

**Study into the impact of stress on individuals'
information behaviour**

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Abstract

Within Library and Information Science (LIS), research into information behaviour has largely focused on the cognitive and task-related elements within the academic or professional environments. Those studies that involve the affective component or those concerning the non-work/academic, i.e. leisure, environment receive less attention and research focus.

This study aims to explore the impact of stress on individuals' information behaviour, focussing on behaviours that appear to be particularly interesting or significant. The research also aims to investigate the motivation behind accessing information in a negative affective state and the emotional changes experienced by individuals when they do.

45 participants responded to a survey and then 6 respondents were interviewed during the course of this research. The findings reveal that stress has an impact on various elements of individuals' information behaviour, and that these changes in information behaviour are strongly interconnected. Most individuals considered accessing information in times of stress as a source of relaxation and escape from the daily grind of the everyday, essential to maintaining their relationships and emotional balance. Overall, the use of information when stressed was seen to be a tool to enable to user to achieve and maintain a sense of happiness or pleasure.

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Chapter 1: Introduction

1.1 Chapter overview

This research aims to provide an insight into the information-seeking behaviours exhibited by a group of individuals who report themselves to suffer from the effects of stress through stressors present in their work and family lives. It investigates the impact of stress on an individual's relationship with information sources and documents, and how the information documents accessed influence the individual's emotional state. Furthermore, the research looks into the methodological considerations that may be necessary to undertake research in such a context.

The researcher's interest in the topic stems from a personal experience of the effects of occupational stress and its impact on other areas of life. The coping mechanisms developed by the researcher in these times instigated the desire to better understand the information needs and behaviours that are utilised by others to cope with stress in order to better support those individuals in both society and their chosen occupations. It is hoped that the research will provide an insight into the various informational tasks employed by these individuals in order to combat stress and achieve a sense of pleasure and happiness through information.

This chapter will outline the problem statement and research context of the current study, and will then outline the research aims, objectives and research questions.

1.2 Problem statement

Maintaining the balance between the occupational, familial and social spheres and their inherent commitments is one that most people struggle to adequately control at some point in their lives. The stresses and strain associated with one sphere of life can extend into another, and individuals develop strategies to help them manage stressful situations and environments (Stoica & Buicu, 2010). Many anti-stress activities and programmes emphasise the importance of mental relaxation during leisure time in an attempt to positively change individuals' emotional states (Stoica & Buicu, 2010). The influence of the affective element has been shown to be significant in information behaviour, particularly during information retrieval (Nahl, 2007) and when choosing books to read for pleasure (Ross, 2000b). However, compared to the number of studies into the cognitive aspects of individuals' information behaviour, study into this affective element has received less focus. Furthermore, the majority of the studies conducted into information seeking behaviour have been conducted in the task oriented environments of professionals, students or researchers (Hartel *et al.*, 2006), yet information plays a vital role in our lives outside of those specific environments.

The researcher argues that a deeper understanding of the impact of stress on information behaviours would better enable individuals to self-support, allow information professionals to learn new angles to collection development and reader's advisory, and create the possibility of partnerships between health, library and occupational services.

1.3 Research context

The societal effects of stress on a nation are visibly observed through the statistics of sickness absence in the United Kingdom's workforce for the past two years: in 2012, UK workers cited stress as one of the major causes of absence and contributed to an average per worker of 5.3 days off (BBC, 2014). In 2013, a total of 131 million days were lost due to sickness absence of which 15 million were attributed to stress (Office for National Statistics, 2014a). The health of a nation's population is influenced by a multitude of factors, inside and outside of the workplace, and those factors whether experienced at work, at home or out in the community can have detrimental and lasting effects on individuals' physical health if the resulting stress is not managed appropriately (Hurrell, 2011).

Occupational stress research over the past two decades has shown a general increase in the numbers of people suffering from stress and its consequences (Hurrell, 2011), and the implementation fifteen years ago of National Stress Awareness Day underlines the growing need to help individuals realise when things get too much and find a way to relax that works for them (Breathing Space, 2012). The perceived well-being and happiness of the inhabitants of the United Kingdom today is analysed and compared internationally with other European countries (Office for National Statistics, 2014b). The well-being of an individual is influenced by a variety of economic, social and health factors, and over recent years the economic and social climates of many countries have been characterised by unemployment, recession and budget cuts. These conditions directly influence stress levels and while an individual's well-being depends on the amount of stress experienced it also depends on how they cope with the emotional impact of that stress (Edwards, 1990). Anti-stress programmes highlight the importance of mental relaxation to manage stress (Stoice & Buicu, 2010) and one of the main types of casual leisure identified by Stebbins (1997, 2007) is grounded in relaxation. The impact of leisure on our everyday lives, including our information behaviour (Fulton & Vondracek, 2009), the large quantity of information objects developed for involvement in leisure and the acknowledgment of the importance of the affective in information behaviour leads the researcher to conclude that further research into understanding how stress impacts on individuals' information behaviour in the course of their everyday lives is both relevant and necessary today.

1.4 Definition of information

This study intends to explore the uses that individuals make of information when under stress to relieve the effects of that stress, as well as how stress influences their information activities. However, within LIS research the term “information” has provoked much discussion with the scope and definition remaining ambiguous and used in a variety of ways (Buckland, 1991). Throughout this study “information” shall be considered in light of Buckland’s (1991) definition of “information-as-thing” in which “information” is applied collectively to include any medium through which knowledge, opinion and belief can be communicated, and therefore encompasses text, video, image, song, sound, speech etc.

1.5 Research aim and objectives

1.5.1 Research aim

The aim of this research is to investigate the information behaviours and preferences of a group of individuals who identify themselves as suffering some form of stress in their daily lives.

1.5.2 Objectives

- To suggest how the study of this group may inform the practices of information providers, health care professionals and employers.
- To create a typology of the information preferences of the group, identify and classify the motivating factors for their self-reported information behaviours, and to identify the various affective states and changes experienced as a result of their information use.

1.6 Research questions

The study seeks to answer the following research questions:

1. What are a stressed individual’s preferred sources of information, and how do these differ from their normal informational activities and sources?
2. What characteristics do they look for in a chosen piece of information while under stress and how do they find what they want?
3. What is the end goal and motivating factors behind the accessing of information while stressed?
4. What emotional changes does an individual experience during information use?

1.7 Chapter summary

This introductory chapter set the context for the study by recognising the stress is an emotional state that can influence and impact on all areas of a person's life. The research problem and context was explained as a desire to understand how individuals utilise information to positively change their emotional state and the information behaviours and preferences they exhibit in these situations. Finally, the research aims, objectives and research questions were introduced.

Chapter 2: Literature Review

2.1 Chapter overview

This chapter presents a review of the literature examined, and provides theories and models of information seeking behaviour (ISB) and what is known about information behaviour in relation to the affective dimension and casual leisure. The chapter begins with a historical context of ISB, then moves to consider models with links and ideas specific to this study – finding without seeking and casual leisure information behaviour. The affective dimension is then presented as a unique context for the study of information behaviour (section 2.3), and then literature from both within and out with the field of LIS is called upon to investigate connected areas of study which influence individuals' information use as a stress management tool (sections 2.4-2.5).

2.2 Models of Information Seeking Behaviour (ISB)

Information behaviour has been studied in a variety of contexts, with the main focus such as groups of people, motives and informational goals studied differing, however what has become apparent is that information behaviour is more interpersonal than first assumed (Case, 2012). Context emerged as being of extreme importance, and information seeking has proven to be a dynamic process engaged in by individuals on a daily basis although potentially unknowingly. Various influential models have emerged over the years which offer a concrete diagram such as a flowchart or simulation to explain a complex real process in simplified way (Case, 2012). Models are frameworks to enable and help researchers think about a problem and formulate statements about the relationship between their propositions; Wilson (1999, p250, quoted in Case, 2012) states that within information behaviour the models “attempt to describe an information-seeking activity, the causes and consequences of that activity, or the relationships among stages in information-seeking behaviour”.

Many influential information seeking behaviour models were derived from the study of students, academics or researchers, for example Kuhlthau's “Information Search Process” (1991) or Ellis' studies into information seeking patterns (1993). These models focus on specific information needs and tasks in a structured work or study environment, rather than on the various information behaviours and uses an individual may carry out in the course of their everyday life. Kuhlthau's “Information Search Process” considers the actions, feelings and thoughts an individual undergoes as they move through the various stages of bridging an identified knowledge gap through interacting with information. A key concept within the model is the feeling of

uncertainty, which in turn have an effect on the user's emotions and motivation to complete their information search and bridge the knowledge gap (Kuhlthau, 1991). Kuhlthau's model, while influential and often utilised in academic research, is limited by its focus on solely the search process. It therefore does not take into account the contextual surroundings prior to and after the search and the impact of this on the individual and their information needs.

A shift in focus led to researchers focussing on how individuals encountered information in everyday situations in order to make sense of their world; Dervin (1976) focussed on everyday information needs and the importance on sources of information classified as informal, i.e. family and friends. Chatman (1991, 1996) used conceptual frameworks to examine the everyday information needs of particular groups of individuals situated within specific social contexts. The contexts chosen by Chatman included janitors from socio-economically deprived communities, female prisoners and elderly women in care homes, and enabled her to establish concepts applicable to context-specific situations, such as the "small world" (1991) and "insiders and outsiders" (1996).

Savolainen's model clarified everyday life information seeking as information seeking that "people employ to orient themselves in daily life or to solve problems not directly connected with the performance of occupational tasks" (Savolainen, 1995, 267). This model drew on concepts from outside LIS research, most notably ideas of social, economic and cognitive capital (Case, 2007), and describes how habits and attitudes allow individuals to make meaningful choices based on their personal beliefs and values. The model developed through interviews with individuals about their non-work related information seeking and produced a series of important concepts which affect the process: personal values and attitudes; a wide variety of situational factors and the searcher's own psychological traits (Agosto & Hughes-Hassell, 2006). The introduction of ELIS and the associated social theories utilised in the models, particularly by Chatman and Savolainen, has shifted the focus of research away from the individual toward social groups and the cultural conditions within which they operate (Carey *et al.*, 2001).

2.2.1 Finding without seeking

The previous information models presented all involve some form of active or purposeful information seeking on the part of the individual or social group, whether to fulfil a work, hobby or other acknowledged information need. They revolve around a single, focussed current information need usually related to a systematic search for information and the searcher is typically constructed as an individual in a state of

uncertainty to get answers that help resolve this specific task (Ross, 1999). However, people discover information in their everyday lives while monitoring the world and there are incidental forms of information behaviour that do not involve active information seeking on the individual's behalf (McKenzie, 2003). The idea of a clearly articulated question in the mind of the searcher as the first stage of the search process is an assumption that only captures part of the information seeking domain (Ross, 1999) and implies a cognitive focus that's not always present.

McKenzie (2003) utilised retrospective in-depth interviews to examine the various information practices, the range of elements in accounts of information behaviour, as active engagement in information seeking does not account for all information behaviour. Indeed McKenzie (2003) found instances of active, incidental and serendipitous information practices being reported by the social group in her study and, while the gathered information seeking accounts included "a continuum of information practices" the context of the situation in which they were employed played a vital role throughout. In her series of studies concerning how readers' chose a book for pleasure conducted over 194 in-depth interviews, Ross (1999, 2000a, 2000b) discovered that readers serendipitously encountered material in their reading which helped them in the context of their lives. The information encounter was completely non-goal oriented and occurred in an instance where the individual was focussed solely on the pleasurable experience offered by the book; not the knowledge contained therein or the self-improvement to be gained.

2.2.2 Casual leisure information behaviour

Leisure time is a meaningful area of our lives and is of growing importance within a society where work and non-work obligations are many (Hartel *et al.*, 2006) and the activities that individuals undertake in their leisure time have an increasingly important role in modern societies. Leisure is a relatively new vantage point from which information scientists have been examining information behaviour, one which bears greater attention due to the impact of leisure on our everyday lives and our everyday information behaviour (Fulton & Vondracek, 2009). The view of leisure that has been most influential in LIS is that proposed by Stebbins (1997, 2007) who classified leisure into three distinct categories: serious; project and casual. Casual leisure is defined as:

"immediately intrinsically rewarding, relatively short-lived pleasurable activity requiring little or no special training to enjoy it. In broad, colloquial terms, it could serve as the scientific term for doing what comes naturally." (Stebbins, 1997, 18)

In today's society with the development and presence of ICTs and cultural shifts information pervades all aspects of our lives, and leisure time is no exception (Chang, 2009). Elswailer *et al.* (2011) posited that information behaviour changes in a casual leisure scenario compared to those models previously explored earlier in the chapter: 1 – tasks carried out by individuals were motivated by being in or wanting to achieve a particular mood or state; 2 – finding information was secondary to the experience; 3 – information needs were either under-defined or absent and 4 – success was not dependent on finding information. Although there were observable behavioural differences in casual leisure information behaviour, casual leisure contexts still create information seeking contexts that follow established models of information seeking behaviour, namely searching for information and the consumption of information from the text, video, image etc. found (Elswailer *et al.*, 2011). When observing casual leisure information behaviour, Stebbins' six types of casual leisure – play, relaxation, passive entertainment, active entertainment, sociable conversation, sensory stimulation (1997) - were found to be the primary benefits, plus Elswailer *et al.* (2011) discovered another benefit related solely to interaction with information – escapism.

