawn up to ensure safe operation of the entire system, and to ensure that this was an intervention conducted by the counselling service. The counselling service, and not the researcher, interacted with students, sending messages, deciding on wording and dealing with responses. The function of the researcher was to count, compare and analyse.

The intervention was conducted over two academic years, with texts being sent to students in semester one of academic year one, but no texts sent in semester two of this year. In academic year two, texts were sent in both semesters. The timing, wording and all other aspects of text sending were in accordance with the requirements of the counselling service, and so the opportunities for research were limited compared to an intervention conducted for the purpose of research. However, this study was the first of its kind, and as such provided valuable opportunities for learning.

4.4.1 Mobile Number Databases

Initially, for texts sent in the first semester of the first academic year, the college database of full time student records contained 1044 student records of which 752 included a mobile number. Therefore a database of 752 records was compiled which included the student's stage at college (year 1, 2 etc.), but not, for operational reasons, gender. This database is designated as Database #1 as shown in Table 28.

Database #1	
Yr1	387
Yr2	234
Yr3	120
Yr4	11
Total	752

Table 28: Database #1

By the second academic year, all students were asked for their mobile phone numbers by the college at registration and so the numbers for almost all full time students were available, broken down by year and gender as shown in Table 29.

Database #2			
	Female	Male	Total
Yr1	181	256	437
Yr2	159	186	345
Yr3	127	126	253
Yr4	2	16	18
Total	469	584	1053

Table 29: Database #2

4.4.2 Texts Sent

Over the course of the intervention, 21 texts were sent to students, 6 texts to Database #1, and 15 to Database #2. In sending the first text to Database #1, one wording was sent to first years welcoming them to college, and a different wording was sent to other years to welcome them back to college. The texts sent are shown in Table 30 to Table 33. These texts are assigned to four classifications, Counselling texts, Academic texts, Forceful texts and Other texts. Those which specifically mention "Academic" or "Exams" are assigned to Academic. Texts which are particularly direct are classified as Forceful. Those which offer help for more general non-academic type issues not related to any particular situations, are designated as Counselling texts. The remainder are designated as "Other".

Texts Sent – Counselling
Hi Hope the new college year has started well. If not and you need to chat, call or txt Name in student services on num
Hi Student Support here. Anything troubling you? How about having a chat with our Counsellor. Don't wait. Text or call num
Hi Student Support here. Anything troubling you? How about having a chat with our Counsellor. Don't wait. Simply text back and we'll do the rest num
Hi all. Anything bothering you? Are you feeling down? Call or text the Col counsellor now at num. Strictly confidential. Feel better!! Student Support!

Table 30: Counselling texts sent

Texts Sent -- Academic
Hi Just to remind you about academic support. Want help with writing essays, projects or studying ? Call or text name @ num
STUDENT SUPPORT Click link re Maths Support.   Txt num URL :http://tinyurl.com/maths
Hi Check out the message from accademic support below. We're here to help. Click: http://tinyurl.com/study Text r call back num
Hi. Learning support here at Col. Overcome concerns about academic performance. Want help writing essays studying or exams? Call or txt name at num
You're part of the Col team. So are we. We all want to see you do well. If you need academic support txt or call us at num
Hi All. Exam time! If the stress is getting to you get in touch. We're here to help. Call or text Student Services on num
Hi All. Student Services here. Exams just over! If the stress got or is getting to you just get in touch. We're here to help. Call or text us on num
Welcome back! Check out Col bebo page bebo.com/col Bebo film comp entries due - Cash prize! Exam results are out & if u need 2 chat txt r call num

Table 31: Academic texts sent

Texts Sent – Other
Hi Welcome back. We've opened a garden in the courtyard so check it out. Any questions contact us in Student Life by talk or text at num….(Sent to 2nd,3rd,4th years)
Hi Welcome. We at Student Life aim to make your stay here as pleasant as possible. Any questions just contact us by talk or text at num … (Sent to 1st years)
Sport and recreation program now up and running. Clubs societies available in all areas of interest. For more info call or text name at num…
Hi … provides GP services to full-time students at the medical centre. Cost is X per visit. More info text or call student support on num
Hi from Career Service. Get advice now. Career choices. Course options. Want help with ur future ! Call or tex tnum
Make the most of your time at Col. Join active Clubs (Rugby Swimming) & fun Societies (Out Poker) on sign up day date. 4 info text or call num
Hi from Col Careers service. Sign up now to receive the weekly careers newsletter - Text your email address to numor email email_address
Student Services here Health alert Suspected illness outbreak If u have not been vaccinated for MMR this facility is available from the Medical Centre
Become a Peer Mentor & help new students settle into college life Opportunity 2 develop leadership & organisation skills at Col More info txt num

Table 32: Other texts sent

Texts Sent – Forceful
Student services here International studies show that a number of students self-harm. If u self-harm why not get it sorted. Call r txt counsellor at num

Table 33: Forceful texts sent

4.4.2.1 Wording of texts

Whilst counselling and student services determined the wording of messages, the researcher could influence such wording in accordance with the theories of persuasion outlined in the literature review and in accordance with the literature on barriers to help seeking. The persuasive elements of captology were incorporated into the means of sending, namely texting. Other persuasive elements from theory which were incorporated into the wording were incentive terms such as "feel better", scarcity terms such as "don't wait" and a term to help overcome the stigma barrier to help-seeking "strictly confidential". One particular wording merits special mention. Persuasion theory suggests that direct people are more likely to respond to a direct message, while less direct people are more likely to respond to a less direct message. It was felt that one of the texts designed to encourage help-seeking should be direct, not specifically to test any theory, but so as not to exclude such students. The text was "Student services here International studies show that a number of students self-harm. If u self-harm why not get it sorted. Call r txt counsellor at num". However, as will be shown, the effect was quite distinct, to the extent that a theory could be tested. This text was classified as separately as forceful. It also provides an example of unintended consequences.

4.4.3 Response Texts Received

We anticipated that when a text is sent out, it will generate a number of responses over a period of time. When a series of texts are sent out, responses will be similarly generated. How long a period is reasonable to help determine that a response was generated by a particular text? If a first text is sent, followed by a second text and then a response is received, how will we know if this is a response to the first text or the second text.

4.4.3.1 Time Intervals

The time over which a response is measured also impacts on whether we can determine a speeding up or increase in help-seeking. If we send a counselling text out on day one, and receive a number of responses on the same day, it will be possible to compare the help-seeking generated on that day with the help-seeking which occurs on a standard day, and

perhaps note an increase. If we allow a response period of a week, we may compare the help-seeking generated over the course of the week after the text was sent, with help seeking over the course of a standard week.

If (as is likely) most responses to the text occur shortly after the text is sent, then extending the period in question to a week will, compared to the one day period, lessen any proportional increase in help-seeking, and make determination of a statistically significant effect more difficult.

To determine if texting can in any way improve help-seeking, we will consider a period of two working days. Given that four counselling texts were sent, we may be able to determine if, over the course of eight working days, texting generated an increase in help-seeking. This may appear to be modest, but if an increase can be shown, interventions can in future be tailored to maximise the number of counselling texts sent, and thereby deliver a sustained increase in the level of help-seeking.

The two working day interval will commence on the day the text is sent and continue up to the commencement of the third working day after the text is sent.

To illustrate this, we may consider the month of March, when four texts are sent, one each on the 4th, 13th, 20th and 26th. Figure 35 shows how the intervals are determined. We start the measuring period on the 2nd of March, and so, as this date is a normal working day, as is the following day, this first interval consists of the 2nd and 3rd of March. Interval 2 commences on the 4th. Responses received on the 4th and 5th occur in this interval. Interval 3 commences on a Friday and so continues to the following Monday. Interval 4 is an unsurprising 10th and 11th. Interval 5 is a single day to allow the next interval to commence on a day a text is sent. Interval 6 is somewhat longer as it takes in the public holiday that is St Patrick's Day, but still only covers two working days. The remaining intervals in Figure 35 will be self-evident.

The period for the text sending and receiving extended over three academic semesters, or 39 weeks. Converting these time periods into intervals as described above gives 80 Intervals.
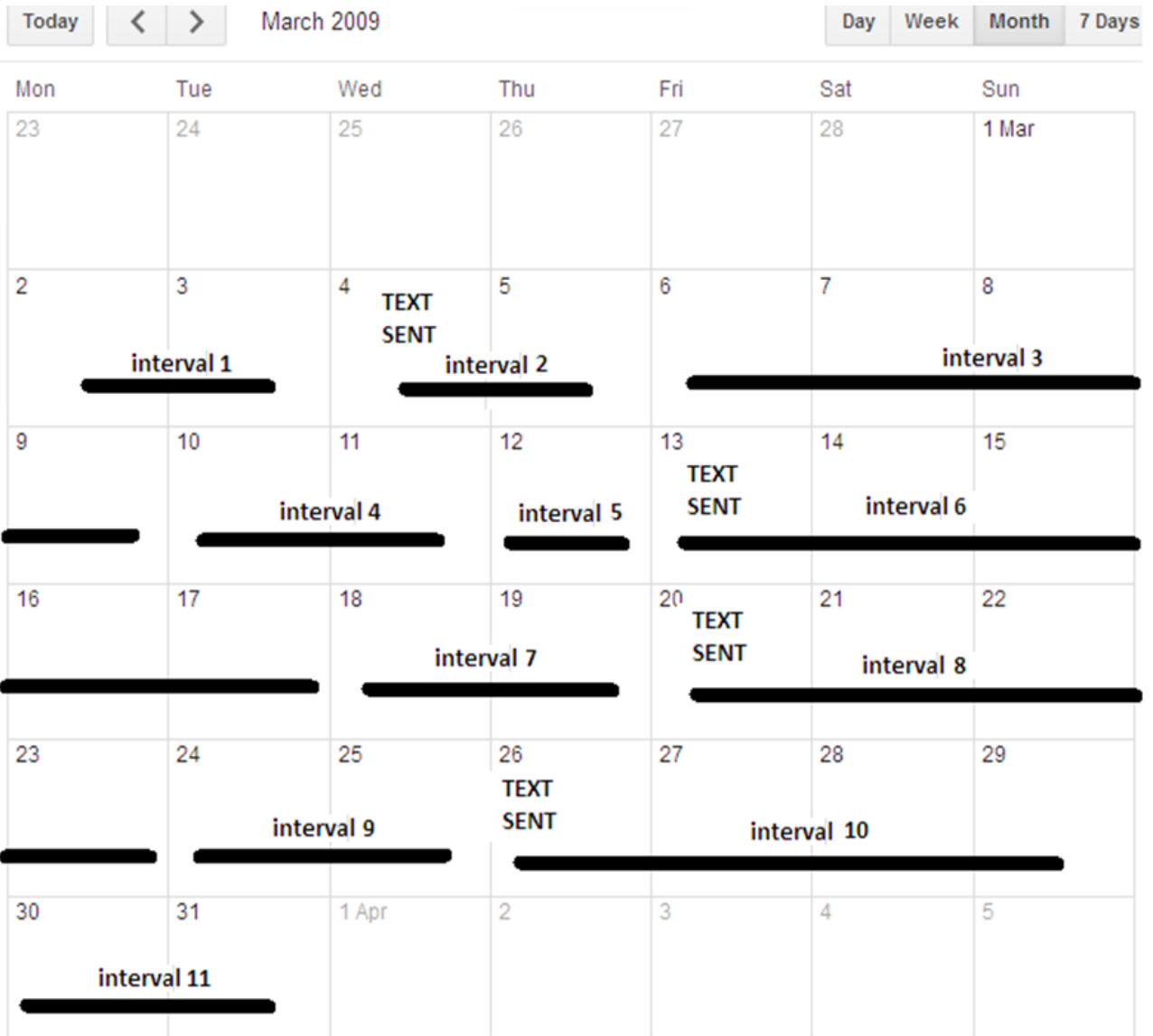
Figure 35: Time intervals for measurement of responses

4.4.4 Classifications

Received texts were classified into four categories matching the classification system for sent texts, namely Counselling, Academic, Forceful and Other.

The criteria for classification are shown in Table 34 along with examples.

Counselling:
Text expressed a general concern and not an academic concern, and expressed distress.
Example: I'm feeling very down, what should I do?
Text requested a meeting or appointment with the counselling service.
Example: Would it be possible to see you?
Academic
Text expressed an academic concern
Example: I worried about mu course and would appreciate some extra tuition with maths
Forceful
Text suggested a strong objection to receiving a text.
Example: That is *** outrageous.
Other
Texts not included in any of the above categories, typically relating to sports, careers and general queries.

Table 34: Classification system for received texts

4.4.5 Responses

A total of 135 texts were received. However, 50 of these were in response to one text inviting students to text in an email address if they wished to receive a careers newsletter. The second most responded to message generated 7 responses. This careers text is therefore an outlier and will be excluded from further analysis. Of the 85 texts received and considered for analysis, the classification breakdown is shown in Table 35.

Received Texts	
Counselling	16
Academic	25
Forceful	2
Other	42
Total	**85**

Table 35: Received texts

A total of 65 separate individuals were involved in sending the 85 texts. The 16 counselling texts received were sent by 14 individuals.

4.4.5.1 Reworked Responses

To preserve anonymity we will not show the actual responses here. However, we can show versions of the responses which have been redone to maintain the essence of the response whilst maintaining anonymity. This will be done for texts which are of category Counselling, and Forceful as these are essentially the ones we are interested in. The outcome is shown in Table 36 and Table 37. The texts, original and redone were shown to five individuals, who compared each of the original and redone for similarity and marked according to a kappa rater test.