Leisure crosses socioeconomic boundaries, such as age and culture (Fulton & Vondracek, 2009), and understanding how people interact with information during leisure time and what they achieve through that experience could impact on how information professionals organise access for particular groups. While the hedonistic pursuit of pleasure through casual leisure information has been explored, it has not been studied whether the emotional state of the individual at the beginning of the information encounter affects their casual leisure information behaviour and the types of casual leisure experience sought.

2.3 Affect as a research context

The affective dimension of information behaviour has been incorporated into various ISB models in acknowledgement of the influence that emotions, notably in the frameworks devised by Dervin and Kuhlthau (Fisher & Landry, 2007). Kuhlthau discovered that feelings of uncertainty played a key role in how users' seek to bridge an information gap and that "by neglecting to address affective aspects information specialists are overlooking one of the main elements driving information use" (1991, 370). Nahl (2007b) developed the theory of affective load, which assessed the role of factors such as motivation, emotions, feelings, values and preferences in influencing choice and decision-making when accessing information.

Fulton (2009) speculates that the affective is just as integral as the cognitive when trying to understand an individual's information seeking and use, and therefore to understand information behaviour more

holistically a viewpoint which includes the emotional state and responses of the individual is essential. Nahl (2007a) indicates that emotional interactions with information occur throughout our everyday lives via books, the Internet, newspapers, films, databases, sounds; in fact authors, designers, illustrators, and filmmakers (to name, but a few) attempt to heighten our emotions as well as capture our interest through their chosen medium. The emotional state that an individual brings to a task or piece of information impacts upon: choices made; task performance; and final emotional state after use. There is an “inherent emotional and affective quality to information” (Nahl, 2007a, xviii).

Affect is an integral part of everyday information behaviour and, unsurprisingly, the end result of the information process can also be emotional (Fisher & Landry, 2007). The role of affect (emotional states of being) is an area of research within information behaviour which has been under-studied (Given, 2007) however in order to understand individuals’ entire information experience researchers must take into account the emotional states of the searcher which can shape the cognitive experience and the physical processes undertaken. Taking the affective dimension of information seeking into consideration allows the researcher to study different activities and contexts in which information seeking may occur solely for pure enjoyment or to generate a positive response in the individual (Fulton, 2009). The pleasurable phenomena in life are those experiences which an individual desires to do to attempt to escape the daily grind and contrast with the dullness and rationality of the everyday (Kari & Hartel, 2007). These pleasurable experiences gained from information use during leisure time are related to emotional states; within fiction reading particularly, emotions are central to choice of book and are transformed through the reading interaction (McKechnie *et al.*, 2007; Mar *et al.*, 2011).

2.4 Information-based therapy

The power of information to improve an individual’s life has been well-documented and the concept that information, especially in the form of books, can support us in such a way as to promote and protect mental health and wellbeing has been acknowledged as a medical and psychological practice since it came to the fore in the 1930s (Turner, 2008; Jones, 2006), although reading as therapy has been around since the time of the Ancient Greeks (Rubin, 1978). Bibliotherapy, as this practice is known, is especially effective to help people work through specific issues such as grief and those suffering from stress, anxiety and mild-to-moderate depression, and has been a focus of significant amounts of research in the fields of psychology, health and LIS (Turner, 2008). The influence of LIS has been strong in bibliotherapy with it being considered an outreach service incorporated within reader’s guidance in some instances (Rubin, 1978), and the therapeutic aspects of book reading for pleasure have been noted and furthered by other researchers, most notably Ross (1999, 2000a, 2000b). The act of reading, and in some cases sharing this act, has been

acknowledged to have a positive effect in a crisis situation for any individual, not only for those diagnosed with serious emotional or behavioural problems (Rubin, 1978).

At the simplest level bibliotherapy is an individual helping themselves by reading a book and absorbing the benign therapeutic effects to contribute to their general well-being (Brewster, 2008; Rubin, 1978). At the more complex level bibliotherapy is a guided reading activity with the help of a trained facilitator which utilises literature for the purposes of understanding and insight into oneself and encouraging personal growth (Stanley, 1999). The elicitation of emotions through reading is a practice that can produce personal insights for individuals, even transform their emotional state, and can be practised without the aid of a therapist through careful material choice (McKechnie *et al.*, 2007; Ross, 2000b). The term bibliotherapy however can be limiting (Rubin, 1978), as all types of audio and visual material can be utilised to promote self-growth and enlighten the user, particularly music.

Music unquestionably has an emotional influence on individuals, inducing feelings, thoughts and moods particularly when listening to a piece of music which evokes associated memories of events, people or emotions (Knobloch & Zillmann, 2002; Sacks, 2006). The power of music as a vital force for repairing an individual's mood was examined by Knobloch and Zillmann (2002) who discovered its use as a form of self-help to alleviate negative moods in their study. When the guidance of a trained facilitator is added music, as with literature, becomes more than a source of pleasure and allows an individual to realise all its potentialities as a source of help and change (Raglio, 2011). Within both music therapy and bibliotherapy, information is utilised beyond its ability to educate and impart knowledge to an individual and the affective dimension is key.

2.5 “Technostress”

While the introduction of the Internet and the investment into and study of technology has led to great growth and advancement, it also generates a large amount of stress (Stivers, 2004). This is particularly so within the workplace as technology has become the norm and led to computers, mobile phones, the Internet, Web 2.0, e-mail etc. becoming some of the standard tools in most offices as well as being prevalent in our free time through their presence in the majority of homes (Feather, 2008). Today's society is a highly technological and information-dependent society (Feather, 2008), however the prolific spread of ICTs into practically every aspect of our everyday lives, whether directly or indirectly, has transformed information behaviours (Brophy, 2007) and contributed to the rise of a new presenting aspect of stress – “technostress”.

“Technostress” is defined as the feeling of being overwhelmed by technology and being unable to cope with ICTs in a healthy or positive manner (Muller, 2006; Sami & Pangannaiah, 2006). This phenomenon includes feelings of insecurity around technology, a fear of not being able to keep up with technological changes, a fear of being unable to locate information amongst the multitude of available digital sources and technology fatigue, and can present itself as either a struggle to accept technology or an over-identification with technology (Sami & Pangannaiah, 2006).

Technological fatigue presents as a desire to remove oneself from the constant connectivity of the digital world, to back away from the computer screen and seek out other, alternative experiences (Grensing-Pophal, 2013). Although many people are comfortable with technology and have learned to cope with its inherent stressors, it is of little surprise that the 24/7 nature of such technologies as e-mail and Web 2.0 has led to a yearning to step back from their constant presence. The fast pace of technology and response times has led to a potentially uncomfortable situation where users feel the need to always respond promptly to any interaction (Stivers, 2006; Edwards, 1990). This is especially true when Smartphones and tablets with WiFi connections mean individuals cannot switch off or remove themselves completely from their working lives. While work-related stresses extend into the home environment, and vice versa (Hurrell, 2011) technology today has led to an even greater blurring of the lines between the two; this increases the overall stress levels suffered by an individual as they struggle to cope with technology and the overload resulting in fatigue.

2.6 Chapter summary

The chapter presented some of the major information behaviour models which have emerged over the past four decades or so, and reflected on the change in focus that has occurred over that time period. The shift towards everyday life information seeking with its key concepts of sociocultural context and non-work related information seeking was examined. Ross’ discovery of finding without seeking was discussed and the casual leisure information behaviour model of Elswailer *et al.* was presented as one which particularly considers serendipitous information encounters and casual leisure types as important information behaviours.

Next, the chapter introduced the idea of affect and emotional state as a research context, concluding that the affective is as integral as the cognitive to information. The limited research on the effects of affective states on how individuals’ interact with information and, conversely, the impact of the information on the

individuals' emotional end state was presented. The role of affect was also considered to be related to use of information in casual leisure situations.

Finally, the chapter considered other uses of information which have a documented emotional and mental impact upon individuals. This led into the sphere of bibliotherapy which supports and encourages individuals through times of emotional strain, and "technostress" which is the opposite – when information and its associated technologies create emotional and mental strain for the individual.

3. Methodology

3.1 Chapter overview

This chapter describes the methodology chosen and developed for the research. The first section introduces the research topic, describing the researcher's initial methodological framework and the changes that resulted in flexible working (section 3.2). The research approach and methods are then described (sections 3.3-3.5); these incorporate search strategy and literature review, research tools and reasoning behind the choices made, survey and interview development and other important considerations throughout the project, for example piloting and ethics. The chapter then concludes with a description of the data analysis approach (section 3.6).

3.2 Research topic

The scope of the research is to examine the impact of stress on individuals' information behaviour, to examine the information preferences exhibited by individuals in this emotional state and to understand if the use of information in these situations is beneficial. It would not be possible in the given time frame of the research project to instigate a before- and after-information use study with multiple interviews occurring over the space of weeks to fully investigate the range of information behaviours and emotional influences. Originally, the researcher planned to recruit interview participants from the call centre of a large national financial corporation, in order to have a variety of ages, educational backgrounds and nationalities within the research who nevertheless had one thing in common – their occupation and the associated stressors. This was not possible due to the business needs and requirements of the financial corporation, and therefore a new research method was devised in response (see section 3.3).

Although the main focus of the study is the information behaviours and preferences that individuals' exhibit under stress, it was decided to collect demographic data about respondents for comparative and statistical purposes as well querying their behaviours, attitudes and emotional states throughout the information encounter in this affective context.

Due to the research gaps identified in chapter 2, and the limited amount of work in this area, it was expected that the current study was exploratory in nature. The fact that it was a MSc-level dissertation project led to necessary limitations in scope and sample size.

3.3 Research methods

3.3.1 Search strategy and literature review

The first step of the research involved an in-depth literature review of LIS literature related to information behaviour, narrowing to studies of ELIS, information behaviour within a leisure environment and studies involving the affective element. Several studies from the fields of psychology, mental health, self-help and emotion management were explored, however due to time-constraints the literature review is by no means exhaustive. Those studies obtained from outside the LIS literature had either a strong connection to the field of bibliotherapy or emotion management through books and music. The researcher has no background experience in behavioural science, however due to the study's in-depth look at the effects of emotional state on information behaviour, it was prudent to consult some studies in that particular domain. The studies accessed were at a level sufficiently "layman" enough for the researcher to understand and interpret, and had a strong link to LIS research, for example narrative fiction reading.

Initial searches of the library catalogue were undertaken to locate appropriate books and materials using keywords such as "information", "behaviour", "pleasure", "stress" and "leisure". Next a more specialist search for ELIS in the context of affect was conducted using the library catalogue, the LISA electronic database, and an additional focus was added through searches on "bibliotherapy", "music therapy" and "mood management". Then the search was widened to other ProQuest electronic databases, the National Library of Scotland and Google Scholar. Subsequently both backwards and forwards chaining occurred and studies of primary relevance identified by the researcher. The literature review was concluded upon completion of the time-frame allocated by the researcher, and the occurrence of repetition and saturation appearing in chaining.

From the literature review, the researcher was able to identify gaps within LIS research, to gain an understanding of potential research methods and their applications and to identify potential motivating factors and end goals of individuals' information behaviour while under the influence of stress. A further literature review on research methods, quantitative and qualitative research was conducted to supplement and support that discovered in the first review. The information gathered from these literature reviews influenced the design of the survey, the interview questions and the data analysis.

3.3.2 Selection of participants

Participants for the survey were recruited via the dissemination of notices via the researcher's Facebook account, personal email contacts and the University email network (see Appendix A). Interviewees were recruited from the group of survey respondents; at the end of the survey, respondents were asked to provide contact details if they would be happy to be contacted at a later date to further discuss their initial responses. Sharing of the notice was encouraged, and reminders were issued regularly over survey period to maintain interest and reach those who had potentially missed or disregarded the first invite to take part. This snowballing process was effective and, to the researcher's knowledge, generated at least ten respondents, one of whom was then later interviewed. For practical and research purposes, it was decided that survey respondents, and later interviewees, should be aged 18 or over. Avoiding time delays generated from obtaining parental consent was a key concern. However the main factor for this decision was ethics: while children do experience stress, the subsequent emotional discomfort and may use information to manage these, the complex ethical issues of working with children and asking them to articulate their emotions would be exceptionally difficult to navigate. The researcher felt that including children within the sample was unjustifiably difficult ethically when other sample groups were available, and would also be a stretch of the limited interview and survey formulation skills of the interviewer.

The notice of the survey was first distributed to 100 people via the channels mentioned previously; it is fully unknown by the researcher to what extent or to how many people the notice was then shared with or sent on to. The total number of survey responses received was 46 with 7 individuals providing contact details for follow-up interviews. However, one individual who took part in both the survey and interview later exercised their right to withdraw themselves and their data from the research (see Appendices B & C), leaving a final total of 45 survey responses and 6 interviewees.

3.3.3 Selection of research tools

Due to the nature of the research project, and the gaps identified within the literature review, it was suitable to use an exploratory technique to obtain a rough sense of what is happening in a research topic for which there is currently not a large amount of knowledge (Nardi, 2013). However, the scope of the research project, with its focus on "how" and "why" the affective element influences information behaviour and the changes wrought by information on an individual's emotions led to a dual approach combining quantitative and qualitative methods being used in the research. In this instance, a survey first undertaken to collect a

sample of respondents and to establish the outline of the research was followed up by an in-depth qualitative interview to look closer at key issues identified from the survey variables and gather richer data (Silverman, 2006). The combination of the two approaches should allow for a balanced view of the topic and allow the elucidation of the respondents' attitudes and behaviours.

Surveys have been an efficient and highly useful tool for learning about people's opinions and beliefs for over 75 years, and have led to researchers being able to obtain and use the data collected from a select group of people to estimate the characteristics of a general population (Dillman *et al.*, 2009). The data obtained from a survey can help to establish the beginnings of patterns of human behaviour (Silverman, 2006), in this instance information behaviour, which can then be explored further through the use of interviews with survey respondents. The survey collects data using a structured set of questions which are asked of all respondents, allowing for direct comparison between each set of responses and, in this study, to form the basis of developing in-depth themes for discussion.

Gorton and Chapman (2005) and Fontana and Frey (1994) both emphasise how the interview is a commonly used, yet powerful tool to finding out information from people as conversation is a natural everyday occurrence. Gorman and Clayton (2005) list five significant advantages for utilising the interview as a tool for qualitative research:

- Responses to questions posed are immediate
- Chances for ambiguities to be resolved and for interviewer and interviewee to explore questions and answers deeper
- Enquire and explore the "why" of behaviour
- A chance to establish a rapport with an interviewee
- Enable the gathering of a large quantity of rich data in a relatively short space of time

As the research problem and questions posed relate to emotions and an individual's personal behaviour, being able to establish a rapport is very important in order to reach the "why" and the "how" of the situation being explored. The ability to engage in a conversation with the participant and generate a trusting environment where they are not judged for their responses leads to more reliable, honest and interactive data (Fontana and Frey, 1994). Bates (2004) identified semi-structured narrative interviewing as particularly conducive to research within ELIS as the technique allows the researcher to gain an understanding of the participants' everyday experiences with the research topic from their perspective. Interviews have been shown to provide in-depth, rich data and can engender participant trust, if the researcher maintains

awareness of the developing relationship between the two parties and the importance of language for encouraging or discouraging a participant (Carey *et al.*, 2001; Bates, 2004).

It is important to consider the interview structure as there are a multitude of techniques and a variety of forms (Fontana and Frey, 1994). For this project various structures and techniques for interviews were considered inappropriate for both the researcher and the participants, for example it would be difficult to discuss sensitive emotional issues in a group interview in a public environment than one-on-one interviews. Additionally, a decision had to be reached as to whether the interview format would be structured, semi-structured or unstructured; a structured interview would be constraining to both the interviewer and the interviewee, allowing no topic deviation or exploration of unexpected insights; an unstructured interview would be more intensive, yet requires more experience than currently possessed (Gorman and Clayton, 2005). A semi-structured interview framework was developed to enable the researcher to have a list of questions and topics available in a determined sequence, but allows for the elucidation and exploration of issues and interesting or unexpected answers. The provision of such a structure will be supportive to the researcher with the limited experience available, and enable the interview to be kept on track and avoid falling into a meandering meaningless conversation.

3.4 Design of research tool

3.4.1 Design and development of survey

The purpose of conducting a survey was to gain an exploratory understanding of individuals' information behaviour while under stress and the various attitudes, characteristics and preferences they displayed towards information in the specified emotional state. The aim was to gather enough initial data, and identify the beginnings of interesting information behaviours to follow up with at the interview stage. The central research question addressed in this study is:

- What is the impact of stress on individuals' information behaviours and preferences?

The survey questions were developed utilising the researcher's own personal experiences and information derived from the literature review carried out as the first step of the research project. The survey questions focussed around six key areas, which were then extrapolated into a total of 24 questions for participants, and created in various, differing answer formats in order to maintain the interest of the participant. These formats included: Likert scales, ratings scales, free text entry, multiple choice. Graphics were used as well to

pique participants' interest and help participants to express emotional states of being without feeling embarrassment or overt coercion to divulge more than they wanted to.

The six key areas were:

1. Demographics
2. Stressors and stress levels
3. Information sources
4. Information preferences
5. Characteristics
6. Emotional changes

Due to the nature of the study, it was vital to the researcher to ensure that while the demographic data normally captured within surveys (for example, age, sex, occupation) was accompanied by questions specifically designed to understand the various stressors at play in participants' everyday lives, their perceived stress levels and the self-reported occurrences of stress on a weekly basis. The survey was also utilised as the recruitment tool for the interview stage of the research, and therefore was designed to try to capture the interest of a small number of people who would be happy to talk further about the experiences described and expressed previously.

3.4.2 Design and development of interview questions

The purpose of conducting the interviews was to further explore in detail with amenable survey respondents the initial examples of information behaviour under stress and to better understand the affective element of their information use in those situations. The central research question addressed in this study is:

- What is the impact of stress on individuals' information behaviours and preferences?

This question is investigated through the following research questions:

- What are a stressed individual's preferred sources of information, and how do these differ from their normal informational activities and sources?
- What characteristics do they look for in a chosen piece of information while under stress and how do they find what they want?
- What is the end goal and motivating factors behind the accessing of information while stressed?

- What emotional changes does an individual experience during information use?

The interview questions were developed utilising the data obtained from the survey responses of the interviewees alongside those of the other respondents, the researcher's personal experience and the information gathered from the literature review to form a set of approximately five key themes, mainly concerning the emotional and searching factors in individuals' information behaviour under stress. It was hoped that through the interviews, additional insights would appear allowing the researcher to gain a deeper understanding of how stress impacts on information behaviour and why individuals turn to certain sources in their time of emotional need. The researcher was aware that in order to elicit these insights and allow them to be explored as fully as possible, there was a need to refrain from being too prescriptive in the interview questions. Therefore the development of the five key themes to be covered during each interview gave the researcher the safety and structure of an interview framework, but allowed discussion to be expanded upon and led by the interviewees' examples of information use.

The five key themes are:

1. What information sources do individuals' access on a daily basis, and what activities and tasks do they undertake?
2. What information sources do individuals' turn to in times of stress and how these differ from daily informational uses?
3. The concept of finding without seeking and pre-determined information targets
4. Expectations of the chosen source, including the motivating factors behind *why* that particular information.
5. The concept of "pleasurable pursuits"

Themes 2 and 4 address the fundamental research questions of the project. Themes 1, 3 and 5 reflect factors which appeared in the literature review and the survey responses, and were deemed to be interesting and therefore necessitated further investigation by the researcher.

3.5 Data collection

3.5.1 Ethical considerations

Any study involving human beings as participants requires the safeguarding of those participants' rights, safety and wellbeing through a set of implemented ethical standards. Ethics approval for the study was obtained prior to piloting the survey via the Department of Computer and Information Sciences Ethics Approval system, and run in accordance with the guidelines. Informed consent of volunteer participants was sought at both stages of the research, regardless of whether consent had previously been given at the survey stage when recruiting interviewees. Data collection adhered to the *Data Protection Act*, and the confidentiality and anonymity of participants was respected throughout the project.

3.5.2 Research information given to participants

Survey participants were presented with an information sheet and consent form, which for the convenience of the participants, and ease of compliance checks for the researcher, was in the form of a mandatory tick-box to signal agreement with statements made prior to entering the survey proper. Prior to the interview, participants were emailed an information sheet and consent form (see Appendix C). For the convenience of those participants taking part in face-to-face interviews, the researcher printed off copies of the consent form to be signed at the interview; for those interviews conducted via Skype, interviewees were sent the information sheet as a PDF document and the consent form as part of the email content and requested to reply to demonstrate consent. The information sheet in both instances contained a description of the nature and purpose of the research; for the interview information sheet the interview themes were given very briefly in advance to facilitate the interviewees' ease in answering and elicit as much information as possible on subjects that are not consciously thought about on a daily basis (Saarinen & Vakkari, 2013).

At the start of each interview, the researcher confirmed with interviewees that they had understood the information sheet received, and created the opportunity for any questions or queries the participants had to be raised. One interviewee requested confirmation of the steps taken to protect their confidentiality and anonymity, another interviewee requested clarification of the term information sources despite examples being provided at the survey stage by the researcher and two interviewees requested the survey data they had provided earlier to be sent to them prior to the interview in order to refresh their memories and prepare adequately.

3.5.3 Piloting

The initial concept survey was piloted with a small group of Masters in Information and Library Studies students to identify any areas which required clarification and to obtain an average time required for completion of the survey. After the pilot, the survey was adapted to include further definitions of certain phrases (for example, characteristics valued in information accessed) and to provide examples of information behaviour and reasoning, to prompt respondents if required. The survey was also altered to include a wider variety of question-answer types, including free-text alongside ratings scales, question numbers to allow respondents to orient themselves within the survey and an average time required for completion was added to the introductory message at the beginning of the survey.

The purpose of the pilot interview was to test the suitability of the interview questions in generating usable and rich data to complement the data gained from the survey; to establish the approximate length of time to be allocated to interviews; to test that interviews could be conducted effectively via Skype and to confirm the usability of survey data in the interview questions. Due to the small number of interviews to be carried out, the majority over Skype, one pilot interview took place via Skype. The interview questions remained fundamentally unchanged following the pilot interview, and 30 minutes was established as a suitable length of time for the researcher to cover the key themes of the interview without interviewees losing interest in the discussion.

3.5.4 Survey

A total of 46 responses were received from the survey invite, however one respondent exercised their right to withdraw their information from the project as per the information sheet, and as such the data presented in Analysis (chapter 4) is informed by 45 responses. The survey was available for electronic access by participants with an Internet connection for a period of two weeks in July 2014; within that time there was a distinct ebb and flow in response rate, with a sharp peak after the first reminder was issued and then a tail off towards the end of the active period. The length of time taken by respondents in the survey ranged at the extreme from 2 minutes to 12 hours as logged by Qualtrics Online Survey Software, however the average was approximately 15 minutes. Of the 45 survey respondents received, 31 (69%) fully completed the survey with every question receiving a response while 14 (31%) did not.

The survey started by advising the participant of the reasons behind the research, what types of questions they would be facing and providing a contact email address for the researcher to allow questions and queries to be addressed, if necessary. The survey progressed through a series of questions, 24 in total, gathering basic demographic information, individuals' stressors and self-reported stress levels, exploratory attitudes and behaviours of individuals' under stress towards information to alleviate the symptoms, and the beginnings of investigation into the emotions involved and gained throughout information use while stressed.

Below the six key areas and the associated questions developed for use in the survey are presented, alongside the reasoning and aims for their use:

1. Demographics

This area gathered basic information about the recipients to form the initial face codes for analysis at a later stage. This data included: age, sex, occupation, job sector of the respondent.

2. Stressors and stress levels

This area focussed on attempting to establish the respondents' stress levels, as due to the nature of the research questions, it was important to understand that those involved experienced the emotional state and to understand the variance in stress level and occurrence among participants. This section included asking respondents about their working hours, work patterns, marital status, financial dependents and home life, as all of these are identified stressors (cf. Hurrell, 2011; Stoica & Buicu, 2010). Respondents were asked to self-report on how often within a week they felt stressed and what area of their life was the greatest source of stress currently. The British Association for Counselling and Psychotherapy (2013) launched a "Stress Test" in conjunction with the BBC for National Stress Awareness Day, and this helped to inform some of the questions created by the researcher to perceive the respondents' stress level and current coping ability.

3. Information sources

In order to understand and analyse the differences between the information sources and tasks the participants utilise and do on a regular basis and those done while under stress, the survey asked participants to judge how often they used different sources on a weekly basis. The survey also queried what percentage of their working day was taken up by accessing ICTs, the Internet and email, to gain an understanding of how deeply rooted their presence was in their lives, and if this could influence information choice when stressed.

4. Information preferences

Participants were asked to indicate what information they would access when stressed, or under extreme pressure, to alleviate the symptoms and negative feelings. The survey then provided free space for participants to explain what it is about that particular information that draws them to it and how they find it.

5. Characteristics

Drawing on the characteristics defined in the literature review as important for books to contain to be effective therapeutic tools (Stanley, 1999; Ross, 2000a;2000b), the casual leisure types identified by Stebbins (1997, 2007), casual leisure information behaviour traits (Elsweiler *et al.*, 2011) and the emotional connections to narrative fiction, participants were asked to rank characteristics common to all studies. Participants were also asked to explain, in detail where possible, what characteristics of the information they access while stressed are important and helpful to them in that emotional state.

6. Emotional changes

Finally, participants were asked to judge how effective they found information in helping them do cope with the stress they felt, and, with the help of a graphic, to indicate how they felt after accessing their chosen information while stressed. Participants were also given a free space to write about what the information helps them to achieve in their negative emotional state and what motivates them to access in the first place as a source of stress management.

3.5.5 Interviewing

A total of seven interviews were conducted, however one interviewee exercised their right to withdraw their information from the project, and as such the data presented is informed by six interviews. The interviews were carried out over the period of one week in July 2014; of the six interviews undertaken, 2 (33%) were conducted face-to-face and 4 (67%) via Skype. Of the face-to-face interviews, one was conducted at the residence of the interviewee and the other at the interviewee's place of work. These interviewees were well-known to the researcher and thus conducting interviews at their home or work-place did not pose a safety risk. While a neutral setting could be argued to have been more desirable, two factors over-ruled that decision:

1. the convenience of the participants was placed as a priority in order to complete the interviewing stage of the research as quickly as possible, and since those interviewees taking part in the research

via Skype would be in the comfort of their own homes, the researcher felt that this was a negligible concern.