Redone Counselling Texts
I want to avail of the counselling service
I am in big trouble and I need help.
Is it possible to make an appointment with you
I have been absent from college for a while but want to try and stay.
Can we meet
I'm afraid I don't know where to turn. I'm worried I might smell badly.
For personal reasons I am finding it difficult to adjust to college and am very worried.
I would like to make an appointment
I want to have a talk.
Please contact me. I need to talk with you.
I need to see you about college
Any chance of a chat? I don't know what I'm doing and need to talk
My friend is suffering from the blues just now and I can't really cope. Can you give me advice
Can I make an appointment soon?
Can I have an appointment with the counsellor?
Is there an appointment available?

Table 36: Redone counselling texts

Redone Forceful Texts
oh god. That's b******
Do not send any more messages

Table 37: Redone forceful texts

4.4.6 Sent-Response Matrix

A matrix mapping sent texts to responses is shown in Table 38. This shows the numbers of texts received broken down by sent classification and received classification. The matrix also shows the number of texts of each classification sent, and information on the number of texts received within the sending interval (i.e. within two working days of the text being sent) and received outside these particular intervals.

Sent Type	Counselling	Forceful	Academic	Other	Within intervals	Outside intervals	Total
Number sent	**4**	**1**	**8**	**9**	**22**		
Counselling	11	0	0	1	**12**	4	**16**
Forceful	0	2	0	0	**2**	0	**2**
Academic	4	0	15	2	**21**	5	**26**
Other	7	0	3	18	**28**	13	**41**
Totals	**22**	**2**	**18**	**21**	**63**	22	85

Table 38: Sent and Received texts matrix

Table 39 shows the number of counselling texts received within the sending interval for each counselling text sent:

Sent	Database # sent to	Counselling texts received within interval
Counselling Text 1	1	3
Counselling Text 2	2	4
Counselling Text 3	2	3
Counselling Text 4	2	1

Table 39: Counselling texts distribution

Before we consider the hypotheses in the light of the data, we shall examine the data for trends relating a student's gender or year at college. The response data, organised for this purpose, is shown in Table 40 to Table 43.

Database 1						
Year	In database	Coun	Acad	Other	Total Response	Total Individuals
Yr1	387	3	7	9	19	16
Yr2	234	1	1	3	5	2
Yr3	120	0	0	0	0	0
Yr4	11	0	0	0	0	0
N/a					1	1
Total	752	4	8	12	25	19

Table 40: Received texts classification for database 1.

Dartabase 2 - female						
Year	In database	Coun	Acad	Forceful	Other	Total Response	Individuals
Yr1	181	1	5	0	3	9	7
Yr2	159	4	5	0	3	12	9
Yr3	127	1	0	1	2	4	3
Yr4	2	0	0	0	0	0	0
Total	469	6	10	1	8	25	19

Table 41: Received texts classification for database 2 (females)

Database 2 - male						
Year	In database	Coun	Acad	Forceful	Other	Total Response	Individuals
Yr1	256	2	5	1	9	17	15
Yr2	186	2	1	0	8	11	4
Yr3	126	0	1	0	1	2	2
Yr4	16	0	0	0	0	0	0
Total	584	4	7	1	18	30	21

Table 42: Received texts classification for database 2 (males)

Database 2 - Gender-Year Unavailable					
Coun	Acad	Forceful	Other	Total Resp	Individuals
3	1	0	1	5	1 to 5

Table 43: Received texts classification for database 2 (gender not available)

We note from Table 38 that 63 responses are received within one interval (two working days) of a text being sent, compared to 22 sent outside these intervals giving a proportion of 63/85 for within interval responses. The CI for this proportion at 95% confidence level is .64 to .82.

We may conclude that the majority of responses will be received within two working days of texts being sent.

11 of the 14 individuals who sought help from the counselling services did so within one interval of a counselling text being sent. The 95% CI for this 11/14 proportion extends from .52 to .93 indicating that the majority of students who seek help from the counselling service via text will be responding to a counselling type text sent by the college and that this response will be sent within two working days of the college text being sent.

For the tests conducted over two semesters of the second academic year 11 individual students in total sought help from the counselling service via the texting route. Database 2 contained 1053 student records giving a response rate of 11/1053. The 95% CI for this proportion extends from .0056 to .0189. Given that an estimated average of 40 students visit the counselling service in a year this represents over 25% of the service usage.

In terms of year of course, we will examine differences between years 1 and 2 combined and year 3 to note if there is a lesser likelihood of response in year 3 compared to the other 2 earlier years. We note here that databases 1 and 2 are not completely independent; however no respondents from database 1 reoccur from database 2. Combining the databases yields Table 44.

	Total	Respondents	Responses		
			Counselling	Academic	Other
Years1,2	1403	53	13	24	35
Year3	373	5	1	1	3

Table 44: Respondents and responses for combined databases.

Applying the Fisher exact test to this data shows that students from year 3 are less likely to respond to texts than students in years 1 or 2 to a statistically significant extent. (two tailed p= .0203).

Testing if counselling responses are more likely to come from Years 1 or 2 compared to Year 3 is not statistically significant (Two tailed p = .3244).

Testing if academic responses are more likely to come from years 1 and 2 compared to Year 3 is statistically significant (Two tailed p = .0437).

Testing if other type responses are more likely to come from years 1 and 2 compared to Year 3 is statistically significant (Two tailed p = .0442).

To determine any gender differences, we represent the data as shown in Table 45.

	Total	Coun	Acad	Forceful	Other	Total Response
Female	469	6	10	1	8	25
Male	589	4	7	1	18	30

Table 45: Database 2 responses according to gender.

The female to male response ratio is much in keeping with the database gender distribution. There is some suggestion that females respondsto counselling and academic texts more than males while the opposite may be true for other type texts. However the only statistically significant finding in this regard suggests that the probability that females will respond to academic or counselling texts is higher than the probability that males will respond to other texts.

4.4.7 Estimation of TAU(0)

TAU(0) is the quantity of help-seeking that occurs in the absence of any texting intervention., with TAU standing for Treatment As Usual and (0) indicating the absence of any texting intervention. It is of considerable importance in testing Hypotheses 1 to 3, as it effectively represents the control quantity. We estimate TAU(0) for one year using historic data and information obtained from the Student Counselling Services. The data is shown in Table 46. The counselling service estimates that each individual attending the service receives 5 to 7 sessions.

Year	2006/2007	2007/2008	2008/2009	2009/2010	Mean
Sessions	182	218	197	189	196.5
Student Population	964	1044	1148	1322	1120
Individuals	36	43.6	39.4	37.8	39.3

Table 46: Individuals attending counselling based on 5 sessions per individual

Using the lower estimate of 5 to maximise the number clients yields 39.3 clients per annum. TAU(0) for one year is therefore 39.3. The mean number of students attending college per annum over the four years is 1120 so this ratio of 3.5% is very much in keeping with the literature on service usage.

We are interested in estimating TAU(0) for 4 intervals or 8 working days. The academic year consists of two semesters of 13 weeks each. Allowing for weekends and four bank holidays

this equates to 126 working days, or 63 intervals. TAU(0) for four intervals is therefore given by:

(TAU(0) for one year) x 4 / 63

= 39.3 x 4 / 63

= 2.49

4.5 Test of downstream hypotheses

4.5.1 Hypothesis 1

As mentioned in relation to Hypothesis 1 in the section on research methodology, to demonstrate that help seeking has been speeded, we need to show that for a period of time after a text exhortation has been sent, the numbers seeking help increases compared to a similar time period during which exhortation texts are not sent. In other words, we must show that for comparative time periods

$$TAU(C) + DHS(C) + NDHS(C) > TAU(O).$$

We have shown that counselling texts stimulate counselling responses. Using the figures obtained we will determine if this actually leads to an increase in help-seeking. As four counselling texts were sent out, we can compare the counselling responses stimulated by these texts with a figure for the non-text sending situation over a period of time. We will consider the four intervals when texts were sent out and compare this to an historic four interval period when texts were not sent out.

From Table 38 we can see that four counselling texts generated 11 counselling responses over four intervals. Each of these texts is considered to be an act of help-seeking, as the respondents have identified themselves to the counselling services.

The variables matrix is shown in Table 47.

	TAU Help-seeking	Direct Response Help-Seeking	Non Direct Response Help-Seeking	Direct Response Other	Non Direct Response Other
No text	2.49	0	0	0	0
Counselling text	>= 0	11	>= 0	11	>=0

Table 47: Pre test (No text) and Post test (Counselling text) variable values

Table 47 shows 11 direct response help-seeking requests were made in the course of 4 intervals. The other help seeking responses (TAU and NDRHS) are shown as greater than or equal to zero.

Putting the data values obtained from Table 47, and setting TAU(C) and NDRHS(C) equal to zero to ensure the most conservative value for the left hand side, into the equation

$$TAU(C) + DHS(C) + NDHS(C) > TAU(O)$$

Yields

$$0 + 11 + 0 > 2.49$$

We must now determine if 11 is greater than 2.49 to a statistically significant extent for the set up under consideration. Setting TAU(C) and NDRHS(C) to zero will provide a conservative p value. As a test on a contingency table requires discrete values, the TAU(0) value is rounded up to 3, which will again lead to a conservative estimate of p.

As one counselling text was sent to this database and three texts sent to database 2, we may consider that each text was sent to $(752+1053+1053+1053)/4 = 977$, compared to the 1120 involved in the control group population.

The appropriate 2x2 contingency table is in Table 48.

	Help Sought	Help Not sought	Total
Counselling Text	11	966	977
TAU(0)	3	1117	1120
Total	14	2083	2097

Table 48: 2x2 Contingency table

Performing a Fisher exact test on these conservative values (Table 48) yields a two-tailed p value of .0277 which is considered to be statistically significant. The data, therefore, supports Hypotheses 1 and 2.

We are stating that over a period of eight academic days during which four counselling texts were sent, there was a statistically significant increase in help-seeking, when compared to a similar period during which no texts were sent. Considering the data in further detail suggests that this increase ranges from .13 per 2 day interval to 4.13 per 2 day interval at 95% CI, yielding an absolute effect value from 21% to 670%. Even at the lower end of the effect scale (21%) this is socially significant.

There may be concern that the mean value for the pre-test help-seeking over a 2 day period is not directly obtained but estimated from figures provided by the counselling services. The number of counselling sessions was determined by the counselling services from invoices received form the counsellor. Student Services suggested that each client received between five and seven counselling sessions on average. Table 49 indicates the sensitivity of the p value to this estimation of the mean, showing that with an even more conservative estimate of just four sessions per client, the result is still significant.

Mean Sessions per Annum	Mean session per client	Intervals in one year	Help-seekers over eight day interval (control)	Help-seekers over eight day interval (control), rounded to	Help-seekers over eight day interval (test)	Two-tailed p-value
196.5	3	63	4.159	4	11	.065
196.5	4	63	3.120	3	11	.0277
196.5	5	63	2.495	3	11	.0277
196.5	6	63	2.079	2	11	.009
196.5	7	63	1.782	2	11	.009

Table 49: Effect on p of variations in TAU(0)

We are also assuming in these calculations that the number of clients as stimulated by the counselling texts is the same as the number of help seekers as stimulated by the counselling texts. The equivalence between a pretest client and a posttest help-seeker can be determined in two ways. One way is to assume that all pretest help-seekers became clients. The other way is to assume that all posttest help-seekers who responded by text became clients. We have no knowledge of the pretest situation but we do have knowledge relating to message content for the posttest situation. The wording of these text responses suggests that an appointment is appropriate. Having identified themselves to Student Services, in some cases specifically requesting an appointment, or in other cases asking to be contacted by the services, we assume that each help-seeker will receive at least one session with the counsellor, allowing the number of post-test help seekers to be validly compared to pretest clients.

4.5.2 Hypothesis 2

Hypothesis 2 suggests that help seeking may be increased, and we have discussed how an increase may be considered as a speeding up over a sufficiently long duration. We can see how the situation regarding counselling responses and TAU(0) varies for different numbers of intervals (Table 50). Interval 1 has been considered above.

Intervals	1	2	3
Working Days	8	16	24
Calendar Days	11	22	33
Counselling Respondents	11	12	12
TAU(0)	2.49	4.98	7.5
p-value (two tailed)	.0277	.025	.1768

Table 50: Values as number of intervals increases

It can be seen that increases beyond interval 2 are not statistically significant. Because we have only been able to measure direct responses, we must assume that the 7.5 individuals seeking help via TAU are included in the 12 individuals seeking help via text, having decided, over the course of the three intervals to, as it were, switch from TAU hel- seeking and respond by text. However, even within these assumptions, we have demonstrated an increase over 22 calendar days or just over three weeks and so consider Hypothesis 2 to be supported.

4.5.3 Hypothesis 3

This hypothesis states that a stream of texts sent on a regular (weekly) basis to students, with one text a month exhorting help-seeking, will be acceptable to students. The results from Studies 1 to 3 strongly suggest that a majority of students (at least eighty per cent according to Study 1) has no objection to receiving texts at this frequency. During the empirical study there were no reports of objections by students relayed to the researcher. Apart from the responses generated by the forceful message, no objections were directly received. We may consider Hypothesis 3 to be supported, providing the stream of texts does not contain forceful messages.

As an extension to this hypothesis we may examine the case of the forceful text to determine if the forceful responses received are statistically significant. Let us consider the text sent to Database 2 which states

"Student services here. International studies show that a number of students self-harm. If u self-harm why not get it sorted. Call r txt counsellor at num".

This text generated two responses within the interval that the text was sent. Studies have shown that certain types of people respond to direct type messages, whilst others respond to less direct type messages according to their general personality. We may consider this message to be particularly forceful and designed to initiate help-seeking amongst students unfortunate enough to be suffering from this condition. The two responses generated (one each from a male and female) were also forceful, of themselves, and particularly when compared to all other responses. One response contained an expletive and the other requested that no more texts be sent. Two papers relate to responses and message types. Firstly, a study by Kaptein, Lacroix and Saini (2010), published after our tests were conducted, suggests that compliance to health related messages is moderated by persuasion profiles. In particular, persons identified as high persuadables are more susceptible to health related messages with a more persuasive tone, than are persons identified as low persuadables. Even more, they demonstrate for the latter group that in the best case the persuasive health related messages encourage the same level of compliance as neutral messages; in the worst case it is considerably lower.

It would seem that persuasive messages to low persuadables may be counterproductive. Using data from our tests we can see that one forceful message produced two forceful responses and no non-forceful responses. We can also see that 22 non forceful texts produced no forceful responses and 135 non forceful responses. Removing the outlier that is the career text which garnered fifty responses, leads to the 2x2 contingency table shown in Table 51.

	Forceful Response	Non Forceful Response	Total
Forceful Text	2	0	2
Non Forceful Text	0	83	83
Total	2	83	85

Table 51: 2x2 contigency table for forceful and non forceful texts

Applying the Fisher Exact test to this table gives a two-tailed p value of .0003 which is extremely statistically significant. This suggests that this type of message should be used sparingly if at all to encourage help-seeking.

4.6 Response Rates

Three individuals from database 1, containing 752 records, sought help by responding to one counselling text yielding a response rate per counselling text sent of $(3 / 752) / 1 = .0398$. By comparison, 11 individuals from database 2, containing 1053 records, responded to three counselling texts yielding a response rate per counselling text sent of
$(11 / 1053) / 3 = .00348$.

To determine how these numbers may play out in a future implementation, we recall, that within one interval the four counselling texts sent generated 3, 3, 4 and 1 counselling response respectively (Table 39). Given that the first text was sent to 752 records and the others to 1053 records, this yields the response rates shown in Table 52.

|	
Text1	0.003989
Text2	0.002849
Text3	0.003799
Text4	0.00095
Mean	0.002897
95%CI(min)	0.000684
95%CI(max)	0.005109

Table 52: Counselling texts response rates

Also shown are the mean response rate and the 95% CI interval. What can this mean in practice? Let us consider an institution of 20000 students implementing such a service From the CI figures shown in Table, we can tell that if the institution sends out 5 counselling texts as part of a stream of messages, the minimum number of students to respond within two working days of the texts being sent out is 68 and the largest likely number to similarly respond will be 510. We have already seen that the CI for the proportion of texts sent within two working days extends from 0.64 to 0.82. So for all responses, within one interval and beyond, the minimum number of respondents seeking help via text at this institution is likely to be $68 / .82 = 83$ and the maximum number seeking help is likely to be $510 *100 / 64 = 797$. This represents between .42% and 4% of the student population.

4.6.1 Comparative Studies.

We have seen that by sending counselling texts we can generate a mean response rate for help seeking of 1.5% of the student population with a 95% CI extending from .42% to 4%. We may ask how this response rate compares with other studies. For general marketing, response

rates tend to be between 1 and 2 percent . Figure 36 shows typical response rates as provided by the Direct Marketing Association (DMA, 2012).

RESPONSE BY SELECTED MEDIA
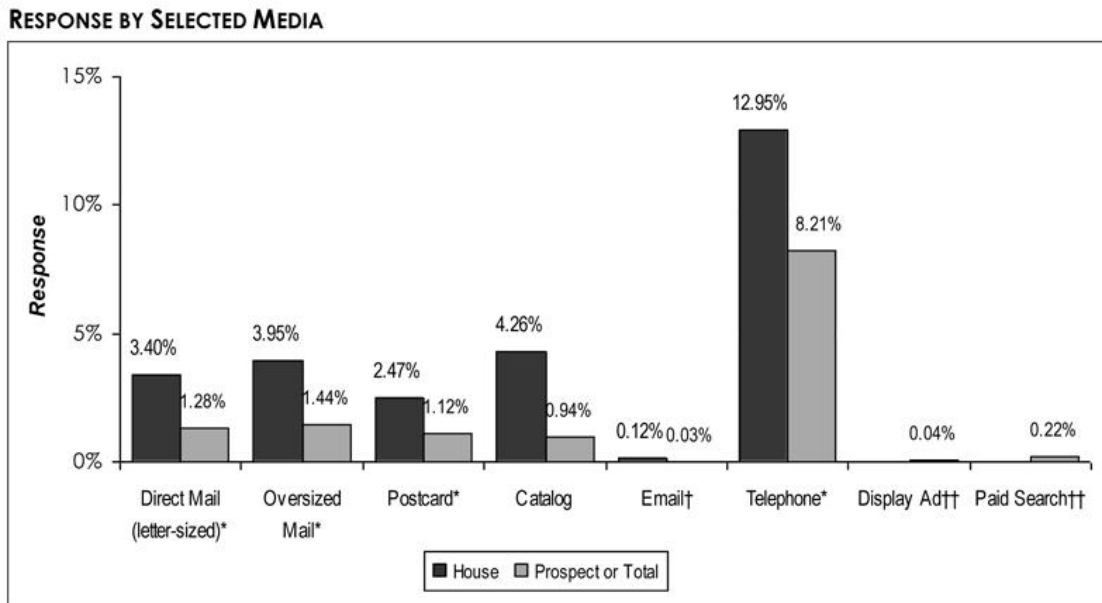
*Response Rate
† CTR*Median Conversion Rate. If mean conversion rate for email is used, the house and prospect response rates would be 0.33 percent and 0.21 percent, respectively.
††CTR*Conversion Rate

Figure 36: Response rate by media (DMA. 2012)

The response rate here represents any response to the sent message, including expressions of interest and offers to purchase. The important factor to note here is just how low these response rates are, with a letter generating a 1.28% response and an email a 0.03% response rate. When considering such direct marketing campaigns we must also take account of the purchase rate. This is the proportion of the responses received which lead to a purchase, expressed as a percentage of the population contacted. So if 1000 people are contacted, 10 people respond and of these 3 purchase, we have a response rate of 1% and a conversion rate of .3%.

In our situation, we are attempting to get students to seek help by responding to a text. In other words, a response is a conversion. So we have a conversion rate of about 1%, which is at the higher end of standard conversion rates. The literature contains help seeking interventions for which it is possible to determine response rates from the quantitative data reported. It will be instructive to examine these for comparison purposes.

Comparative Study 1. Automated Telephone Screening Survey for Depression on a University Campus (Portnoy, 1996).

This study was conducted at the University of Nebraska-Lincoln, a large mid-western state university with a population of approximately 35,000, during 1994, and so predates internet and other technologies currently taken for granted. The basic premise of this study was to enable depression screening by telephone, using an interactive voice response whereby callers were asked recorded questions and answered by pressing a digit on the phone e.g. Press 1 for yes etc. By this means, the caller was administered a telephone adaptation of the 20 question SDS. The process required less than ten minutes to complete and immediate feedback was given to the caller. For our purposes, we are interested in how this service was promoted and how many of the university population responded.

Callers were recruited through a variety of media, including advertising and interviews on the radio and in the local and student newspapers, and electronic mail. Advertising and interviews stressed the classical symptoms of depression and information about successful treatment for this disorder. Individuals were urged to call if they recognised the symptoms in themselves. The telephone test was available for two weeks.

In total, of the 35,000 total population, 215 students and 69 staff called the service. Of the student callers, the system indicated that 33 had no depression, 49 met the criteria for mild depression, 79 met the criteria for moderate or marked depression and 54 met the criteria for severe or extreme depression. There is no breakdown in this paper of the student-staff ratios within the population. There is also no indication as to the number of callers who subsequently sought help. We do however have sufficient information to calculate a response rate based on the following data:

Population: 35000

Intervention: advertising and interviews on the radio and in the local and student newspapers, and electronic mail

Response 278

Response Rate .79%

Conversion Rate – Unknown, but maximum of .79%

Comparative Study 2. A Pilot for Improving Depression Care on College Campuses: Results of the College Breakthrough Series–Depression (CBS-D) Project (Chung et al, 2007).

This paper concerns a study of a pilot quality improvement project for depression identification and treatment in college health at six US universities. Interestingly this paper uses the terms "depression identification" and "proactive follow-up" rather than the term "help-seeking" The premise behind this research is based on the fact that most college students attend their college primary care services at some stage during the year. For the colleges included in this research, the annual utilization of college medical services is reported as being between 60% and 85%.

Students attending these services were offered a depression screening test. The aggregate depression screening rate for all sites with medical services (N = 6) was 69% of all eligible unique students receiving medical care during the academic year. The site rates varied from 21% to 91%, with 71,908 students screened for depression in medical services during the data collection phase of the project. Of these 71,908 students, 801 were identified as having clinical depression and received some form of treatment. Treatment here was defined as any student who has begun antidepressant medication or attended an initial counselling session with a licensed mental health specialist (not a care manager) within 4 weeks of enrolment. Given these figures we can now calculate a response and conversion rate for this intervention. The total student populations at the colleges is not explicitly given so must be estimated. As the time frames divide out, these can be ignored. Between 60% and 85% of students use primary care facilities. We will consider the situation for both extremes. 71,908 students attended primary care so for 60% attendance yields a population 119,847. At the 85% level the student population is 84,598. This yields minimum and maximum response rates of .67% and .95% respectively.

Comparative Study 3. An Interactive Web Based Method of Outreach to College Students at Risk of Suicide (Haas et al, 2008).

From 2002 to 2005, the authors tested an interactive, web-based method to encourage college students at risk for suicide to seek treatment. The authors invited students at two universities, by means of an e-mail from a designated campus official, to complete an online questionnaire that screened for depression and other suicide risk factors. Respondents received a

personalized assessment and were able to communicate anonymously with a clinical counsellor online. At-risk students were urged to attend in-person evaluation and treatment. All undergraduate students at one university were invited to complete the questionnaire, whilst senior and sophomore students at the second university were invited. A total of 1,162 students (8% of those invited) completed the screening questionnaire; 981 (84.4%) were designated as at high or moderate risk. When a questionnaire was received, the computer system generated an e-mail to a screening counsellor on each campus, indicating the student's tier and providing a link to the questionnaire. All Tier 1 and 2 students were urged to call or e-mail the counsellor to schedule an in-person evaluation. They were also given the option of participating in an online anonymous dialogue with the counsellor. Tier 1 and 2 students who provided an e-mail address received multiple reminders to view the counsellor's assessment and follow the recommendations. The final reminder asked students who had not contacted the counsellor to link to the secure Web site and answer several questions about how they were doing and why they had not responded. Each e-mail reminder repeated the counsellor's contact information and urged students to be in touch in person or through the anonymous Web site dialogues. The outcome of this was that 190 (19.4%) attended an in person evaluation session with the counsellor, and 132 (13.5%) entered treatment. In other words, 190 sought help. The population in this case is 14,425. The number from this population who sought help as a result of this was 190, yielding response rate of 190/14425 or 1.3%.

Comparative Study 4. Health e-Cards as a Means of Encouraging Help Seeking for Depression Among Young Adults: Randomized Controlled Trial (Costin et al, 2009).

For this study, participants were recruited by means of a screening questionnaire, posted in March 2007 to 12,000 individuals aged 19 to 23 selected at random from the Australian Electoral Roll. Registration on the electoral roll is compulsory in Australia. The response rate was 14.7% (1764/12000). Respondents were eligible for inclusion in the trial if they indicated a willingness to receive further information about participating in the trial, provided their first name and email address, and fell within the age range of 19-24 years. Inclusion was not based on any depression score. On this basis, and after some exclusion based solely on randomisation, 765 participants were selected for various levels of intervention. These interventions were based on health e-cards sent to the 765 participants. The e-cards were divided into three types, one type with basic health information, a second type with depression information and a third type with enhanced depression information. This study sought to differentiate between the effects of types of e-cards on help seeking. For our

purposes we are interested in the level of overall help-seeking reported by the study. The study reports that the numbers seeking formal help-seeking was 39, whilst the number seeking informal help-seeking was 258. To validly compare with the other studies we will take the number seeking formal help and this leads to a response rate of 39/12000 or 0.03%. However, as there was exclusion due to randomisation, the rate is likely to be higher. 765 participants were selected from a possible 1764 for various reasons including randomisation. We do not know what proportion of the 999 were excluded as a result of randomisation but if all were excluded for this reason then the .03% response rate may increase to

.03% x 1764 / 765 = .07%

Our interest in these studies is to provide some context for the empirical study conducted as part of this research. A low response rate may represent an increase, while a high response rate may not, depending on what the study is measuring. However, it would seem that interventions designed to increase help seeking typically encourage about 1% of those they initially address to seek help.

4.6.2 Texting Acceptability

In direct marketing the advertiser communicates straight to the customer. This may be seen as invasive and so direct marketing may be considered unsuitable for social marketing for stigma associated medical conditions such as sexually transmitted diseases and mental health. Yet despite this, the text marketing study received no objections other than when a forceful message was sent. The texts also increased help-seeking over the duration of four intervals. We will consider now, from a theoretical perspective why in this study

1. No objections were received for standard texts and objections were received for a forceful text.
2. Counselling texts engendered acts of help-seeking

We argue here, with specific reference to the transtheoretical model of behaviour change, that direct marketing as social marketing is ideally suited to an area such as mental health.