2. Due to the subject matter, where stress and emotional states and feelings were to be discussed as much as information preferences, the comfort of the interviewees took higher precedence than neutral location, as a familiar setting would be more likely to encourage participants to relax and open up more (Bates, 2004).

The interviews lasted an average of 30 minutes, with the shortest taking 15 minutes and the longest 40 minutes.

The interviews commenced with reminding the interviewee the reasons of the research and ensuring that any questions they had about the project had been answered satisfactorily. As basic information relevant to the study (age, occupation, sex, stress level, stress source) had been previously gathered by the survey, the researcher established with each interviewee what information sources and activities they accessed on a regular basis. The researcher then progressed to querying what information sources were accessed when the interviewee felt themselves to be in a stressed emotional state, the preferences that they had in that state, the characteristics of the information they accessed in that state and the motivations behind accessing information in that affective situation. The five set themes ensured that the data gathered would be comparable across participants and the inclusion of the interviewees' responses from the survey ensured the comparison between the data gathered between the two methods would be equitable. The flexibility of the semi-structured approach allowed discussion to be dictated by the interviewees' explanations, and enabled the researcher to explore significant or interesting behaviours as they appeared individually.

3.5.6 Recording devices

Due to the semi-structured interview format, in which the direction of conversation could be determined by either the researcher providing new questions, the interviewees' responses or researcher questions derived from the interviewee's explanations, the researcher needed to devote full attention to the conversation. While field notes would be taken, it was felt that copious note taking would be impossible to maintain and counter-productive to the exercise where establishing flow and rapport was essential. Instead, the decision was taken to record all interviews for subsequent transcription and analysis. The researcher proposed to use a Smartphone voice recording application for face-to-face interviews, and Amolto Call Recorder download for the Skype interviews. The call recorder download was selected due to it receiving recommendation from Skype Inc. as a quality recording service, plus there was the opportunity to video-record the calls as an

additional aid for the researcher in interpreting interviewees' emotions during transcription and analysis. However, as video recording was not an option for face-to-face interviews as it was deemed intrusive within a physical setting and liable to be off-putting for the interviewee, in order to maintain parity and consistency of data in analysis video-recording was not undertaken for Skype calls. Instead, interviewees' physical responses and emotions were noted in field notes during the interview. Prior to the pilot interview, the researcher tested both the voice recording application and the Amolto Call Recorder. Both recording devices functioned successfully over several tests and produced suitable quality recordings for transcription.

3.6 Analysis

3.6.1 Transcription and data entry

Interviews were transcribed as quickly as possible after the interview had taken place, however as interviews had been scheduled at times convenient to the interviewees the distribution of interviews over the interview period was severely imbalanced with multiple interviews taking place on the same date. It was impossible on multiple occasions to complete the transcription on the same day as the interview, although all transcriptions were completed within a day of the final interview.

Transcriptions of the audio recordings from interviews were originally made using Transcribe Lite software, a free online download with the ability to incorporate the audio recording into the same work screen for ease of use, then transferred to Excel. Text from interview field notes and survey free-text questions was then transcribed to Microsoft Word before also being transferred to Excel for coding. The data collated from the survey was converted into a document by Qualtrics Online Survey Software for use in the statistical analysis package SPSS and for use alongside the transcriptions in Excel coding for the free-text questions.

3.6.2 Statistical analysis

As the survey collected both free-text responses, to be included within the qualitative coding analysis, and responses such as rankings and scales, the data was collated and then split appropriately. The data obtained from the survey related to ratings scales, age, percentiles and frequency of use was gathered for use with the statistical analysis package SPSS. Due to the researcher's background in languages, lack of prior experience with any form of statistical analysis and the potential complexities involved in using the package effectively, only basic statistical analyses were conducted in an attempt to obtain simple, effective statistics for reporting and hopefully highlighting the significance of elements of the study.

3.6.3 Coding

The complex and rich data collected in the process of qualitative research has led to the development of various specialist software packages to enable researchers to cope with the in-depth, and often confusing, nature of its analysis (Silverman, 2006). However, the length of time required to train oneself to effectively and efficiently use such software within the time frame of the current study is prohibitive. Excel is presented as an alternative to the time-consuming to learn skills required to operate specialist packages and allows for the manipulation of textual data in qualitative analysis through the features more normally thought of as applicable to numerical data and display only (Eliot, 2011; Meyer & Avery, 2009). Data to be coded is imported into rows in Excel – one row per unit - and then columns used to assign attributes for each unit, whether these are face codes or other chosen coding system (Eliot, 2011). Analysis is then aided through the various sort, search and filter functions available in the software.

During the current study, data was collected and collated throughout. Face codes, derived from the demographic and stressor/stress level data obtained through the survey, were assigned to the data which was inserted into Excel tables. It was then sorted into meaningful categories, via the identification of patterns and regularities. Initial working categories and coding for this process was influenced by Elswailer *et al.*'s (2011) model of casual leisure information behaviour and Kari & Hartel's (2007) model of the pleasurable and the profound in LIS, and supplemented by other coding where necessary from both within and out with LIS research. The free text survey responses and the interview transcripts were coded via a process of thematic analysis, where individual themes were identified by the researcher in the data and assigned to initial categories. A theme was defined in the analysis as “an integrating, relational statement derived from the data that identifies both content and meaning” (Bazeley, 2013, 190). The coding of the data was an iterative process informed by Bazeley's (2013) description of a “pathway into analysis”; each piece of data was assigned to a themed category, reflected on and connections made to those categories already present. This way, consistency could be checked, new themes allowed to emerge and a sense of perspective of the study as a whole maintained throughout the process.

3.7 Chapter summary

The findings and gaps identified in the literature review, the scale and scope of the study were considered and appropriate research tools explored and identified for use. The format and conduct of the methods is discussed, including a detailed tools development section. The methodology was approved by the

Departmental ethics committee and various software packages chosen as appropriate tools for collation, transcription, coding and analysis of data. Findings and critique are presented in the chapter which follows.

Chapter 4: Findings

4.1 Chapter overview

The chapter presents the results of the survey and the interviews in the study. In the first section, the demographic and stress details of the participants in the study are described, as well as an explanation of how the data is understood (4.2 and 4.3). The data from the study is then presented in five sections to reflect the research objectives and questions: information sources, information preferences, information behaviours, motivation and emotional changes (4.4-4.8). Themes identified by the researcher in each category are illustrated by narrative data from the interview transcripts and the survey free-text responses.

4.2 Understanding the data

Survey responses were recorded via Qualtrics Online Survey Software and all interview sessions were digitally recorded and transcribed verbatim. Data was collated, coded and analysed as described in section 3.6. The findings of the survey and the interview sessions are presented alongside the use of transcript extracts and statistical analyses to illustrate key themes. Where quotations from the transcripts are presented in the findings, **R** stands for “researcher” and **I** for “interviewee”. The majority of responses of encouragement and acknowledgement from the researcher (“yes”, “ok”, “mmm”) have been removed and replaced with [...]. If an interview participant is mentioned by name in the findings, this is a pseudonym and any identifiable personal information relating to the participant (for example, place names or names of friends or colleagues) have been removed for confidentiality and to retain anonymity.

The research intended to focus on the impact of stress on information behaviour, mainly on how it affects individuals’ information choices and preferences and the motivating factors for accessing information to relieve stress. These preferences were first uncovered through the survey and then those selected for further discussion and elicitation through the interview process were those deemed by the researcher to be interesting or significant. Other findings closely examined are those which corroborate or contradict the literature reviewed or the researcher’s own expectations.

The research was intended to be investigative and explore the topic, therefore the survey was developed to gather initial attitudes and behaviours and the use of semi-structured interviews with 6 participants to allow new findings to show. As such, although all participants were asked the same set of questions in the survey, not all participants provided full sets of response; within the interviews some questions only occurred in specific interviews as the conversation progressed naturally. Figures presented in tables represent the number of participants that mentioned a particular behaviour or preference in their descriptions or responses, either directly or implicitly. In all cases, as not all participants may have responded to the question, it shall be made clear in the accompanying text from what size sample the figures are drawn. Figures presented in tables also do not represent how commonly a factor affected individuals, unless stated otherwise through analysis.

4.3 Participants

Data was collected from 45 survey respondents, 6 of whom then also participated in the interviews. Of the 45 respondents, all disclosed their ages, which ranged from 18-32 years old, with a mean age of 24 (see Figure 1). The six interviewees' ages ranged from 22-26, again with a mean age of 24. Of the 45 individuals comprising the survey data sample, 30 (67%) were female and 15 (33%) were male. From the survey sample, of the six participants who volunteered for further discussion, 5 were female and 1 male.

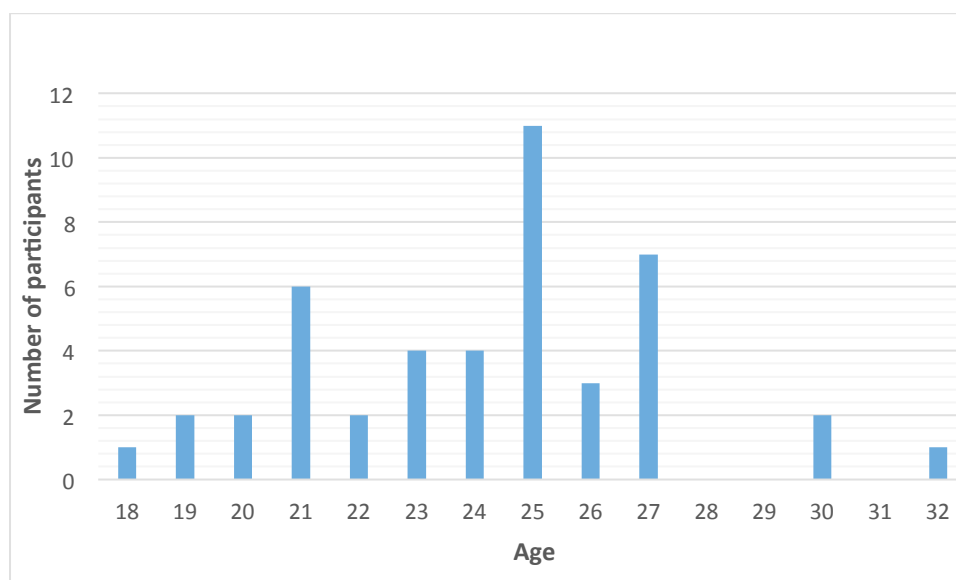


Figure 1: Participants' ages

Participants worked in a range of occupations, and were asked to provide their job title and identify their job sector from a list of sectors compiled from viewing various job search and careers websites. Due to the large variation in job titles provided by participants for the same role (for example assistant manager vs. deputy manager or financial crime associate vs. fraud associate vs. fraud agent vs. financial crime agent) the use of job sectors enabled consistency to be established across the board. 11 participants (24%) were students, including a mixture of undergraduate and postgraduate students in a variety of subjects; of those 11, 5 (11%) identified themselves as also being in current employment alongside their studies. 12 participants (27%) were employed in the financial and accounting sector; 5 (11%) employed in health care; 3 each (7%) employed in education, hospitality and events management, and retail and sales; 2 each (4%) employed in information services and leisure, sports and tourism, and 1 participant each (2%) employed in eight other distinct job sectors (see Figure 2).

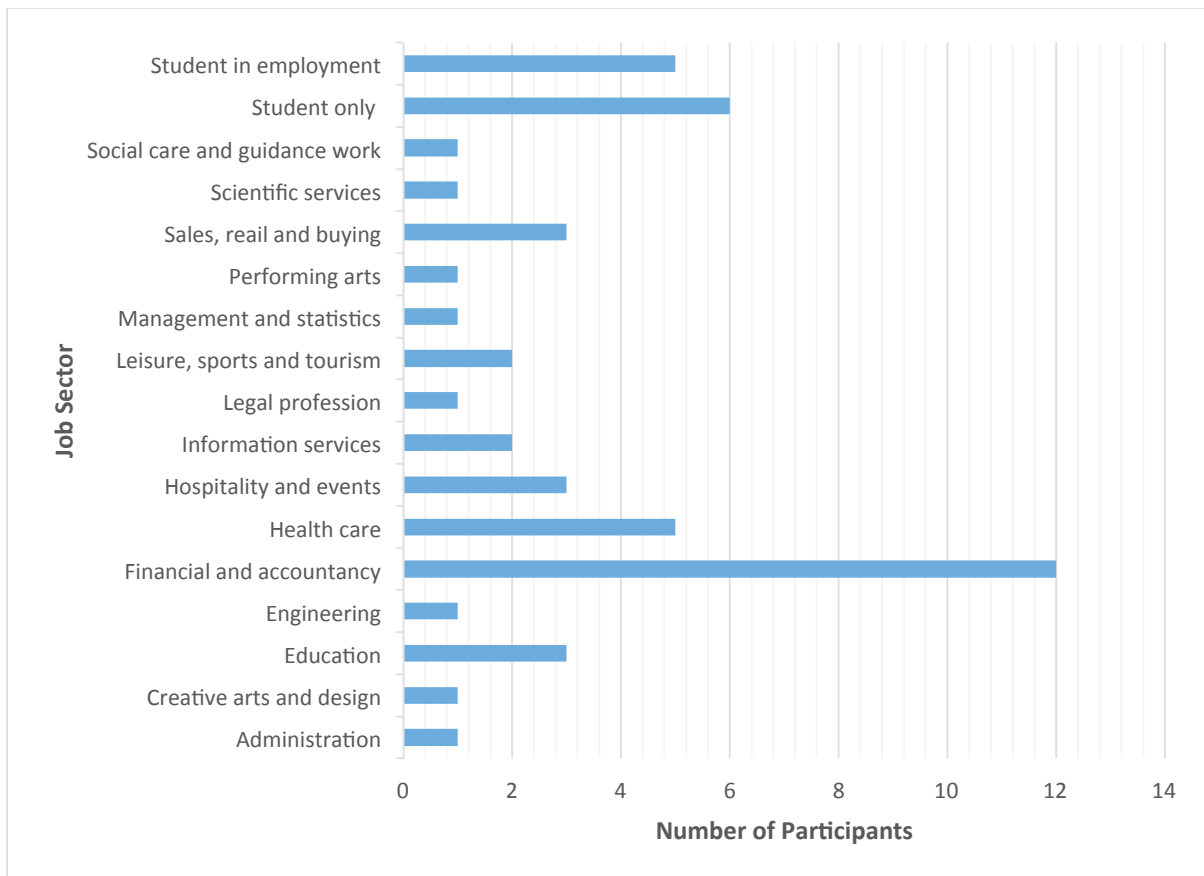


Figure 2: Participants' occupations

4.3.1 Stress levels and stressors

Due to the nature of the study where the importance of understanding the spread of stress across the participant sample is a key factor in ascertaining that the emotion is present and has an impact on their information behaviour, participants were asked to self-report on certain key issues:

1. their stress level;
2. the life sphere responsible for their stress; and
3. understanding the different number of stressors on participants.