We have provided evidence in the literature review to suggest that direct marketing is seldom used to encourage behaviour change in stigma associated conditions, and have also suggested some reasons for this. We now, paradoxically, argue that direct marketing is ideally suited to such conditions. Our first point of argument involves consideration of the transtheoretical model of behaviour change.

As already mentioned, the transtheoretical model of behaviour change, also known as the staged model of behaviour change (Prochaska, 1979), posits five stages of behaviour change: Pre-Contemplation, Contemplation, Preparation, Action and Maintenance.

We use the example of three public health problems to show how solutions relate to different phases of the transtheoretical model: smoking, excess weight and mental illness. Generally, it would be beneficial if those who smoked stopped smoking, those who are overweight lost weight, and those who suffer from mental illness were appropriately treated.

The challenge in terms of behaviour change appropriate to smoking and weight loss is fundamentally different from the challenge relating to mental health, in a way which makes direct marketing an appropriate method for behaviour change in terms of mental health. Studies suggest that most smokers want to quit and have tried to quit (Sorenson & Pechacek, 1987). Studies also suggest that most overweight people want to lose weight and have tried to lose weight (Gregg et al, 2003). In contrast, people with mental health issues do not attempt to have these issues addressed (Martin & Cohen, 2000).

Considering the transtheoretical model, the behaviour change challenges relating to smoking and weight relate to the maintenance phase, whilst the behaviour change challenge relating to mental health relates to the action phase. It is in terms of this action phase that mental health and direct marketing overlap.

As mentioned in the literature review Nash (2000) suggests four advantages of direct marketing over other types of marketing, namely Measurement, Concentration, Personalization and Immediacy. Nash defines Immediacy by suggesting that while other forms of advertising seek to promote awareness and affect attitude, direct marketing seeks to motivate action, by eliciting a response. Interestingly, the term "action" is used by both Nash (2000) describing direct marketing and Prochaska (1997) describing the transtheoretical model. It is this promotion of "action" which suggests direct marketing is suitable for the encouragement of mental health help seeking. The findings from Study 1 and Study 2 (Table 24) suggest that students prefer not to receive messages related to mental health. The counselling texts sent do not specifically address mental health, but use moderated language to encourage help seeking. In the case where strong language was used, objections were received.

We have also seen from the literature review that mobile marketing may be seen as invasive, but that there are four factors which can increase the willingness of consumers to accept mobile marketing (Leppäniemi and Karjaluoto, 2005), namely provide relevant information; provide rewards; be delivered by a trusted organisation and give the recipient control over messages.

The texting intervention carried out as part of this research involved three factors which are likely to have helped acceptance, and are likely to help acceptance in any future texting studies. These are moderated language, trusted source and relevant information. Moderated language avoided terms relating to mental health, using terms like stress and worried. Messages were sent by Student Services, and so can be considered to have originated from a trusted source. The fact that the messages were part of a stream of texts about college life meant that, taken as a group, the texts were relevant.

5   Upstream: Barriers to Texting Implementation.

Having demonstrated the potential of text messaging for the encouragement of help-seeking at one site, attempts were made to conduct a similar study at several other sites for generalisation purposes. Third level institutions were canvassed for cooperation. Emails were exchanged, meetings arranged and initially the prospect of cooperation seemed high. Meetings were arranged with heads of counselling services and heads of student services and positive feedback was obtained. It was anticipated that arranging a cooperating site would take several months. However, even after six months no institution had agreed to cooperation. Some had decided against cooperation but for most cooperation was still "under consideration". Eventually, after much communication and further positive feedback, most of these decided not to proceed with involvement in the research. At the time of writing, several institutions have still not specifically declined involvement, but given the level of communication it may be assumed that no response is equivalent to a default position of non-involvement. During discussions with counsellors and heads of student services, it seemed that the idea of "help-seeking" was not fully appreciated by people with responsibility for student mental health, and so involvement with research such as proposed here, while initially considered a useful idea, was deemed after reflection to be somewhat down the list of priorities.

As discussed in the literature review, the discipline of social marketing emphasises the importance of upstream partners in changing behaviours and attitudes. The research question which informs this doctoral study relates to text messaging and help-seeking, and so it is appropriate to ask how upstream factors may impact on the research question. Two factors now become important in terms of the research question. Is text messaging effective in encouraging help seeking amongst students and will such a text messaging service be availed of by student counselling services. Because communications and meetings have led us to consider the role of help-seeking within student counselling services, even beyond the text messaging service, we ask if student counselling services appreciate and prioritise the role of help-seeking in the maintenance of student mental health and how would they react to a process which could increase help-seeking.

A not untypical series of communications between the researcher and an umbrella institution representing six third level colleges in the UK is shown in Table 53.

Date	From	To	Message
Start	Researcher	Institution	Many thanks on taking my call. earlier today. I attach some information on possible co-operation….
	Institution	Researcher	If you refer to the email below. this should open the door for you to make contact with all the 6 colleges.
	Institution	Institution	This seems to be an excellent service and one which would fit into the Pastoral System.
	Researcher	Institution	Thanks for the call the other day. Dates are fine.I look forward to hearing from you,
	Institution	Researcher	When I get the meeting sorted, I will let you know.
	Institution	Researcher	Got the group together and there is a meeting on ….. if you'd like to speak to the group
	Institution	Institution	Basic Agenda for the Meeting … I have a guest from the National College of Ireland who want to discuss a Text initiative he is proposing to the Colleges.
	Researcher	Institution	Thanks for the giving me the opportunity to present . attached is the presentation and document as mentioned at the meeting.
	Institution	Researcher	Will be holding meeting on Thursday of this week and we will be discussing the Text Support with the view to going back to our own Senior Management/Directors Group to discuss further
	Researcher	Institution	Just checking to see if there is any upate.
	Institution	Researcher	I will be in touch in next day or so
	Researcher	Institution	Thanks. Looking forward to hearing from you
	Institution	Researcher	Not in office until tomorrow afternoon. Will call you then
	Researcher	Institution	Any word ?
	Institution	Researcher	Sorry but I have not been avoiding you. As it stands, out of the 6 Colleges, 5 are not wanting to go ahead with the texting service. It is not due to the fact that they do not like the concept of the service ….I will formalise a response in the next day or so.
Start + 8 months	Researcher	Institution	I'm sure I can satisfy any concerns you may have. Looking forward to the outcome
	Researcher	Institution	Just wondering if there is any update on this

Table 53: Email communications between Researcher and Umbrella Education Organisation

This is typical in terms of the early response "This seems to be an excellent service and one which would fit in to the pastoral service" to the somewhat different response eight months later "5 of the 6 colleges are not wanting to go ahead", which was the last response received.

One other aspect of student counselling services may demonstrate unfamiliarity with help seeking. We have seen in section 3.2.2 the benefits of a simple response mechanism. Given this, it is surprising, perhaps even astonishing, that certain college counselling services ask students to fill out a form before availing of the service. One such college is Aston College in the UK, which states on the counselling service website, regarding booking an appointment by email:

"email: counselling@aston.ac.uk - It is helpful for us if you include your phone number and your Student Number. If you are requesting an appointment, it is also helpful if you complete the pre-counselling form (Word) and attach it to your email. If you have any concerns about

the security of your email, please bring the Form in person when you come for your appointment."

This then leads us to Hypothesis 4, as previously outlined, which is restated here for convenience:

5.1 Hypothesis 4.

There is reluctance on the part of service providers to encourage help-seeking.

5.2 Methodology

We collected data from service providers to explore their attitude towards help-seeking in general and a text service as described earlier in this thesis in particular. Two modes of data collection were employed. Initially, a questionnaire survey was developed and sent out to counselling service managers. The survey was then followed-up by an interview with managers who volunteered to participate.

5.3 Survey of Counselling Services

A questionnaire survey was developed based on an exploratory initial interview with a single student counsellor who is also a member of the executive committee of the Irish Association of University Counsellors.

A meeting was arranged with a practicing head of student counselling who was also a student counsellor and a member of the executive committee of the IAUCC (Irish Association of University counsellors). The aim was to determine attitudes towards help-seeking which could be explored in a survey of IAUCC members, and also to obtain advice on how best to word the questions from a counsellor's perspective, to ensure a good response.

From this exploratory discussion, factors which were identified to be important included

- Resources
- Ethics of encouraging help-seeking
- The role of student retention in promoting counselling services to college management.

Despite the literature being replete with details of the importance of early intervention and the encouragement it was stated at the meeting that the counsellor would view any attempt to increase help-seeking as unethical, as no resources existed to cope with any extra demand.

From these discussions the questionnaire survey shown in Appendix 3 was developed.

The survey consisted of closed questions with nominal or ordinal response options. For those questions with a nominal response option, a simple frequency scoring option was adopted. For those questions with an ordinal response option, quantitative weightings were given in accordance with preferences stated by the respondent with the most important item scored as 2, least important item scored as 0 and a score of 1 assigned to the mid choice item. Each question invited a comment from the respondent, to allow for thematic evaluation.

A database of eighty universities in Great-Britain was compiled. Student services and student counselling services were telephoned to obtain an appropriate person to send the survey to, and if possible to speak directly to this person and obtain agreement to receive the email, rather than blindly sending an email to a standard counselling service address. Eighty surveys were sent out and 18 were returned. Similarly, 8 third level institutions in the Republic of Ireland were contacted, with 2 surveys returned.

The respondents ranged from universities with a student population of more than 35,000 to fewer than 5,000. Combined student population for the respondents was 258,000. The responding institutions were broadly representative of universities in the UK and Ireland, with the very old and very new amongst them. Responding individuals were typically heads of the student counselling service or equivalent at the respective college.

One of the aims of the questionnaire is to determine if college counselling services consider help-seeking to be a priority, and if so, how high or low a priority it may be. The literature on help-seeking suggests the importance of early intervention for people with mental distress, and the extent of unmet need within communities. Student counselling services are gatekeepers in terms of new interventions to promote help-seeking. It does not matter how good an intervention is, if it does not get past the gatekeeper it cannot influence behaviour. There is also the issue that to develop interventions cooperation from the gatekeepers is essential. The survey was carried out to determine how gatekeepers may react to interventions which encourage help-seeking. The results of the survey are discussed below.

5.3.1 What priority do student counselling services afford to help-seeking?

Three of the surveys eight questions relate to the priority afforded to help-seeking. The first questions asked about the major challenges that the counselling service currently faced, the second asked what they would most like to improve about the counselling service while the

third asked whether they thought service provision was more important than service promotion. Because participants were asked, for question 1 and 2, to rate in order of performance, the results are presented graphically as scores. For each participant, the most important item scored 2, least important item scored 0 with a score of 1 assigned to the mid choice item. The results can be seen in Figure 37 to Figure 39.
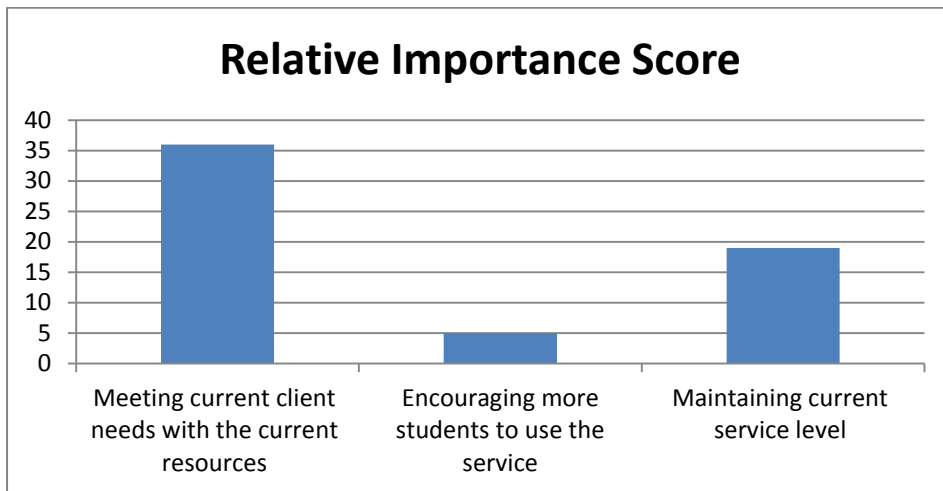

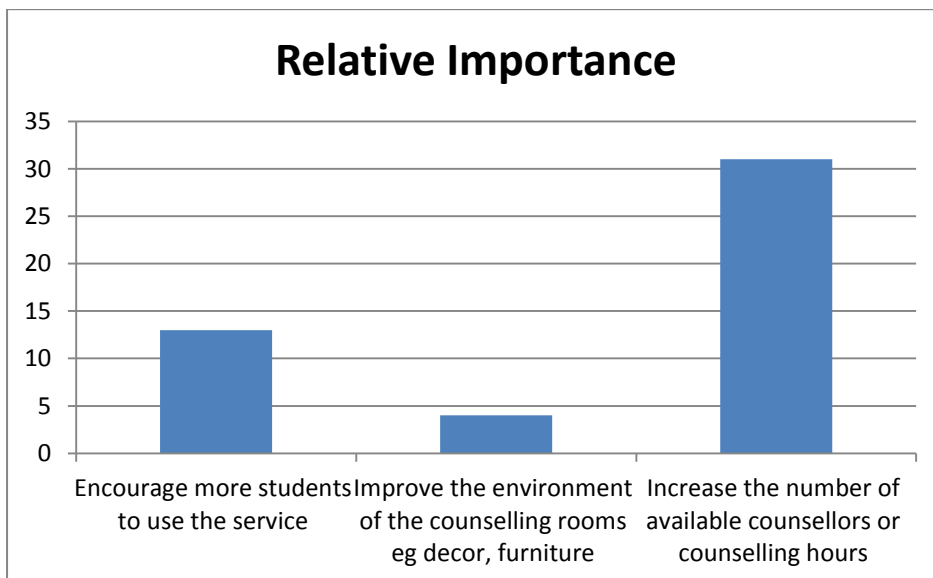**Figure 37: Can you please rank (1 to 3) the major challenges you currently face**

Figure 38:Given your current level of resources, can you please rate the order in which you would like to improve aspects of the counselling service.
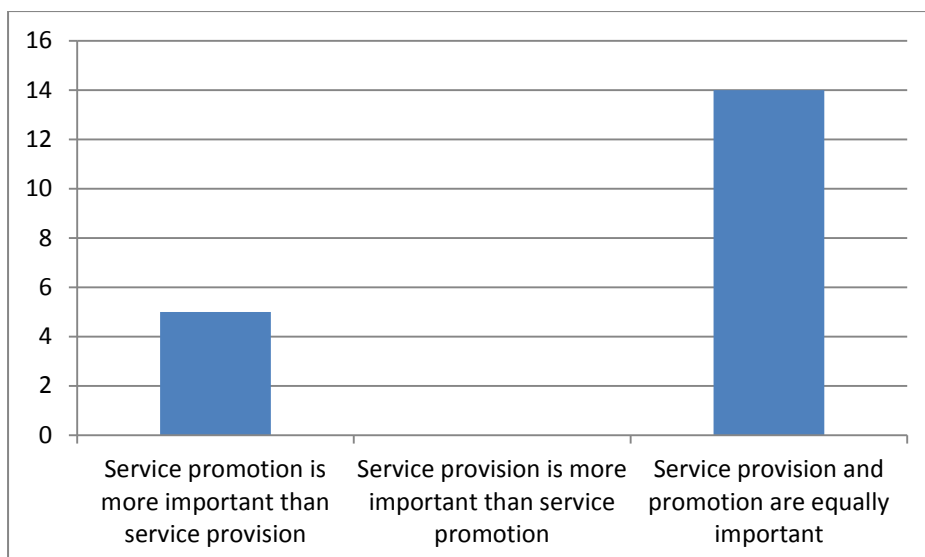
124

Figure 39: When considering service promotion and service provision, do you feel that …

Encouraging more students to use the service, in other words encouraging help-seeking, is evidently not the top priority for most respondents. Only two respondents put it as their main challenge, whilst 17 put it as their lowest challenge of the three options. It is apparent that this situation is associated with resource issues, evidenced by comments such as:

We could not cope with any more students than we see at the Service already. (respondent 1)

Currently we have a considerable waiting list for on-going counselling. (respondent 2)

Our resources are stretched, but we've plenty reason to think that more students could benefit from using the service, and that would be good. But we couldn't manage that within existing resources. (respondent 3)

In essence, the argument appears to be, what is the point of encouraging more help-seekers that there is capacity for?

However, there is some evidence of services adapting so as to increase capacity

Over the last 5 years the Counselling service has moved to a model where brief intervention is the norm… This model enables the majority of students to see a counsellor within a reasonable timescale (approx one week) and to ensure that at peak times we do not have to operate a waiting list… Maintaining service levels is one of the drivers to restructure the service to provide a breadth of support rather than just one to one counselling (respondent 4).

Increasing the number of international students appears to be an issue generally (Raunic & Xenos, 2008) and this is represented by one comment:

We are especially keen to increase the numbers of international students who contact the counselling service. These students are underrepresented proportionally within the Department. (respondent 5).

There is evidence here to suggest that the notion of increased help seeking and thereby encouraging extra service utilization is not simply underappreciated, but may be seen as undesireable, given views on resources. However, underutilisation by a specific identifiable group may be a cause for concern, which will lead to help-seeking initiatives for that group. The prospect that new ways of working may lead to increased efficiency and capacity is also noted. This, in turn, may open the door to increased consideration of help-seeking.

Although the second question regarding is similar to the first, it can help determine the level of importance of encouragement compared to something that may be considered relatively trivial, namely room décor. As may be expected from question 1, increasing resources in terms of counselling remains the priority for most services. But here at least, encouragement comes second:

We have very good accommodation and decor so this is not a priority. If we were able to cope with demand for counselling, our next priority might be to publicise our service and encourage more students to use the service (respondent 2).

However, four respondents would prioritise room décor and furnishings over increased help-seeking. Some comments make no reference to encouragement.

Our rooms are very good and well decorated, but we run out of rooms. We can always increase the number of counsellors or counselling hours, but we need to have adequate rooms for them to go in (respondent 1).

If I increase counsellors I need more space (respondent 6).

Another comment mentions encouragement
The need for additional support to ensure retention and success has to be a prominent strategy for HE. If engaging with services helps this then it should be encouraged (respondent 4).

Only one comment exclusively referred to encouragement, expressed as "reach"

reach students who may benefit but who encounter obstacles to attending (respondent 7).

A strong majority believe that provision and promotion are equally important, a finding at variance with the answers to previous questions. Fully five respondents think that provision is more important than promotion and none believe promotion is more important than provision. One comment suggests an interesting take on "equally important" which may explain the discrepancy between this answer and previous answers:

I agree with the last statement that service provision and promotion are equally important. At the moment, due to our limited resources and the level of demand for counselling we are focusing on service provision (respondent 2).

Two further comments suggest equality of a sort:

Equally important, but in different ways (respondent 3).

I think I would phrase it as "Service provision and service promotion are both important in running an effective counselling service" (respondent 8)

A further comment shuns increased promotion completely:

I don't see the point in promoting the service more than it is already promoted (respondent 1).

In summary, the promotion of help-seeking as seen by those in charge of student counselling services, is, at best, not a priority and, at worst, somewhat undesireable. Much has been written on the role of mental health literacy to encourage help seeking amongst sufferers of mental distress. Perhaps there is a need to increase help-seeking literacy amongst service providers.

5.3.2 Ethics of Help-Seeking

During the initial interview to inform the structure of the questionnaire, the interviewee stated that encouraging more students to use the service would be unethical. This view goes beyond affording help-seeking a low priority, and would lead one to question how much such a view might contribute to the treatment deficit. The questionnaire aimed to determine how widespread such a view was. The results are shown in Figure 40
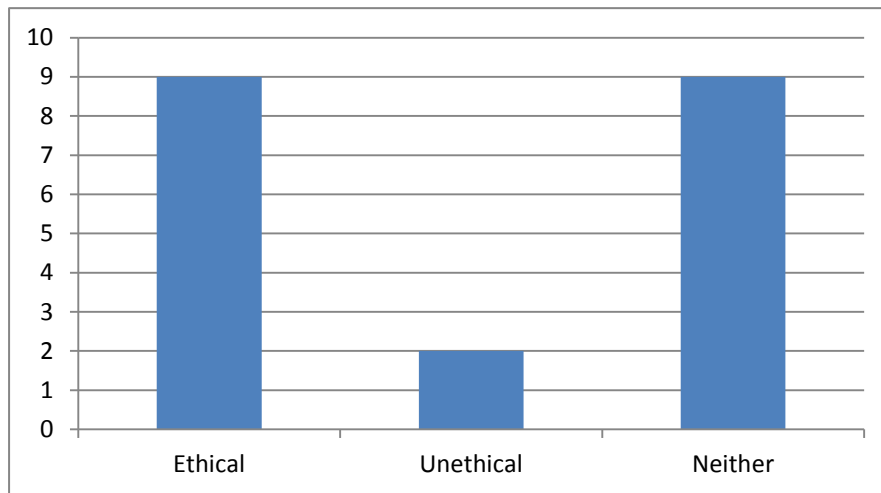
Figure 40: Given current resource constraints, encouraging more students to attend student counselling would be

This question regarding encouraging service use is somewhat stark. Interestingly all 20 individual respondents provided a comment with their answer. Despite the literature on help-seeking and the demonstrated benefits of early intervention, only nine individuals proclaim unequivocally that such encouragement, within their working environments, is ethical. Two go so far as to state that such encouragement would be unethical, with the remaining nine somewhat undecided. If the question is stark, the responses would appear to be starker still. Again, the comments suggest that views on resources play a large part in the responses. The intention here is not to form an opinion on resources or the validity of the views held, but simply to gauge the views held by those involved in student counselling. On the issue of resources:

We deliberately do not over-publicise ourselves as we do not have the resources (counsellors or rooms) to see more clients (respondent 1)

I do make efforts to encourage but do not consider devoting a lot of time to recruiting when we are barely able to meet the demand within reasonable time limits (respondent 9)

If it is a simple question of numbers, then if the service is running to capacity then it could be unethical to advertise for students to be added to a waiting list (respondent 10).

I feel that spending time publicising our service to students would not be appropriate currently as we would not be able to offer them immediate on-going counselling due to our waiting list (respondent 2)

I have cut down on our promoting the service, but at the same time am not wanting to discourage students attending (respondent 11).

The last comment here is rather telling. Cutting down on promoting the service is the antithesis of encouraging help-seeking.

There are opposing views to those expressed above, even in cases where resources are an issue:

Even if we were under resourced I would still think it would be ethical to encourage students to access counselling, I think that in not encouraging them to access counselling we collude in hiding from the institution the needs students have (respondent 5)

We adopt a safety net approach and can facilitate working with other areas of Student Support, GP, Mental health advisor etc. (respondent 12)

All students need access to the service, even if it means waiting or referral out (respondent 13).

Two concepts arise from these comments. It may help expound these concepts if we introduce three terms, need, utilisation and identification. Need represents those students or the number of students who need to use, or could majorly benefit from, using the service. Utilisation represents those students who need and use the service. Identification is the process whereby students who need to use the service are identified to the service. The first comment here suggests that it is wrong to supress the needs. This raises the prospect of the student counselling service taking responsibility in determining who should receive assistance, rather than making such an ethical or unethical decision the bailiwick of senior college management. The second concept relates to the idea of identification, and may also be related to new ways of working suggested in the comments associated with the previous question. Here the counselling service identifies students in need, but, in the absence of internal resources, refers out. We will return to this notion later.

In the literature review, a report on ethics prepared for the UK's National Social Marketing Centre, Eagle (2008) was mentioned. In this report, the author asks "Is it ethical to target sectors of the population who are easiest to reach or who likely to be the easiest to reach? Is it ethical to target the most receptive to an intervention ('low-hanging fruit') rather than those

who might benefit the most from changes to their behaviour?" While the situation regarding help-seeking as determined by resources is understandable, it may not be ethical.

5.3.3 Initiating contact

One of the features of our downstream research is the notion that the service provider makes initial contact with the student in need, albeit through a text broadcast to the general student population. In one particular college in the US which was subject to a controversy involving suicide, a procedure for the proactive identification of students in need was established, whereby over a weekend, staff members knocked on the door of every on-campus residence to check on students (Epstein, 2010). Whilst knocking on doors may be seen as extreme, simply waiting for a student to appear may be considered passive. Results from this question are shown in Figure 41.
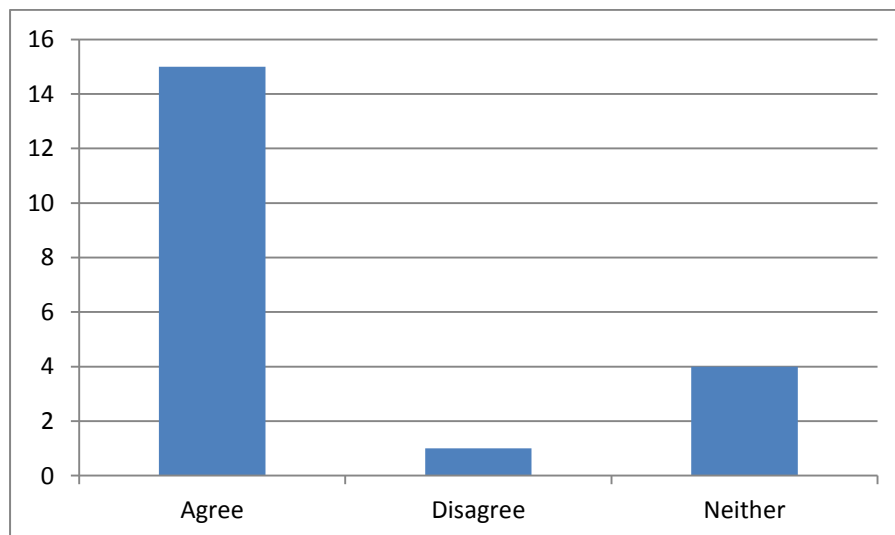

Figure 41 Students are responsible for making initial contact with the counselling service

A very strong majority of respondents felt that the student should make the initial contact with the student services. None of the respondents saw it as his or her responsibility to initiate contact with a view to identifying a need. Mentioned in the comments as those who may initiate contact are academic staff, tutors and fellow students. In answering this question, all respondents considered initial contact by the student versus initial contact by those associated with the student. In other words contact was viewed as an approach to the student services. From this perspective, respondents preferred contact by students as subsequent treatment compliance was anticipated to be higher than in cases where students were referred by associates. In certain cases however, if concern was expressed to a counselling service about

an individual, the counselling service would initiate contact with that individual. Representative samples of comments are:

We emphasise that we like students to contact us directly themselves as our experience is that if we accept referrals from third parties a student may feel pressured to come for someone else and not for themselves and often does not turn up for the appointment (respondent 2).

Except in cases of severe social phobia (which does happen), students who are brought or made to phone in the presence of the concerned tutor hardly ever follow up (respondent 13)

there are a small proportion of students whose functioning is so poor that is to access counselling would be beyond their ability. These students are often referred via other university staff members, fellow students and external practitioners (respondent 5).