The study requires a sample of people diverse in these 3 issues, as well as at a demographic level. Below are the results of the analysis of these factors in the survey sample, and demonstrate that the respondents to the survey are affected by stress in their everyday lives. Therefore they are qualified and able to explain the various impacts that this affective state has on their information behaviour, preferences and use.

1. Within the survey, to ascertain the participants' stress level and how well they are currently coping with the stress in their lives, questions were informed by the "Stress Test" developed by the British Association for Counselling and Psychotherapy (2013). These responses are just a snapshot of the reported stress levels at that moment in time of the participant, as stress often rises and falls in direct response to particular life events (Hurrell, 2011). The participants' responses to these questions were measured against a pre-set points scale and then totalled to provide a number which corresponded to a particular stress level and indicated how effectively they were coping with the day-to-day pressures of life: 0-16 indicated low stress; 17-24 medium stress and 25-32 high stress. Of the 45 respondents, 36 (80%) self-reported a low stress level, 4 (9%) reported medium stress and 1 (2%) reported a high stress level; 4 participants (9%) did not provide any responses to this set of diagnostic questions. Participants were also asked to gauge how often over the course of a week, they felt the effects of stress in their lives (see Figure 3). This led the researcher to understand that although participants may experience low levels of stress, they could potentially feel these emotions on a highly regular basis and therefore require the development of effective and easy coping mechanisms possibly via information use.

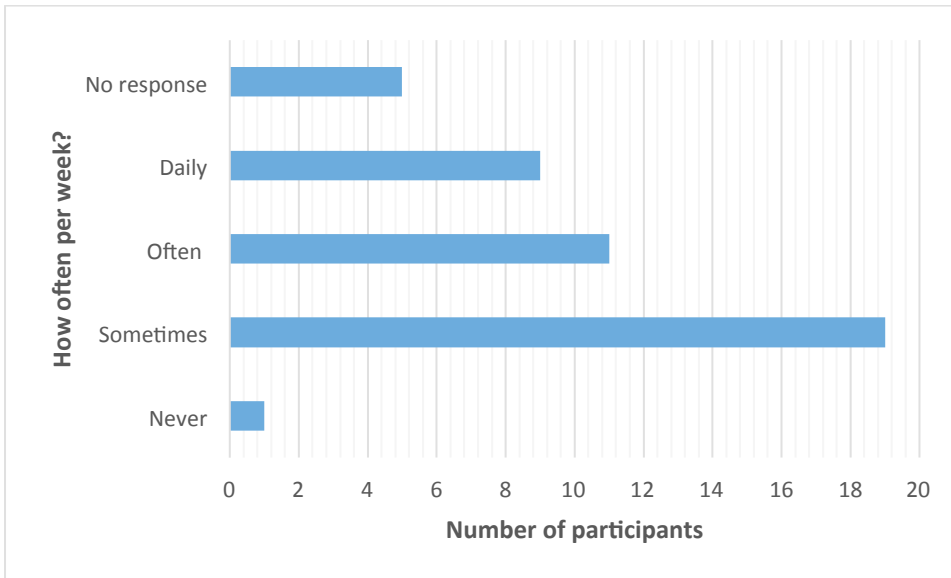


Figure 3: Participants' self-reported occurrences of stress in a week (n=45)

2. Participants were asked to specify what area of their life causes the most stress for them, for it is understood that stress in on life sphere can impact on the processes, enjoyment and stress levels within others (Hurrell, 2011). The majority of participants (28 responses or 62%) identified their work as the largest source of stress in their lives; family life came second by quite a distance with 8 responses (18%). This was followed by 3 participants (7%) choosing their social life as the main area of life responsible for their stress levels, while 6 participants (13%) provided no response to this question.

3. Survey respondents were asked to identify the stressors that impacted on their daily lives through a series of questions about work hours, shifts, financial dependents and marital status all of which had been identified through the literature review as significant sources of stress in individuals' lives (see section 3.5.4). Participants were specifically asked to think about and identify the main source of stress in their previously identified area of life that causes stress. 27 respondents provided the main reasons behind their stress, many of which had more than one stress-causing element contained within. However, the main stressors were identified with the help of the literature review and the reasons provided by participants coded accordingly, for example "Being constantly asked questions, which means I cannot focus on one task at a time. The distractions make me feel stressed" mapped to three distinct stressors: task overload, relationship with work colleagues and job satisfaction.

Table 1 includes a list of the identified stressors as reported by participants after analysis, and the number of responses that included those elements.

Main stressors identified by survey participants	No. of responses
Managerial expectations	12
Task overload	10
Financial dependents	7
Job satisfaction	7
Societal expectations	7
Adequacy doubts	6
Technology	5
Career development	5
Multiple jobs	5
Relationships with family	5
Relationships with work colleagues	4
Financial worries	3
Relationship with partner	3

Table 1: Factors causing stress in participants' lives (n=27)

4.4 Daily information sources

To gain an understanding of the impact that stress has on an individuals' choice of information source, it was essential for the researcher to glean a basic knowledge of the types of information sources accessed on a normal, daily basis by participants as well as the tasks carried out by them. Within the survey, all 45 participants were asked to gauge what percentage of their day they spent on the following activities: on the computer, accessing the Internet, checking and responding to email and on the telephone. Participants were also given the option of choosing other as it was recognised that not the entire working day involves using ICTs, and varies depending on the requirements of the job in question. 40 participants provided a response to this question and the median percentages for each area worked out from those self-reported (see Figure 4). The prevalence of ICTs in today's home and working environment meant that the researcher felt a grasp of the prevalence of ICTs in respondent's daily working lives was key to helping understand the differences between sources accessed in everyday life and while stressed. This is especially so when the

added effects of technology fatigue and “technostress” on individuals is taken into consideration; the high dependence on the Internet and email among the participants alongside the fact that some participants clearly identified technology as a main contributor to their stress levels suggests that ICTs and their associated programmes have a real impact on individuals’ stress levels and resulting coping choices.

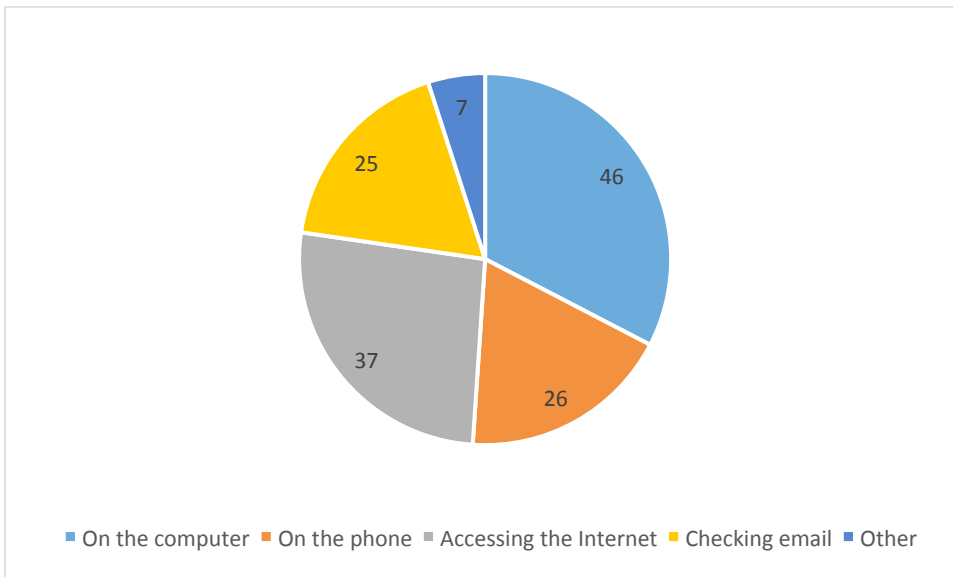


Figure 4: Percentage of average day taken up accessing ICTs

Participants were then presented with a range of information sources, gathered together from the literature review and the researcher’s experience, and asked to identify how regularly they accessed each over the course of a normal week. Again, this was to provide the researcher with a baseline to compare against when looking at the sources accessed by participants while suffering the effects of stress. Of the 45 survey respondents, 37 (82%) provided a full set of responses to this question; these responses again re-iterated the prevalence of technology within the participants’ lives and the importance of keeping in touch with peers via social media and Instant Messaging (IM) services (see Figure 5). The primary tasks identified by participants in relation to the most regularly accessed sources such as the Internet and email were work-based, for example accessing EduTube for videos to show a primary school class or responding to a colleague’s email enquiry. For the students in the survey sample, they identified e-resources as a source they accessed regularly for their studies, and this was always task focussed for research purposes. The majority of other sources that the participants accessed on a regular basis were for a variety of reasons, including entertainment, hobby, fact-finding and browsing.

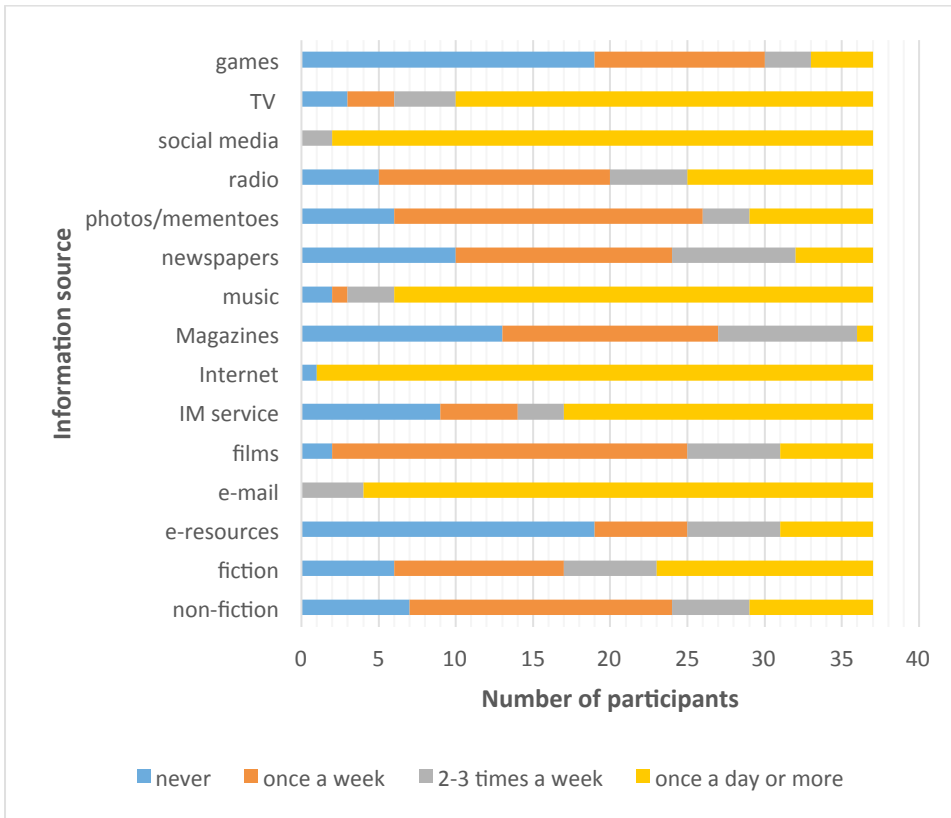


Figure 5: How often certain information sources are accessed (n=37)

4.5 Information preferences

4.5.1 Sources

The first discovery that emerged from the survey responses was that in times of stress or high pressure, individuals' turned to specific resources and media to access particular types or pieces of information for respite. The resource that was accessed tended to be from among those the individual accessed on a regular basis throughout the week, although not necessarily the source or sources that they used daily or most often. Of the 45 survey respondents, 35 (78%) identified a resource that they were most drawn to in times of stress to help them cope and relieve the symptoms.

Preferred source in times of stress	No. of participants
Music	13
Fiction	10
Photos/mementoes	3
Non-fiction	2
IM Service	2
Internet	2
Games	2
TV	1

Table 2: Participants' preferred information source under stress

For the researcher it was interesting to observe the difference in number of users between the participants' preferred resources and those that were accessed on a daily basis for work and non-work task based activities. The high numbers of participants who access social media, email and the Internet throughout their working day (see Figure 5), for all intents and purposes, abandon these sources in times of stress in order to access those with more pleasurable, entertaining or relaxing connotations. This move away from those sources with work or highly focussed task connections was emphasised in the interviews; Anna, for example, described how she was constantly checking email and the Internet at work for responding to customer and colleague enquiries so turned away from them in her free time:

My own personal email I'll hardly ever use. I'll maybe check it once or twice a week if you're lucky. And then the Internet I rarely use it outside of work. Like I have an iPad so if I just want to like find what the weather's going to be tomorrow I'll just put that on for two minutes, find it out and then turn it off and put it straight away again.

The choice of information source for participants in times of stress depends on the characteristics of the information that can be accessed via the chosen media, the end goal and motivation that the participant has for accessing that information and the anticipated emotional outcome from utilising the information to manage their mood. These factors are explored through the following sections.

4.5.2 Characteristics

Participants identified the information source that they preferred to access while suffering the effects of stress in order to help cope and alleviate the feelings and symptoms, and were asked to explain what

attracted them to that particular medium and information. The characteristics of the information were prominent factors in why participants chose certain sources for mood management, as Ross (2000b) and McKechnie *et al.* (2007) discovered and explored in the context of reading fiction books for pleasure. The main characteristics that these studies focussed on as important for readers when choosing a book to read for pleasure were:

- Familiarity with the information, the creator or the genre
- Identification with the characters or the plot
- Accessibility of the information, i.e. the level of difficulty required to acquire the text from the library
- Ease of understanding, i.e. the level of comprehension required in the reading
- Gain, i.e. what the reader takes away from the reading of the book

Participants in the survey were asked to rate how important given characteristics are to them when choosing and accessing a piece of information while suffering from stress; the qualities presented to participants to rate were informed mainly by Ross' (2000b), McKechnie *et al.*'s (2007) and Stanley's (1999) research and explorations into fiction reading and bibliotherapy. The characteristics were altered and pared down to be generalisable to as many different information sources as possible, not just fiction books. Figure 6 illustrates the survey respondents' ratings of the four main characteristics identified by the researcher as significant to information choice through the literature review. When the ratings assigned by participants were analysed further, a strong correlation was found between familiarity of the individual with the information and accessibility, which will be discussed further in section 4.8.2.

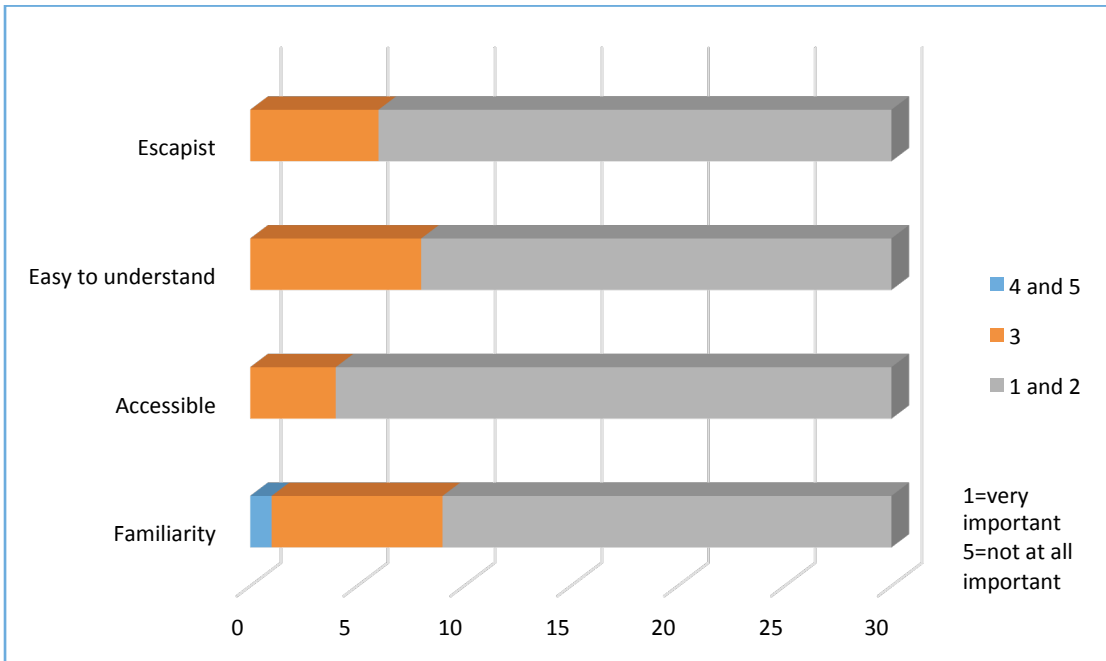


Figure 6: Importance of specific information characteristics (n=30)

Participants provided in the survey and the interviews the specific qualities that attract them to the particular information and resource that they prefer to utilise in times of stress for managing and reducing their negative emotional state. Certain qualities emerged time and again throughout the survey responses and interviews as being especially prized and important for the participants when stressed:

- comfort –

Probably an old photo of myself and friends having a good time.

I pick like an old favourite, like one of my favourite books. In fiction there's something very comforting about it, it reminds me of home, of summer at the cottage where I'd just sit reading.

The concept of the “old favourite” reappeared often throughout both stages of the study. The re-affirmation of remembered or relived memories and feelings associated with the “favourite” were the main attraction in times of stress, while the repetition and familiarity of the objects and their use has been found to provide a comfort to people (Miller, 2008). Being able to remind themselves of a time when they felt good or safe helped these participants to move forward through their stress via, respectively, the photo and the book they had accessed. In other cases, the comfort came from accessing a particular book or

film series where a knowledge of the characters fostered identification with and empathy for them, while a knowledge of the storyline allowed the participant to fully relax without fear of any surprises or consequences. Favourite genres were mentioned frequently by those who preferred to access fiction books in times of stress; the comfort in these instances came from the pre-gained knowledge base, experience with the style and familiarity with the writing concepts and ideas present in the genre.

- light-heartedness –

I tend when I've had a stressful day, I tend not to watch like dramas or anything quite serious. It's all more sort of on the frivolous stuff, so either comedies or sort of reality type things.

A common feature that survey respondents and interviewees identified as preferable while stressed is the easy-going nature of the information. Humour and light-hearted content was considered vital by all 13 participants who identified either books, the Internet or TV as their preferred information source in order to help alleviate the stresses felt. This corresponds to the findings of Anderson *et al.* (1996) who, in their study of stressful life events and TV viewing, found that comedy programmes became the main-stay of households when in the grip of stressful situations. The light-heartedness of the information was also in its ability to be manipulated by the participant into playful or comedic situations, for example “fantasy shopping”, and provide an outlet for the fun side of their personality which can be overwhelmed and repressed by the negative emotions of stress.

- positivity –

when I stress I freeze and because I relate to the characters and they're having ups and downs and stuff I like feel for them and it helps me sort of you know get back from just blind panic. Because they [the protagonists] both are quite similar in a way, both really inept characters that stumble their way through but it does work out quite well for them in the end.

I like faster music something like motivational 'cause I use that for going to the gym and things. So I find that as an ultimate stress reliever. So music - mostly fast paced pop/dance music.

For both Jane and Lizzie, the positive or motivational message that is contained within their chosen information is central to combating the negative emotional state brought on by the stresses in their lives. For Jane, the positive message is encapsulated by the characters and the empathy that she has with them allows her to move forward through her own difficulties, whereas Lizzie uses the information she accesses to help accomplish other aims in life that would be hard to do without the motivation present in her chosen music.

- disconnected from real life –

It's like a sort of out of world, "not really having to worry about anything" thing to be honest. em... yeah it's just like I don't have to worry about anything when I play it's just a sort of yeah like I said not part of the real world so you- it sort of removes me from that situation.

Escapist was rated by 24 participants as either an extremely or very important quality for information to have when choosing to alleviate stress (see Figure 6); the quality was further modified throughout the survey responses and interviews as being "dis-connectivity". Escapist implies a concerted effort to remove oneself from the real world completely through, for example, fantasy or romance books and films, participants clarified that the element they valued was the process of becoming disconnected from their real lives for a while but not necessarily completely losing the essence of the real world. The importance of this disconnection was that it allowed participants to pull back, re-focus and then re-enter real life in a calmer and less stressed frame of mind.

These characteristics were identified and discussed with more than one participant and were deemed by the researcher as significant as they have strongly relate to the motivating factors for accessing information while stressed and the participants' end goals. Other characteristics were mentioned by survey respondents (see Table 3) although on a less popular and influential scale as those discussed above.

Additional information characteristics

Nostalgic

soothing/calming

Interesting

Reliable

Distracting

Personal

Table 3: Additional characteristics identified by participants

4.6 Motivation and end goal

4.6.1 Casual leisure types

All participants were asked within the survey to explain why they turned to their preferred information source when stressed, and these responses were then discussed further with all 6 interviewees. The reasons for accessing information, which then in turn influenced the characteristics that the individual prized in their chosen source, were found to have strong links back to Stebbins' (1997) casual leisure benefits as well as Elswailer *et al.*'s (2011) additions to the typology. According to Stebbins (1997), the expected benefits of casual leisure can exist either in isolation or in combination with other casual leisure benefits, and this phenomenon was observed in the self-reported information behaviour of participants. The benefits directly reported or implicitly found through analysis of participants' responses were (in descending order of frequency):

1. Relaxation - *I can be quite task-orientated so I have to... It's like I'm at work now and I'll be at work tomorrow to try and get stuff done and I can't you know think about anything else and... there's a lot of like issues in my personal life and if I'm not like working it'll crop up in my mind and it'll get to the point I freeze and become un-functional and that's when I like to listen to audiobooks and music and try and sort of mellow out.*
2. Escapism - *It's more of an escape. Reading gives you something else to focus on.*
3. Passive entertainment - *normally I'm so exhausted audiobooks are more passive. And um I get like watching films it's like so directed while audiobooks are sort of incredibly passive. So I'm just listening to it. And you get like on Audible there's some radio programmes as well that are really funny. But you don't have to listen to like adverts or people chattering in the background stuff like that.*

4. Sociable conversation - *Oh social aspect definitely. I play like online games quite heavily now so there's always someone else that I'm playing with. I play quite a lot with a work colleague so there's quite a lot of work chat actually. Yeah, but it's not a super serious work chat it's quite removed so... It's just like quite a relaxed conversation.*

You get like chat and gossip... I like being... I like being... I like having... I'm really nosy so I like knowing what's going on around me. So obviously that's all messaging and networking and stuff so you're into that. And that's what I like- I like it. I enjoy being nosy! And that's why I like talking to people and finding out what's going on.

5. Play - *then we'll go online shopping. [laughs] Sometimes- sometimes I just like fill my basket and then I'll delete it all but it makes me feel happy inside.*

The researcher found that all of these benefits were discussed by all six interviewees and reported by survey respondents as a chance to reach a specific outcome: to re-focus and regenerate the individual after the obligatory activities and associated stresses of the working day. The primary motivation for accessing information while stressed for individuals was to find an outlet for their emotions and discover a process of removal from the situation in order to come back to the stressful situation later time with clearer focus. In her interview Jane described the information encounter as “an enforced sort of down time to zero myself to bring me back to a sort of functional place” – this sentiment was echoed throughout the majority of survey responses and interviews.

Participants were also asked to rank on a scale of 1 to 5 the importance of various factors listed in the information-based therapy literature as significant motivators for individuals to access information. As Figure 7 illustrates, once again participants reported relaxation and time away from their realities as ranking significantly higher than those traits seen as important in bibliotherapy and music therapy. Within information based therapy, gathering inspiration, making sense of a real world situation and searching for solutions to a real world problem are core motivations for utilising (non-fiction) books and music; the minority of participants who indicated that these three factors were important to them on some level qualified this by explaining that it was unlikely to be in times of stress that such focussed thought processes took place.