We only work with self-referrals (respondent 14)

We also have a University wide 'cause for concern' mechanism hosted by the students' union whereby any student can raise a concern about fellow students (respondent 4).

when academic staff contact us to express concerns about a student, we may make a direct approach to the student (respondent 15).

5.3.4 Student retention

Student retention is a much debated topic. In the UK, it is included in quality figures for Universities published annually by the Higher Education Statistics Agency. Linking counselling services and student retention can therefore be important in advocating for student counselling services.
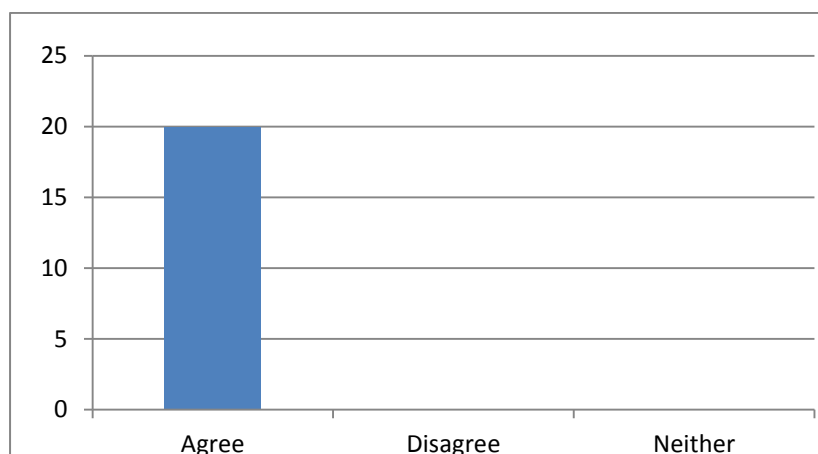

Figure 42: Student counselling plays an important role in student retention

Retention was considered from two perspectives. Did participants believe that counselling had an important role to play in retention and did they believe that this role was understood by management at their institution?
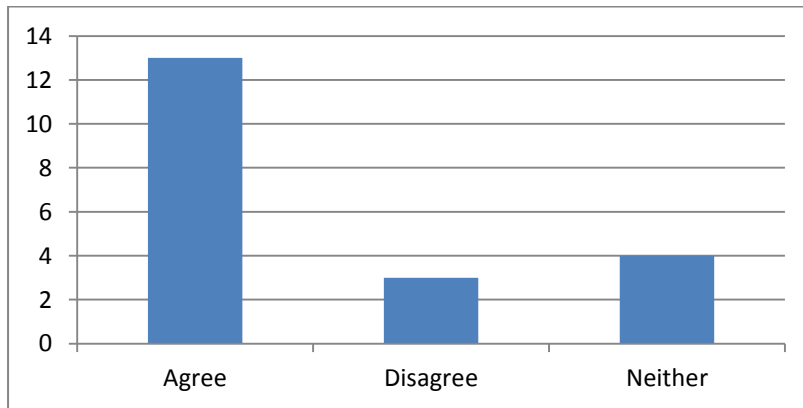

Figure 43: The role of student counselling in student retention is appreciated by college management at my institution

There is unanimous agreement amongst the respondents that counselling plays an important role in retention (see Figure 42). Two themes arise from the comments, the role of the counselling service vis a vis retention, and the fact that this aspect of counselling is measured in some detail.

Two respondents pointed out that the actual role of the counselling service was not to enhance retention:

However, this is not our agenda as a Counselling Service as for some students the best decision for them may be to leave University or to withdraw temporarily (respondent 2).

Conversely I think counselling plays an important part in helping students to leave university, when leaving university is the best thing for them (respondent 5)

The fact that counselling services track the effects of counselling services on retention can be seen from the following comments:

Our own feedback suggests that 87% of students who access the counselling service felt that it helped them to retain on the course of study (respondent 16)

Last year 42% of our clients said that their problems threatened their ability to continue on their course, but of these 60% said that counselling helped them to stay. (Response rate 30% from all clients seen.) (respondent 17)

Our statistics confirm that Pre-Counselling 67% of our students were thinking to leave University without completing their degree. This reduced to 14% after the use of the CS (respondent 14).

We collect data on this each semester and the majority of students make clear that this is the case (respondent 15).

We have just completed a survey of service users from last trimester, where students provide clear evidence that this is true (respondent 3).

This data is collected from clients receiving treatment at the counselling service and is obviously considered to be important by the counselling service, perhaps because the issue of retention is a publicly available quality figure. The Higher Education Statistics Agency in the UK publishes comparisons of six performance indicators for all Universities in the UK. These performance indicators are:

- Widening participation of under-represented groups
- Widening participation of students who are in receipt of DSA
- Non-continuation rates
- Module completion rates
- Research output
- Employment of leavers

Non continuation rates (i.e. retention rates) are one performance benchmark afforded prominence by inclusion in these statistics. And so it is not surprising that counselling services should consider them important as it shows that they are contributing to a publicly acknowledged quality benchmark. No such quality benchmarks exist for outreach or service usage.

If the role of counselling in increasing retention is appreciated by management, it may be a useful argument for increased resources. Most respondents (12) (see Figure 43) agree that their role in this regard is appreciated with three disagreeing. One respondent specifically suggested that retention was a university concern, linking this concern to counselling:

133

Our institution is very supportive of our service and of student support services in general in terms of resources and recognises that we contribute to retention which is an area of concern for the University (respondent 2).

Some respondents took the opportunity of the question to comment on how counselling services are appreciated by management at the college:

I think there is a realisation that counselling is an important element of the student focus. Whether it is perceived as value for money will depend on the climate and the institutional approach to non-academic provision. (respondent 4)

Managers at an upper level are often too remote from what happens at ground level and in terms of the student experience (respondent 15).

The role is appreciated by some while others appear to take the view I would liken to survival of the fittest and brightest (respondent 9).

Direct financial benefits in this regard were mentioned by one respondent:

I am currently working on a value and impact project to demonstrate the significant effects our service has and the contribution it makes to the quantitative and qualitative bottom line (respondent 18).

The importance of the link with retention was, perhaps unconsciously, alluded to by one respondent who seems to suggest that his or her work is valued in terms of its role in retention:

Not all but most (managers appreciate the role of counselling in retention) - *I believe my work is valued (respondent 13).*

In summary, all respondents believed that counselling played a role in retention. There is evidence to suggest that college management appreciate this role. However there may be a concern, not explicitly expressed, that it is this role which, in the view of college management, gives counselling relevance.

5.3.5 Treatment deficit

Unmet need is the one of the major drivers of help-seeking. Without an appreciation of this unmet need and its consequences and extent, the impetus to increase help-seeking and to increase service usage will be diminished. To determine if the extent of unmet need was

appreciated, participants were asked if they agreed with the statement "We currently treat most students in the college who need counselling". The result is shown in Figure 44.
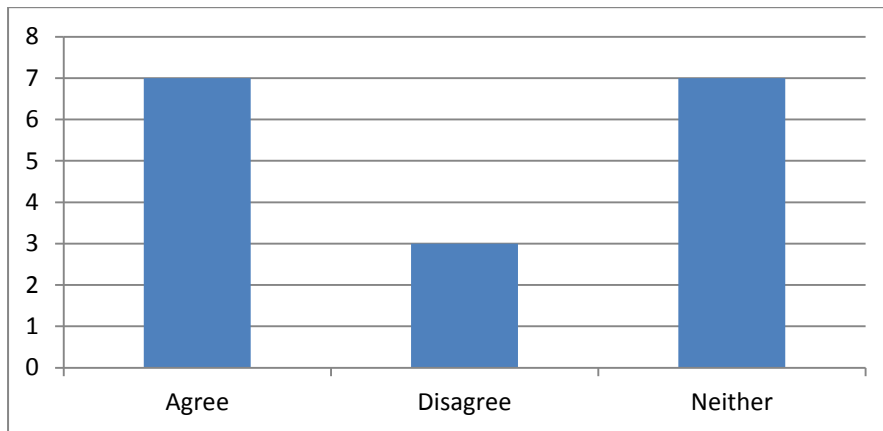

Figure 44: We currently treat most students in the college who need counselling

Prevalence figures for students suffering from emotional distress are well stated and widely available. Utilisation figures for student counselling services are also well known and widely available. As mentioned in the literature review (Bewick et al, 2008) showed that 29% of students reported clinical levels of psychological distress, of which eight per cent of students had moderate-to-severe or severe levels of distress. Utilisation of student counselling services is typically estimated to be between three and six percent per annum of the student population with eight percent utilisation considered extremely high. With these figures, it is simply not possible to consider that most students in need of counselling at any particular college are treated by the college counselling service. Yet 7 of the 20 respondents believe this to be the case, and only 3 believe it to not be the case. The comments associated with this question give valuable insights into how student counselling services view their role and their client base. It also gives a particular insight into the disconnect between the counselling service's view of help-seeking and the views expressed in help-seeking literature.

The breakdown of the answers to this question suggests that among student counselling services the "unmet need" view is severely underappreciated. There are further insights to be gained from the comments to this question, for example, as to what represents the client base of the student counselling services. Is this the entire student population, those members of the student population suffering some form of distress or those members of the student population which have contacted the counselling service? The question used the wording

"most students in the college" but some comments suggest that this was read as "most students who contact you". For example

We offer all students who contact us requesting counselling an initial appointment or an Emergency session. As there is such a high demand for counselling we prioritise those cases which we assess as urgent for on-going counselling after the initial assessment. However, there may be some students who would like counselling but who are coping relatively well. In these situations we discuss other options with them as it is unlikely that we will be able to see them for a number of months in the current climate of need (respondent 2).

Most clients who access the service will receive appropriate support but some students may decide that counselling is not for them or is not the right thing to undertake at a particular time in their academic career. The team will discuss with clients whether it is appropriate, or whether other support might be more appropriate, often signposting to other internal or external services (respondent 4).

I am uncertain as to what this question means by 'treat' – anyone who approached the service and is deemed suitable for counselling is offered support (respondent 19).

This suggests that some counselling services see their client base not as the generality of students in need, but a subset of this, namely those students in need who contact them. This is not a resource issue and may go some way to explaining the evident antipathy of student counselling services towards encouraging help-seeking, it is simply not, as they see it, part of their job description. They are, in effect, responsible for students who seek help and not for students who need help.

There is also evidence provided by the comments, that general prevalence rates for mental distress amongst college populations are unknown.

I think this is an impossible question to answer I'm afraid, we'd don't know how many students are in colleges who need counselling, unless they request it or somebody else alerts us to this need (respondent 5).

We see all the students who self-refer. I don't know about the number of students who may need Counselling but chose not to contact us, or who don't know about us (respondent 14).

How could anyone ever possibly know this? How do I quantify the value of "most"? (respondent 6).

Only two comments alluded in any way to unmet need, with one mentioning some of the barriers to help seeking. However, the tone of the comments suggests a relatively small unmet need rather than the sizes suggested by the literature.

We see 7 - 8% of student population each year, noticeably higher than in most institutions. But I'm sure there are others who could benefit... (respondent 17).

I would like to think so but am not convinced I am certain that there is potential demand not met because of concerns over stigma, fear of notes on records (erroneous) lack of understanding of the process and more complex reasoning especially around disordered eating (respondent 9).

The answers to this question and associated comments suggest that the perceptions of student counselling services may be a barrier to increasing help-seeking.

5.4 Interviews

Of the 20 respondents to the survey, six were subsequently interviewed by phone. Interview durations varied from 20 minutes to 45 minutes and handwritten notes were recorded as the interview progressed. The interviews were not strongly directed to allow for the possibility that previously unconsidered themes might emerge. A broad thematic analysis of the interviews suggested the following common themes amongst the interviewees:

- Extent of responsibilities

- Demand and resources

- Referrals / Outreach

- Promotion Strategy

- Marketing

- Targeted Groups

- Ways of Working

- Increased awareness

- Attitude to text messaging service

5.4.1 Extent of responsibilities

Discussion here centred on the notion of responsibility for students who may need help but do not avail of the service. No interviewee felt that such an individual was his or her responsibility. One interviewee stated that the client is always responsible for identification. Another felt that it was the responsibility of the counselling service to publicise the service, but then it is up to the student to come, adding that if the student doesn't come there is not much that they can do. Another interviewee followed this line closely, stating that he/she doesn't feel personally responsible for people who don't avail of the service, but does feel responsible to ensure that all means of availing of the service are provided.

5.4.2 Demand and Resources

Only one interviewer suggested that demand and resources at his/her institution were aligned, having recently received new resources. One interviewee used interns and volunteers to extend resources. Another bluntly stated that there was no money available and that the service was not expandable. One interviewee was concerned with the effects of increased demand, stating that the service could barely cope with current demand, and that increased demand means longer waiting lists. He/she points out that if the waiting time for an appointment goes beyond two weeks, the number of people who do not attend their allotted appointments increases considerably. This person felt it was unethical to increase demand beyond a certain capacity. One interviewee had a particularly interesting take on increased demand and resources. When asked about increasing demand via a text messaging system, he/she felt that by using direct methods to encourage service use, he/she may be accused by college authorities of "touting for business" if a subsequent request for more resources was made. However, if more students came to the service by way of referrals by tutors, then he/she would feel happy top ask for more resources, pointing out that this "was political".

5.4.3 Outreach/ Referrals

Referrals divide between self-referral, whereby a student contacts the counselling service at his or her own volition, and referral by academic (tutors) and facilities (porters, cleaners) staff. Several interviewees stated that tutors, porters or cleaners may contact counselling services to express concern about a student, sometime with and sometimes without the students' knowledge. In these cases the counselling services will contact the student by email and phone call, but in the case of no response will not carry out extensive follow up. One interviewee specifically states that the service puts much effort into ensuring tutors and staffs at the institution are in a position to refer students they have concerns about to the service.