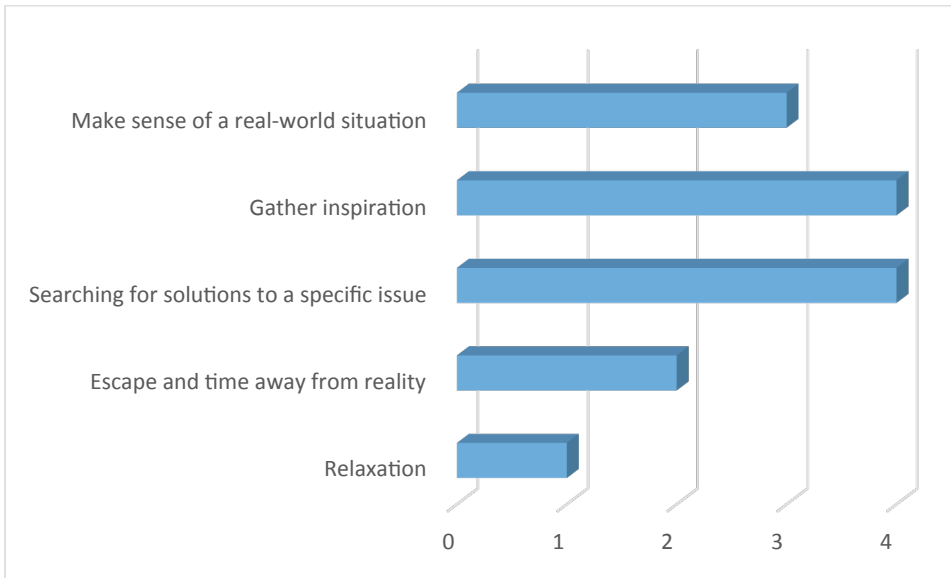


Figure 7: Median ranks for information based therapy motivating factors

4.6.2 Pleasurable pursuit

Accompanying the primary goal of re-centring and regenerating themselves, participants demonstrated a hedonistic goal when stressed and aiming to manage their mood as a result. Kari and Hartel (2007) identified pleasurable actions and experiences as those that a person desires and that contrast with the lower everyday things that are unpleasant or even painful to the individual. The pleasure gained through information pursued in particular contexts is enjoyable, satisfying and, while not necessary to one's survival, gives one a reason to live (Kari & Hartel, 2007). The impact of stress on the individual and their motivations during information encounters led them to interact with information for enjoyment, for pleasure, for pastime rather than for any strict utilitarian purposes. All interviewees stated that the information they access when stressed is, above all, a source of enjoyment and pleasure for them; more than one participant cited the "guilty pleasure" aspect of their chosen entertainment as what helped to lift their spirits; this was often in the form of information which would typically maybe be deemed frivolous such as a soap opera, a romantic comedy film, a "chick-lit" novel or 80s music to name but a few mentioned by participants.

4.7 Emotional changes

Emotions are central to the information experience; they influence what information people choose, based on whether their goal is to change or maintain their current mood or emotional state. Once the information is chosen, it can then evoke emotions that the individual wants to remember or transform those they are currently experiencing. As the emotional state impacts the information behaviour and preferences of the

participants, conversely the information affects the emotional state of the individuals. Survey participants were asked to confirm whether the information experience alleviates the symptoms of stress that they suffer and how happy they felt after the information encounter with their chosen source.

29 participants responded to each of these questions, and overall the majority (72% of those that responded) felt that at the end of their information encounter their stress had alleviated, to at least some extent, and they felt happier. Mar *et al.* (2011) and Ross (1999) posited that in the act of reading for pleasure, just as through bibliotherapy's guided emotional journeys and explorations, individuals experienced a range of emotions and emotional types as they read through the characters or narrative evoking empathy, sympathy, identification or remembrance. Mar *et al.*'s (2011) concept of relived emotions, where an individual recollects a past experience and relives the associated feelings in response to reading about something similar in a novel, was mentioned in the survey by multiple participants. In this instance however, the participants were not discussing their relived emotions in relation to a novel (although two interviewees did), but particular pieces of music:

Music takes me back to a time when I wasn't stressed. Takes you to the place and time where you first heard the music or could imagine hearing the music.

I listen to music I enjoy as it often reminds me of good times with friends and family. It transports me back to clubs/ travel abroad where I first heard the songs or used to hear them frequently.

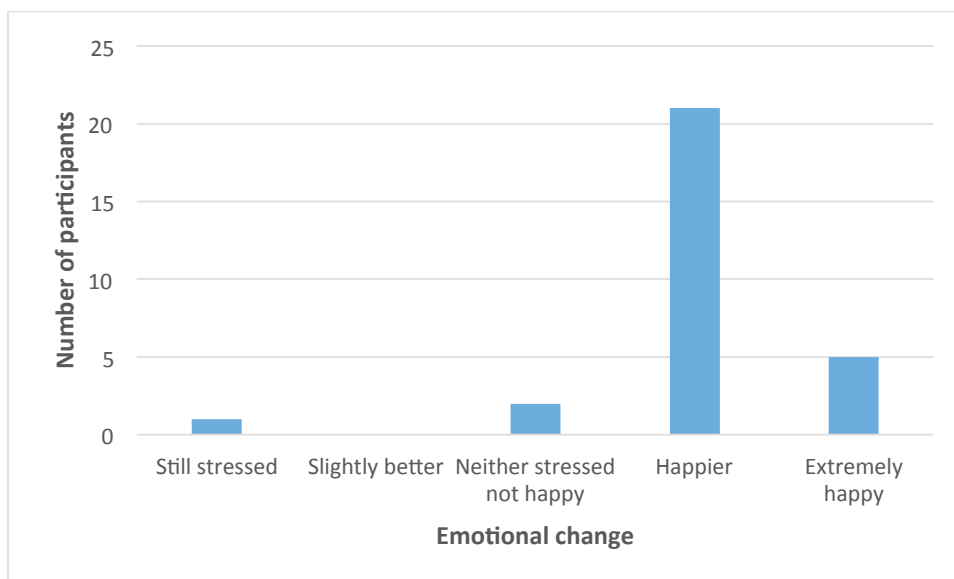


Figure 8: Final emotional state of participants (n=29)

Participants acknowledged that it was difficult for them to exactly describe how their emotional states changed through the use of information, as it was not something they had ever had to consider before. The interviewees were confident in their assertions that the stress relief and resulting positive emotional change that was wrought was due to the presence and use of their chosen information to reach a pleasurable state and re-focus their minds.

4.8 Information behaviours

4.8.1 Casual leisure information behaviour

The information encounters described by participants while under the influence of stress were found to contain the behavioural differences observed by Elswiler *et al.* (2011) in their study of casual leisure information behaviour. Firstly, the entire information encounter from start to finish is motivated by wanting to achieve a different emotional state to the one currently being experienced by the individual. Secondly, there is the absence of a clearly defined and specific information need – while participants reported that they felt an overwhelming urge to access particular information or information source while stressed, they did not feel a gap in their knowledge or other traditional ISB definable need. Participants reported that the need they felt was for entertainment, re-focussing or relaxation, not a demand for knowledge to complete a specific task.

A key aspect of this information behaviour model that emerged throughout analysis of both survey responses and interviews was that the information encounters the participants reported while under stress were motivated by the experience they hoped to gain, and not the information that may be uncovered in the process. It was also discovered by the researcher that for some participants the information encounter does not start with an explicitly defined information need, but will result in searching behaviours and consumption of knowledge. This element of changing the focus of the behaviour while in the middle of the information encounter was described by Anna:

Sometimes I'll watch it [cooking programme] kind of mindlessly, and I'll completely just use it to relax I'll just watch it and then that'll be it. But other times once I'm relaxed I'll get into it and I'll think "oh that's a great idea" and I'll maybe write some stuff down. So it is taking information quite a lot of the time.

: and by Kate who found herself browsing hobby-related websites aimlessly at first then focussing on specific links or information that connected to a topic or interest she had researched previously in detail.

I just bumble through the websites to see what's going on and like latest things or video clips - it depends on what you've been looking at at the horses and then I kind of end up targeting my search maybe towards that.

4.8.2 Routines

As previously identified in section 4.5.1, the familiarity which an individual has with a particular piece or source of information was identified by survey respondents as an important quality that attracts them to accessing that information in the first place. During statistical analysis of the ratings given by participants to informational characteristics, a correlation was discovered between familiarity and accessibility. To try to understand the cause of this, the researcher discussed with interviewees how they searched for the information that they utilised while stressed; this led to the discovery of pre-established information routines and repetitive use.

I: It's like Facebook, my Hotmail, eBay - love eBay-, Amazon - love Amazon- , em... like horse websites, the British Horse Society website, like governing body sort of sites of equestrianism. That's the main ones and just like apps and online gaming things so that'll be like iTunes.

R: And in terms of when you're feeling a bit stressed, you've had a long day at work or something's really getting at you and you feel a bit stressed, what is it you prefer to access in those situations?

I: I have an order. We go on our email first cause that's the thing I like to get rid of and out the way, then I hit Facebook do a quick check-up on the news feeds, and then we'll go fantasy shopping, where you just pretend that you can afford all this stuff but you really can't, and then I'll go on the lottery and buy a lottery ticket.

Kate described how she had a very specific pre-determined routine of accessing particular sources when stressed to help control her emotions, and this routine was built out of the same websites, same applications and the same role-play game. Will described how he “obsessively” played the same game over and over again. Gaming was a stress-relief activity and hobby that he had done ever since he was a young adolescent, but the games he played changed over the years according to what his friends were playing and what the game company had released. He now had a specific routine in place when stressed that he described in detail to the researcher where he would play the online league game with his friends while chatting with them and have a particular repetitive music playlist in the background which contained his

favourite music. If he had not been feeling emotionally well, Will found that the combination of these elements into a set routine where familiarity and comfort take precedence, he would feel much better.

4.8.3 Information avoidance

An unexpected information behaviour that was reported by survey respondents was that of avoiding particular information or information sources, either because they were the cause of stress or they would exacerbate the symptoms the individual was looking to alleviate.

Information avoided	No. of participants
Email	7
Games	5
Non-fiction	4
News or other real-world connections	3
IM services	3
Social media	2
Fiction	1

Table 4: Common information avoided by participants

Jane’s job required her to work weekends, nights and be available on call 24/7; the high stress of the job and the pressure to be constantly available led her to purposefully avoid any type of communication sources when she was stressed, as they increased the stress levels she was already feeling. Another interviewee described how he avoided social media at all costs when stressed as the medium added annoyance to the negative emotions he was already experiencing as a result of adverse speculation on his relationships and friendships online:

I think that it’s [social media] the cause of some of my stress on occasion. Em... yeah not a huge social media fan I don't really dive into it that much but em... things that sort of stress me out get exacerbated because I'll see people's comments on like Facebook and normally I'd just let it slide but it would annoy me more if I'm stressed so I stay away from that sort of stuff.

Lizzie clearly articulated further on her survey response of avoiding fiction through the interview; she avoided reading and books when stressed as she had previous negative experiences with reading which she found difficult to do and concentrate on, plus the activity had strong work connotations where she spent half her day accessing textbooks or patient files. The aspect of avoiding books and reading because of previous bad experiences was noted in the survey by two other participants who explained that due to dyslexia it was extremely stressful and purposefully avoided when already stressed. In agreement with Brewster *et al.*'s (2013) claim that people who were suffering from ill mental health would avoid self-help books detailing their condition and how to cope with it until they had overcome their initial fears and depression through other sources, Anna echoed this sentiment with regards to stress:

R: And em... when you've had the stressful day what's the last type of information that you would want to access? What would you avoid?

I: Hmm... probably... I'd say a non-fiction book. I wouldn't- I wouldn't- Actually it sounds like the opposite of what you'd think but if I've had a stressful day I wouldn't like to pick up a self-help book or anything like that. I just want to sort of forget about all that type of stuff and I'm not really looking for like a solution I'm just looking for like an escape.

Participants had routines and reasons for what information sources and characteristics they would avoid or reject, just as much as they had those they preferred.

4.8.4 Risks

An information behaviour that emerged through only two interviews, but that the researcher deemed extremely interesting and worthy of mention, was that of risky information practices. Lizzie and Will explained that the information they chose to access while stressed to change their mood could just as easily have the opposite, adverse effect; either creating more stress or other negative emotional states such as anger or frustration to their existing mood.

Will plays online multiplayer games when stressed which appeal to his competitive nature and offer a chance to focus on a situation outside of his real life work and family worries. However, Will mentioned that if he lost the game he was playing it could potentially make his current negative emotional state worse, but that was a risk he was willing to take. For Will, the act of playing the game removes him so completely from his original source of stress that he transfers that to the online game instead; if he loses, he remains stressed

but as it is due to the game, he is not worried as he can continue to play the game until he wins, therefore eliminating the source of his transferred stress. For Will the benefits of being able to eliminate the stress of a lost game outweigh the potential exacerbations of his mood, particularly since he is aware that the stress created by the game is less mentally and emotionally taxing than occupational or familial stress.

R: And that appeals to the competitive side of your nature, playing to win?

I: Oh yeah, if I lose it- it could make it worse but it's a risk I'll take. It's fine.

R: Why do you take this risk that you might actually end up feeling worse instead of going for something that you know no matter what it will make you feel better?

I: It would move my stress from wherever it was before onto the game. I'm fine being stressed out about a game, like that's-that's fine. I'm really not that worried about being stressed out about a game. If I was stressed about work it's far more serious than whatever else I would be doing.

Lizzie preferred to access IM services and social media when stressed as she found the social contact attained through these mediums to be particularly helpful in removing her from her immediate stressful work situation, and that as they were accessible 24/7 with a smartphone and WiFi or 3G she always had access to gossip, news and advice. However, she acknowledged:

It [IM service] can work like both ways. Depends how you use it. Em... like obviously if you're wanting to talk to somebody and they're helping you then that's going to help alleviate stress whereas if you were getting hassled by somebody, somebody was getting... trying to make plans and you're busy at work and you've got somebody trying to contact you on your phone all the time then that works in like the opposite way. I think it has the positives and negatives.

Lizzie felt that 75% of the time she accessed her IM service or social media in times of stress she came away feeling better because she was able to get in contact with her friends or partner, and be distracted from her work by her social life or another world for that time. However, being unable to contact people or coming across an unfavourable message or post online could have the effect of introducing annoyance and frustration into the already negative emotional mix. For Lizzie though, due to her multiple previous positive experiences with the information source, she agreed that for her the benefits available and generally gained outweighed the potential risks.