One interviewee stated that students contacted in this manner were usually grateful that someone had taken notice, suggesting that 99% were happy with the call and that such contacts involved all levels up to suicide risks.

5.4.4 Promotion Strategy

Talks, workshops, presentations seem to be the staple for promotion of services. "The service makes an effort to meet students at induction to provide a soft, accessible welcome message" says one. In one institution the service writes to all students at the beginning of the year, and runs wellbeing days, while conceding that there is "very little promotion." Most know us but some students may not know us". In electronic terms, one institution states that they put a lot of effort into the counselling services website, whilst another states that promotion is carried out electronically, mainly via email. One interviewee specifically stated that the service had no policy on promotion, whilst another confirmed that his/her counselling service had no promotion strategy. As mentioned in the section on referrals, one institution ensures that staffs are encouraged to refer students they have concerns about, which is also a promotion proposition.

5.4.5 Social Marketing

Most interviewees were unfamiliar with the term "social marketing", the application of commercial marketing techniques for social benefit, with one confusing the term with social media marketing, e.g. using Facebook etc. Increasing knowledge of social marketing was discussed with three of the interviewees; with all three stating that they would not consider attending, or sending a staff member to a course on social marketing. If expertise on marketing was needed, they would use general college marketing resources. Other comments regarding marketing were "keep marketing as best we can and try to find new ways to reach people" whilst another stated that regular emails were sent by student services about various student issues and these included emails with details of how to contact the counselling services.

5.4.6 Targeted Groups

Whilst concern was expressed over increasing usage generally, it would seem that there is general agreement regarding the need to increase usage amongst certain target groups, most notably international students, who are currently underrepresented. The fact that this would place extra demands on the services is accepted. When discussing the texting service, one interviewee stated that he/she liked the idea that it could be used to target groups. Several

services make specific efforts to target underrepresented groups. Lone parents were mentioned as another group which had been targeted.

5.4.7 New Ways of Working

To overcome the lack of resources, some interviewees mentioned changing the way the counselling service operates. One interviewee, when asked how he/she would feel if only ten per cent of needy students were using the counselling service expressed in the strongest terms that he/she would be flabbergasted. When asked about the situation whereby only sixty per cent of needy students were using the service, the interviewee stated that he/she would not happy with any such number and in such circumstances would consider new ways of working. Another interviewee specified the use of a peer support service at his/her institution. This was overseen but not run by the counselling services and as such was not a drain on resources. It was felt that the number of personnel providing peer support could be increased dramatically and that the texting service could be used to recruit students with mental and other difficulties into the peer mentoring program and then referred onward to the counselling service as required. By using this method the interviewee felt that cost was not proportional to the number of clients. In terms of promotion, two interviewees specifically stated that they seek new ways to reach out, with one stating "interested in extending the reach, looking at more creative or different practices", and as previously mentioned "keep marketing as best we can and try to find new ways to reach people".

5.4.8 Increased Awareness

Even though the interviews were relatively short, two made statements that suggested an increased awareness of the situation by the end of the interview. One interviewee spontaneously ended the interview by stating that he/she "very much appreciated having my consciousness raised in this regard". Another stated that the service was made up of multidisciplinary group consisting of a psychiatrist, a GP and various college representatives but no marketing person. By the end of the interview he/she stated that he /she could see the worth in having a marketing person involved as part of the group but did not know what the other group members might think.

5.4.9 Attitude to Text Messaging

The text messaging research was mentioned to some interviewees as background information and to gauge reaction. One stated that s/he would be daunted by such a service as s/he didn't want people with minor problems coming for counselling. Another thought the service was

"brilliant" but noted that at her/his institution staff were not allowed to send broadcast emails to students, never mind texts. Another felt the service was interesting, particularly liking the idea that specific groups could be targeted.

Discussion

It is possible to discern some contradictions inherent in the interviews. For instance, there is resistance to "increasing demand", but an apparent desire to "increase reach", though the two may be to some extent considered as synonyms. However, if we consider the objections to increasing demand, they can be seen to be concerns that increasing demand may lead to an increase in people with minor problems presenting at the service and using up resources unnecessarily; others were concerned about increased waiting lists. Perhaps, in plain English usage, increasing demand may be seen as stimulating a desire in an individual that previously did not exist, and so this understanding may contribute to the resistance. "Reach", however, seems associated with more favourable connotations. Outreach is a much used term in health parlance, and so increasing reach seems to be a recognised aspiration of any institution providing a social service. This brings us to the question of responsibility. Whilst services may wish to increase reach, they do not feel that achieving an increase is their responsibility. It would appear that responsibility begins only after a student makes contact, or a staff member makes contact on a student's behalf.

What is particularly important about this is that during the course of the interviews no one suggested that the job or responsibility of increasing reach or usage belonged to any other section of the institution. From the interviews it appears that the job, but not the responsibility, for increasing reach belonged to the counselling service, and even at that, the job seems somewhat optional. Though the question was not specifically asked, it is difficult to imagine a counselling service which believes it has the job of providing treatments but no responsibility for treatment outcomes.

Doubtless, all student counselling services want to do right by their students. But the question is, who are their students? All students in the college, all students with needs or all students in treatment? From the interviews we can ascertain that all students in treatment are "their students". As regards all students in the college it was made clear by one head of counselling that s/he was not responsible for the general mental wellbeing of students in the college.

Attitudes cannot be divorced from resources. Increased demand leads to longer waiting times which lead to increased drop-out. As so in terms of student wellbeing, increasing demand is

seen to be detrimental to student mental-health. It may come as a surprise that, from the best of motives, increased help-seeking is seen by a major player in the world of adolescent mental health within Britain and Ireland, to be not just difficult, but undesirable.

Attitudes cannot be divorced from knowledge. Knowledge regarding unmet need seems lacking. If such knowledge is there, it appears to be dimmed by the everyday realities of coping with students within the limits of inadequate resources. There is some suggestion within the interviews that if it was apparent that counselling services are dealing with only the tip of an iceberg of student need, consideration would be given to new ways of working, even within current resources.

Student populations tend to be broken down in terms of ethnicity, age, gender, postgraduate and undergraduate, national and international etc. These figures are certainly available within an institution and are often made available publically in the annual report. Student counselling services will also have similar breakdowns regarding students attending the counselling services. So it will be immediately apparent if any group is underrepresented within the counselling service. The issue of underrepresentation then becomes a matter of diversity and equality. Institutions will have strong policies on diversity and equality and their importance will generally be appreciated by all staff. This can lead to questions regarding the reasons for the underrepresentation, and action to correct the situation. There are no comparative numbers compiled within colleges to suggest general underrepresentation in terms of need versus usage, so this will not be obvious in the way group underrepresentation is. In any case, this group underrepresentation is not a specific matter of diversity and equality. This may explain the apparent requirement to target groups with view to increasing reach to these groups, whilst at the same time holding back on increasing reach to the general student population.

5.5 Test of Hypothesis 4.

In the light of all the above we consider that Hypothesis 4 has been supported.

6   Contributions to knowledge

As far as I am aware, this study involving broadcast texting to a student population (or, indeed, any other population) to encourage help-seeking for mental health difficulties is the first of its type. As such, the contributions to knowledge involve matters of pragmatism which can be incorporated into future studies, as well as scientific findings which uncover the potential for help-seeking using texting. The study regarding the attitudes of student counselling services to help-seeking is also, as far as I am aware, the first to address this issue.

Perhaps the two most important finding are that appropriate text messaging broadcast to a student population can, to a statistically significant extent, speed up and increase help-seeking and that the attitudes of student counselling services towards increased help-seeking may be a barrier to help-seeking.

6.1   Texting service

Broadcast texting by college services to students, appropriately implemented, will not be considered by students as spam.

A texting rate of once a week is acceptable to students.

The majority of responses will be received within two working days of texts being sent.

Texting is, for students, the preferred mode of communication for such messages.

Students object to receiving text messages from the college directly relating to mental or sexual health.

Students will accept and act on messages which encourage mental health help-seeking and which do not directly specify issues relating to mental health. It is likely that this acceptance occurs through the use of moderated language, the perception that texts are sent by a trusted source, and that the mental health texts form part of a stream of texts that are relevant to the students.

First year and second year students are more likely to respond to college texts than third year students.

The majority of students who seek help from the counselling service via text will be responding to a counselling type text sent by the college and that this response will be sent within two working days of the college text being sent.

The help-seeking response rate (responses per student) is between .000684 and .005109 (95% CI) with a mean response rate of .002897 per counselling text sent though this may change as the rate of sending such texts increases.

Texts sent which directly specify mental health conditions will generate objections and may be counterproductive.

6.2 Student Counselling Services

The encouragement of help-seeking is not a priority for student counselling services.

The prevalence of mental illness within college is not appreciated by counselling services.

Social marketing is not well understood by student counselling services.

Counselling services play an important role in student retention and this role is considered to be important by college management.

Counselling services are under resourced.

Given current resources and ways of working, college counselling services cannot cope with even a modest increase in the number of clients.

6.3 Strengths and Limitations of this research

The fact that that this research is designed to increase help-seeking behaviour rather than examine attitudes or intentions is a major strength. It is strictly quantitative in its measurement of help-seeking and was able to measure actual help-seeking rather than rely on self-reported help-seeking. The electronic recording of occurrences of help-seeking was a particular strength allowing for their measurement and subsequent analysis. The response to the survey which sought to evaluate the attitudes of student counselling services to help-seeking was considerable and representative of universities throughout the UK and Ireland. The research also broke new ground on two fronts; the use of texting for help-seeking and an examination of the attitudes of student counselling services to increased help-seeking.

Sample size was a particular limitation. Important parameters had to be estimated rather than measured, though the research here always tended towards conservative values. The quasi experimental set-up allowed for less rigor than an RCT. The inability of the research to measure non-direct response parameters is also a limitation which affected the measurement of help-seeking.

7   Future Research

Future research can be concerned with developing a model for help seeking, predictive model to maximise response, the extension of social marketing to other commercial analogies as in business practices and repeating the texting study with a larger sample to verify the current research and to determine by how much help-seeking is speeded up. Future research may also determine how attitudes of counselling services can be overcome and how counselling services can be organised to cater for increased demand.

7.1   Model for help seeking

The properties of measured response and tracking which are inherent in the practice of direct marketing can be used to help formulate a model for help seeking. If three counselling texts are sent, anyone seeking help as a result of the third text can be asked what caused them to seek help at this text and not seek help at the previous texts (assuming help was needed at those times). If it was possible to interview several such individuals, or obtain information relating to them from the counselling service, it would be possible to gain an insight into the external and internal factors which prevented and caused help-seeking. This is more precise than a more general type query to someone seeking help. It would be possible to examine particular points in time for various individuals at which help was offered but refused and compare it to a moment when help was offered and accepted. The results could be compared to current behaviour change and persuasion models, and may contribute to the formulation of a help-seeking model.

7.2   Predictive model to maximise response

Nash (2000) suggested that the "miracle of statistical probability" is a major feature of direct marketing. With this in mind, the type of direct marketing outlined is an ideal candidate for predictive modelling. Future research may generate a predictive model based on variables relating to texts (time sent, wording, frequency of sending) and recipients (age, sex emotional status, location at text receipt) that could be used to maximise the response of an intervention which, in turn may lead to increased help-seeking. Location at text receipt refers to the location of the recipient when the text is received. As a college can send texts to different student groups, for example, first year physics students, it can know from their lecture schedule where individuals are likely to be. Texts can be sent when students are free or perhaps when they have just emerged from a lecture room which is close to the student

services office. Future research can involve studies which seek to vary these attributes so as to maximise responses and build a predictive model for responses.

7.3 Relevance of business practices

We have seen how important social marketing has been to understanding the texting study. Social marketing is based on the business practice of commercial marketing. Can other similar business practices help in encouraging help-seeking? Help seeking interventions can also be examined using business practices such as SWOT (Strengths, weaknesses, opportunities and threats) analysis and PEST (Political, economic, social and technological) analysis. A SWOT analysis to compare a texting intervention with an email intervention would consider the inherent strengths and weaknesses of each and the outside opportunities for and threats to the success of such interventions. A PEST analysis would seek to answer such questions as how the intervention is affected by the technological environment and how it may be affected by workplace politics. We may recall that one student counsellor interviewee indicated that directly increasing help seeking would be unacceptable but indirectly increasing help-seeking would be acceptable. This was, as s/he put it, " political". Another business practice that may be incorporated into efforts to encourage help-seeking is competitor analysis. What are the competitors to help-seeking? One candidate may be information. A student may feel the need to do something about his or her condition and so considers obtaining information or obtaining help. Obtaining information may be seen as the easier option and so this is chosen, even though help may be what is required. Does the "easier" availability of information dissuade students from help-seeking? Corporate structures typically include a product department and a marketing department. The literature of business scholarship refers to conflicts between these two departments which arises from the different priorities of each department and how such conflicts may be overcome. Within student counselling services there is no conflict because there is no marketing department. It may be useful to research this by comparing it to case studies and scholarly research from the field of business. Future research can examine how useful these practices are in evaluating and designing effective help-seeking interventions.

7.4 Utilising a larger sample

The current study, for reasons mentioned, was carried out with a sample of about 1000 students. A statistically significant effect was noticed over a modest timescale. The effect size

was large. Redoing the study with a larger sample size will allow for the determination of effects or non-effects over larger timescales.

7.5 Attitudes to help seeking amongst student counselling services.

Further research must be done to validate the results uncovered here. Interventions must be developed and researched which seek to alter attitudes to help-seeking amongst student counselling services. Resources are an issue and are likely to remain so. To create an environment which allows for increased help-seeking and actively encourages it, the standard ways of doing business within student counselling services must change and research must be conducted to determine what those changes should be and to ensure that any changes are beneficial and appropriate.

8   General Conclusions

There are two items I would like to begin this section with. One involves solving problems, particularly intractable ones. The other involves road traffic accidents here in Ireland.

The scale of the problem relating to psychological distress such as depression and anxiety is enormous, perhaps the tuberculosis of our times. Initially, I was interested in contributing to solving this problem but soon realised that anyone taking up the challenge presented by it will have to settle for contributing to improving the situation, which perhaps affords a different perspective.

The other item relates to road deaths in Ireland. In the five years from 2007 to 2012 road deaths in Ireland reduced by half. The changes that brought this about were resisted by various groups and were facilitated by social marketing. It may be that we are at the beginning of a confluence, cultural, technical and social regarding psychological distress that is comparable to Ireland five years ago in terms of road deaths

And beginning it is.

One observation noted during this research related to how research literature presented the scale of the problem. Typically, point prevalence of depression was provided in isolation, or compared to annual usage of counselling services. The vagaries of epidemiological numerology make estimating the scale of the problem difficult to discern from these types of numbers (in fact, impossible to discern in the absence of a measurement of incidence rate or illness duration) and the "treatment deficit" for college mental illnesses difficult to quantify.

The WHO, as well as some researchers, has made reference to the lack of intervention studies regarding help-seeking, compared to prevalence studies or studies relating to the barriers to help-seeking. This may be because, as was the case with the texting study, obtaining sufficient buy-in from gatekeepers whose co-operation is necessary is extremely difficult, and in the case of standard university research, may jeopardise completion of research projects.

The importance of upstream – downstream mechanisms in attempts to change behaviour was strongly apparent in this research. The upstream situation was, in a sense, forced upon us for consideration, as it was realised that no further progress could be made downstream without some changes upstream.

It is possible that the differences in researcher and counsellor language were detrimental to attempts to gain cooperation. Increased outreach may be more acceptable than increased demand or even increased help-seeking.

In terms of upstream encouragement of help-seeking, it may be that including mental health indicators for each college in publicly available reports may focus more attention on, and therefore increase and encourage, help-seeking.

The "one sample post-test" type research, while not as scientifically pure as RCT research, may provide valuable insights into current interventions. It may also be easier to implement promising interventions and then carry out quasi experimental research on the back of this, rather than proposing RCT research which may later allow for an intervention.

We have, in terms of future research, alluded to the idea of a marketing department. Another prospect which may be useful is separation of promotion and provision,. In the commercial world, most organisations will have, amongst others, a marketing department and a production department. There is generally some measure of conflict between these departments, given that both have different priorities, but both are considered essential and in some cases the conflict may be seen as constructive. Typically, the production department complains that the marketing department tries to overpromise in an effort to increase and maintain customer acquisition, whilst the marketing department complains that the production department should do more to increase efficiency and improve production techniques to meet customer demand.

Another area for consideration is expansion beyond student counselling services. Not all sufferers of mental distress are students and lifetime prevalence for various mental illnesses are on a par with student prevalence. Within the college, the student services department provides what can be called a "trusted source". Other trusted sources within the general community are employers, sports clubs, scouting associations, religious groups, military units and any entity which has, or wishes to assume, legally or ethically, a duty of care towards its associates and members. To utilise the texting method of identification, the trusted source must have ethical access to mobile numbers of its members and an ethical rationale for texting this base. A sports clubs duty of care may extend to physically safe environments, ensuring a lack of harassment within and between teams and helping members to cope with the stress of competition. In seeking identification, wording will have to be appropriate to the environment. "If you're thinking of killing yourself, give us a shout. And good luck with the

match on Saturday", may not be wholly appropriate but a more nuanced, "Don't let stress or worries get in the way of your performance. If you think they might, give us a shout"..

This research may also be seen as an incorporation of identification and outreach into the sphere of e-mental health. Currently e-mental health is mainly concerned with using technologies to provide treatment, or some aspect of treatment. For example an editorial discussing e-mental health citing 37 papers made no reference in the body text to help-seeking and included only one reference to help seeking amongst the cited references (Riper et al, 2010).

Research could perhaps move towards the entire process of obtaining remission, by considering a "value chain" model as shown in Figure 45. This will allow help-seeking to be viewed in association with other parts of the chain. We have seen from the surveys and interviews with student counselling services that help-seeking cannot be considered in isolation.
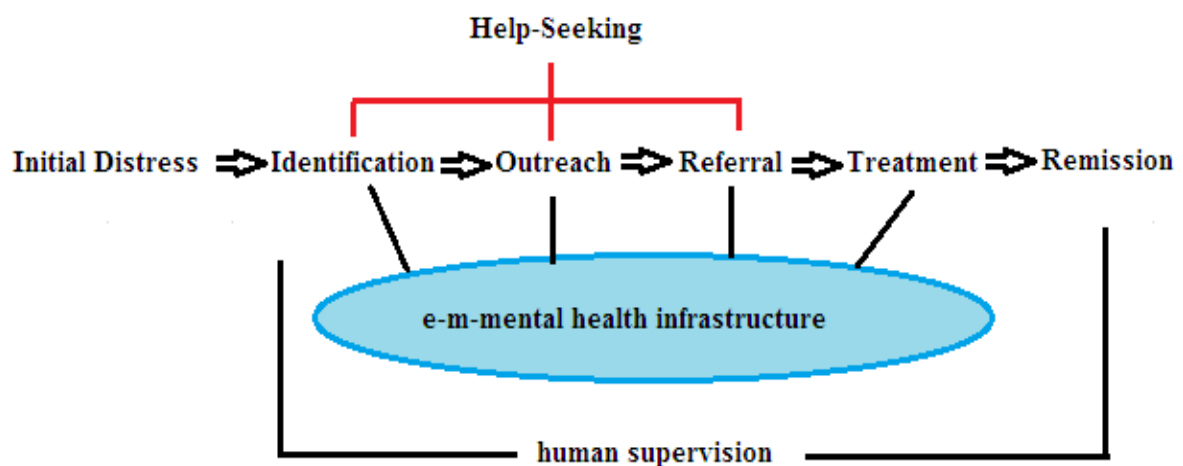

Figure 45: Value chain model

One of the advantages of the proposed model is that it can help identify new paradigms. For example, within the texting service outlined in this main research, there is the possibility of extending the text response scenario thus:

1. All students at a college are sent a screening text to their touchscreen smartphones.

151

2. On tapping a button, a depression screening program is presented on the smartphone, and a notification is sent to a central server.

3. The recipient chooses whether or not to complete the screening by pressing continue or cancel.

4. An indication of the choice is sent to the central server.

5. Based on the outcome of the interaction with the screening, the recipient is sent to his or her smartphone an appropriate treatment package. This could involve a CBT course, a mood diary, a schedule of interaction and the offer of a peer support or student service support supervision or assistance.

New technologies have always presented opportunities and threats.

9 Recommendations

The recommendations relate to initiating a texting intervention to encourage help-seeking at a college institution, acceptance by the student body and ensuring maximum efficacy.

1. Many colleges already have a texting service in place which is used to inform students about cancelled lectures and overdue library books. Thus, they already have the mobile number database of the student population and have already taken the legal and ethical decision that it is acceptable for the college to contact students about college matters by this means. The help-seeking intervention using text messaging should be presented as an extension of this mode of college – student communication covering information on all student services e.g. careers, academic, admissions and, importantly from the perspective of the intervention, counselling.

2. Many student counselling services allow students to contact them by email, and will be happy to contact students by email. Texting may pose particular problems for their ways of working. Texting services such as Essendex now allow texts to be sent as emails and texting responses to be received via email. In other words, a counselling service can send an email to a group of students, or indeed all students. Essendex will then receive this email and send it on to students as a text. Any texts sent in response to this will then be converted by Essendex to email and sent on to the counselling service. The benefits of the texting intervention can be obtained without the need to change processes at the counselling service. This facility was not available when the field test was being conducted as part of this research and the recommendation here is that this facility be used.

3. As a means of introducing the service to college counselling services, it may be presented as an outreach intervention targeted at particular groups of students, such as international students, who are underrepresented in terms of counselling service usage, with a view to increasing representation.

4. Colleges with a peer support system should be initially targeted.

5. The text messages sent to students relating to the counselling service should use moderated language such as "stressed", "worried" and "concerned" and not use terms such as "mental" or "depression", should be part of a stream of texts relevant to students, and be seen to originate from a trusted source.

6. The texts should be sent on a weekly basis and may be repeated on a monthly basis.

7. Counselling service texts exhorting help-seeking should be sent at a rate of once a month.

8.   Texts should be sent morning or afternoon.

9.   The remit of student counselling services within the Initial distress – Identification – Outreach – Referral – Treatment – Remission chain should be defined.

10.   Student counselling services should be generally educated on unmet need and social marketing.

11.   Annual reports by Student Counselling Services should include a section on marketing.

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Appendices

Appendix 1: Survey of 1ˢᵗ Year Students - Attitudes

Are you male or female:

Have you received any texts from NCI in the past few weeks?
Yes
No

If yes, how did you feel about receiving the texts?
OK
Annoyed
Didn't care

How often would it be ok for NCI to contact u as a group by text?
As required
Every day
Once a week
Less Often
Never

Would you be ok receiving texts from the college relating to?
(write yes if OK, no if not OK next to item)
Fees
Careers
Sexual Health
Exams
Student Union activities
Mental Health
Sports

Would you object to receiving any of the following texts?
"Some students' fees are still outstanding. If you are one of these, can you please ensure prompt payment"
"A lot of students suffer from depression. If you think you may be one of these, please contact the counsellor at 556"
"Hi, If you are bothered by anything, please contact the student counsellor at ext 556"
"Exams are important to your future. Please ensure that you take due care when answering questions at the exams next week"

Your mobile provider is:
O2
Vodafone
Meteor
3

Do you prefer to talk, email or text?

Is you phone capable of
Bluetooth

MP3
WAP
Camera
Video

Have you ever downloaded music to your phone?

Do you send or receive MMS messages:
Often
Rarely
Never
Do you think it would be useful to text a lecturer regarding class, lecture issues?

When would you prefer to receive texts from the college?
Morning
Afternoon
Evening
Night
No Preference

Care to add your age ?

Anything to add (or Like to leave name, number for follow up ?)

Appendix 2: Survey of 2nd Year Students - Responses

Are you:
Male
Female

Age :

Would you rather the college contacted you occasionally (less than once a week) by:
Phone
Email
Text

Which of the following health type messages would you LEAST like to receive by text from the college?
Physical Health
Student Support
Mental Health
Sexual Health
Emotional Health
General Wellbeing
I'm OK with them all.

Have you been annoyed by the texts sent by the college
Yes
No
Didn't receive any

Would you object to receiving text messages (one a week) about aspects of college life from the college
Yes
No

Which of the following messages would you be most likely to respond to:
Let us know if you are concerned about college life. Text us now.
Free coffee in Mocha Deck. Let's know how u like college. 1 for hate it, 2 getting by, 3 OK, 4 like it, 5 love it. Free coffee for every respondent !
Hey! How is it going. Let us know
Wouldn't respond to any of above

Which of the following messages would you be most likely to respond to:
We are conducting a survey re college life. Can you spare a moment to text us with you comments. Many thanks.
1 its great, 5 its shit. 2 3 and 4 are in between. Lets no how you feel about college life.
Wouldn't respond to any of above

Which of the following would you complete if sent to your mobile phone: (please tick)
Risk assessment for physical health
Risk assessment for sexual health
Risk assessment for mental health
Risk assessment for emotional health
I would not complete any

IF you were having problems, which are you most likely to respond to: (1 most likely, 4 least likely) :

Any problems, come and talk to the college counsellor. Strictly confidential
Any issues, come and talk to the college counsellor. Don't face it alone.
Any issues, talk the college counsellor. No problem too big or small.
Any problems, talk the college counsellor now. Don't wait until it gets out of hand.
I wouldn't respond to any, no matter what problem I had.
Reason for your answer to this question :

Appendix 3: Email survey sent to College Counselling Services

Can you please rank (1 to 3) the major challenges you currently face
(Please order 1 to 3, where 1 is the most serious challenge ,and so on):
● Meeting current client needs with the current resources
● Encouraging more students to use the service
● Maintaining current service level
Comment:

Given current resource constraints, encouraging more students to attend student counselling would be
Ethical ,Unethical
Comment:

Students are responsible for making initial contact with the counselling service
Agree Disagree
Comment:

Student counselling plays an important role in student retention
Agree Disagree
Comment

The role of student counselling in student retention is appreciated by college management at my institution
Agree Disagree
Comment:

We currently treat most students in the college who need counselling
Agree Disagree
Comment:

Given your current level of resources, can you please rate the order in which you would like to improve aspects of the counselling service(Please order 1 to 3, where 1 is the first thing you would improve and so on)
● Encourage more students to use the service
● Improve the environment of the counselling rooms eg decor, furniture
● Increase the number of available counsellors or counselling hours
Comment:

When considering service promotion and service provision, do you feel that
● Service promotion is more important than service provision(Agree, disagree)
● Service provision is more important than service promotion(Agree, disagree)
● Service provision and promotion are equally important(Agree, disagree)
Comment:

 END OF QUESTIONS