4.9 Chapter summary

Section 4.2 described the participant group of survey respondents and interviewees who were involved in the study along with their stress levels and stressors. Reported information sources used in participants' day-to-day lives were presented in 4.4 and compared to the preferred information sources (4.5.1). The characteristics (4.5.2) of these preferred sources was then explored through survey and interview data.

Section 4.6 presented the motivations and end goals reported by the respondents, while section 4.7 focussed specifically on the affective states and emotional changes that occurred as a result of information use by the participants.

Section 4.8 presented the various significant information behaviours inherent within the chosen context, how they were specific to the situation and the ways that they were impacted on by stress.

A summary of the results will be presented in chapter 5.

Chapter 5: Conclusions and recommendations

5.1 Chapter overview

This final chapter presents a brief summary of the findings of the current study (5.2). This is then followed by elicitation of the limitations of the study (5.3), the researcher's personal reflections on the research process (5.4), recommendations for future research and practice (5.5), and finally the researcher's final thoughts and conclusions.

5.2 Summary of findings

5.2.1 Methodology and participants

- Despite the potentially sensitive nature of the emotional aspects to the research, participants were happy to share their experiences, and led to the collection of rich data.
- The participant group was diverse in the stress levels, stress occurrences and causes of stress reported; although the participants were not overly diverse demographically, due to the breadth and depth of the main research impact appearing in the group this was not overly worrying for the researcher.

5.2.2 Information preferences

- Information sources were chosen by participants for use while stressed based on the characteristics of the information accessible via the source.
- Preferred informational qualities were varied among participants, however points of commonality re-appeared over all responses: familiarity; disconnected from real life; comfort; light-heartedness; positivity.

5.2.3 Information behaviours

- Significant reported behavioural differences to established information seeking behaviours emerged through analysis and included: routine behaviours; information avoidance; and risky practices.

- Elswailer *et al.*'s (2011) casual leisure information behaviour was found to be invaluable in assessing the various information practices, needs and experiences mentioned and described by the survey respondents and interviewees.
- The motivations to access information when stressed were found to be either hedonistic or regenerative for the individual, and strongly influenced the desired characteristics sought in the preferred information.

5.3 Limitations

The research was intended to be exploratory and relatively broad in scope, investigating the information behaviour and preferences of individuals within a given affective context, as well as the emotional changes and motivating factors contained in these situations. Various preferences, factors and emotions were consistently identified by participants during the survey and throughout the interviews, and it can be assumed that these commonly are the result of the impact of stress on information behaviour. At the same time, many participants, especially at the interview stage, made comments or gave responses which had not been previously identified by the researcher or mentioned by other participants; in fact, the 5th and 6th interviewees made comments which had not been voiced in any other survey response or interview. It can only be assumed by the researcher that had more participants been interviewed or completed the survey, then further preferences and factors would have been mentioned and explored. Therefore, while the researcher is confident that most preferences, motivating factors and emotional changes have appeared through the analysis and in the findings, it is to be acknowledged here that the findings do not comprise a fully inexhaustible examination into the impact of stress on individuals' information behaviour.

The research investigates information behaviour within a very specific emotional context and the resultant emotional effects of that behaviour on the individual. While many of the factors, information behaviours and emotional states are similar to those mentioned in other studies exploring information behaviour in casual leisure environments or reading for pleasure, these findings cannot be presumed to apply to different contexts. Furthermore, this research investigated *individuals'* information behaviour under the influence of stress, and the findings cannot be interpreted to be representative of the information behaviour impacted by stress of groups or communities. The participant sample was limited demographically, as it was comprised from recruits obtained via convenience sampling from the researcher's own friend and family base. The results obtained through the study were interesting and a significant start in researching the effects of stress on information behaviour, however they are not generalisable to entire populations.

5.4 Personal reflections

As an inexperienced researcher, the researcher was conscious of the potential complications and sensitivities that could arise due to the choice of an affective research context and one so close to the researcher's own past personal experiences. She realised care would have to be taken not to let her own prior experiences of mood management via information bias the questions provided at the survey stage or influence the discussion direction at interview. She also realised that due to the existing relationships in place with many of the participants, she would have to take extra care not to let this colour her status as interviewer and researcher.

The researcher was satisfied that the use of the survey tool and semi-structured interviews was appropriate and helped to facilitate the discovery of findings which would not have been generated using a single research tool or a more structured interview tool containing questions solely derived from the researcher's literature review and personal experiences. The less structured, almost conversational format was more suitable for this study, especially since 5 of the 6 interviewees were known to the researcher in a personal capacity; having a rigid inflexible interview would have created an uncomfortable and awkward environment in these instances. Overall, the researcher felt that the interviews created a relaxed dynamic where the participants felt comfortable in volunteering rich, qualitative data. At no point did any interviewees express embarrassment or reluctance to share their experiences and thoughts, and half commented that the interview was "not as bad as I thought it'd be" after recording was finished. Interviewees provided the researcher with validation that the survey had been an informative and rewarding experience on both sides, with 1 interviewee remarking "I'd never really thought about it until I actually answered flicking through the survey. I'd never eh... I'd never really thought 'actually that's what I do!'".

The looser structure of the interview did cause challenges, particularly in light of the researcher's complete inexperience as an interviewer. Although the five key themes and the interviewees' survey responses were printed for reference purposes during the interview, questions were occasionally forgotten or stumbled over requiring repetition, or pauses occurred. These lapses in flow and concentration happened as the researcher experienced nerves, time pressures, difficulty facilitating discussion with unforthcoming interviewees or difficulty completing all expected research tasks concurrently, for example making notes, listening to interviewees, deciding what to ask next, ensuring equipment functioning. However, these lapses were relatively rare, and generally the researcher was pleased with the overall interview process and quality. The survey, both its creation and data analysis, caused challenges for the researcher who was not experienced in any aspect of survey methodology or statistical analysis. A great deal of thought and time

went into producing the survey, and the researcher was extremely pleased at the response rate and rich data gathered. The statistical analysis of survey data did not go as planned, and the researcher found herself frequently confused or misled by analyses obtained, and therefore both disheartened and unconfident of the results and outcomes. This led to a paring back of the statistical results and analyses contained within the dissertation proper as a direct result.

On a more personal level, completing the study has been invaluable to the researcher since it has validated her own personal informational experiences when suffering from stress, and helped to gain new skills and confidence in her knowledge.

5.5 Recommendations

As discussed, the literature review carried out by the researcher at the beginning of the research produced no studies examining the specific topic of research investigated in this project from an LIS perspective. This research was therefore exploratory in nature, and the findings prompt both further questions which could be investigated within future research and implications for future practice of information professionals.

5.5.1 Future research

- The research presented a case for the importance of information to help alleviate stress and its symptoms; the evidence provided by the participants was anecdotal only. In order to ensure the inclusion of fiction, film, music and games into therapy schemes, concrete experimental evidence would need to be gathered for health authorities to take notice.
- The research presented is exploratory in nature, and just the first steps into understanding how stress impacts on information behaviour. The topic could be expanded using a deeper more descriptive mixed-method approach to fully articulate and understand the ins and outs of the affective impact of information on individuals and vice versa.
- The research looked at individuals' information behaviour under stress in general terms; it could be suggested that particular demographic groups be studied for their information behaviours under certain types of stress, for example occupational stress, PTSD, stressful life events.

5.5.2 Future practice

- The findings indicated that individuals' had strong preferences for particular types and sources of information when stressed; many of these are based in entertainment or leisure. The importance of such informational pursuits should be considered as worthy as, for example, reading the classics, and be acknowledged by information professionals that different emotional needs and situations call for a variety of information sources and types.
- The research suggests that individuals avoid information related to their real-life situations or world when stressed; this would include books or information dedicated to helping them explore and move forward through their stress as the current Books on Prescriptions schemes throughout the UK advocates (Brewster *et al.*, 2013; Turner, 2008). The researcher recommends that the current bibliotherapy schemes in place in partnership with local health authorities should be reassessed, with fiction, music and film being considered for inclusion.
- Information professionals and librarians should take a more active role in recommending popular books and items for consideration in the bibliotherapeutic schemes in place throughout the UK. They too are professionals, and will have considerable anecdotal evidence of times certain books and items have helped their patrons through difficult times.
- Employers should be aware that the prevalence of ICTs and technology in the workplace can add to the stress levels experienced by their staff. The researcher believes that workplaces should make provision for staff to have access to technology-free zones and establish relaxation spaces with books, magazines and other pleasurable information for staff to take time away and re-focus themselves in their breaks and lunch hours.

5.6 Final thoughts and conclusions

The goal of this research was to investigate the impact of stress on the information behaviour of individuals, and the resultant emotional changes effected by the information accessed. The research was also to look into the information preferences displayed by individuals when suffering the effects of stress and the motivations they had for accessing information in their time of need.

The research uncovered a range of characteristics and qualities preferred by individuals in their information and in the information source they access when stressed to manage their mood, a range of motivating factors behind the information encounter and some observable differences in information behaviour to established models, which are presented in the findings. Overall, the most prominent finding is that the

impact of an emotion on information behaviour is interlinked and impacts on the various stages of the information encounter – before, during and after. Additionally the findings reveal that most individuals do consider information, in which ever desired form, to be helpful and useful in alleviating their stress and contributing towards a happier state of mind and state of being. It was observed that participants accessed different types of information from the familiar objects and stories that provided comfort, to the guilty pleasure that existed solely for hedonistic purposes to information that offered a chance to escape, relax and re-focus away from the everyday stresses of life. In the researcher’s view, any and all of these sources can be considered powerful and worthy of further research if they help an individual to deal with life and bring a modicum of joy and happiness into the day.

References

Agosto, D. and Hughes-Hassell, S. (2005) People, places and questions: An investigation of the everyday life information-seeking behaviours of urban young adults. *Library and Information Science Research*, 27, 141-163

Anderson, D., Collins, P., Schmitt, K. and Jacobvitz, R. (1996) Stressful life events and television viewing. *Communication Research*. 23(3), 243-260

Bates, J. (2004) Use of narrative interviewing in everyday information behaviour research. *Library and Information Science Research*, 26, 15-28

Bazeley, P. (2013) *Qualitative data analysis: practical strategies*. London : SAGE

BBC (2014) *Stress test: are you fit for work?* [online business report] Available from: <http://www.bbc.co.uk/news/business-25316690>. [Last accessed 26th August 2014]

BBC (2012) *Work days lost to sickness down again in 2011*. Available from: <http://www.bbc.co.uk/news/business-18070001>. [Last accessed 26th August 2014]

Breathing Space (2012) *National Stress Awareness Day: Understanding worry and stress*. Available from: <http://www.breathingspacescotland.co.uk/bspace/2221.html>. [Last accessed 26th August 2014]

Brewster, L. (2008) Medicine for the Soul: Bibliotherapy. *Aplis*, 21(3), 115-119

Brewster, L., Sen, B. and Cox, A. (2012) Legitimising bibliotherapy: evidence-based discourses in healthcare. *Journal of Documentation*, 68(2), 185-205

Brewster, L., Sen, B. and Cox, A. (2013) Mind the Gap: Do Librarians Understand User Perspectives on Bibliotherapy? *Library Trends*, 61(3), 569-586

British Association for Counselling and Psychotherapy (2013) *How stressed are you?* [online test with the BBC] Available from: <http://www.bbc.co.uk/news/health-24756311>. [Last accessed 26th August 2014]

Brophy, P. (2007) *The library in the twenty-first century*. 2nd ed. London : Facet

- Buckland, M. (1991) Information as thing. *Journal of the American Society for Information Science*. 42(5), 351-360
- Burke, R. (1990) Sources of managerial and professional stress in large organisations. In C. Cooper and R. Payne (eds.) *Causes, Coping and Consequences of Stress at Work*. Chichester : Wiley & Sons. 77-114
- Carey, R., McKechnie, L. and McKenzie, P. (2001) Gaining access to everyday life information seeking. *Library and Information Science Research*, 23, 319-334
- Case, D. (2007) *Looking for information: a survey of research on information seeking, needs and behaviour*. 2nd ed. Boston : Elsevier/Academic Press
- Chang, S. (2009) Information Research in Leisure: Implications from an Empirical Study of Backpackers. *Library Trends*, 57(4), 711-728
- Chatman, E. (1991) Life in a Small World: Applicability of Gratification Theory to Information-Seeking Behaviour. *Journal of the American Society for Information Science*, 42(6), 438-449
- Chatman, E. (1996) The Impoverished Life-World of Outsiders. *Journal of the American Society for Information Science*, 47(3), 193-206
- Dervin, B. (1976) The everyday information needs of the average citizen: A taxonomy for analysis. In M. Rothen and J.C. Donohue (eds.) *Information for the community*. Chicago : American Library Association, 19-38. Cited by Case, D. (2007) *Looking for information: A survey of research on information seeking, needs and behaviour*. 2nd ed. Boston : Elsevier/Academic Press
- Dervin, B. and Reinhard, C. (2007) How emotional dimensions of situated information seeking relate to user evaluations of help from sources: an exemplar study informed by sense-making methodology. In D. Nahl and D. Bilal (eds.) *The emergent affective paradigm in information behaviour and theory*. New Jersey : ASIST, 51-84
- Dillman, D., Smyth, J. and Christian, L. (2009) *Internet, mail and mixed-mode surveys: the tailored design method*. 3rd ed. New Jersey : Wiley & Sons
- Edwards, J. (1990) The Determinants and Consequences of Coping with Stress. In C. Cooper and R. Payne (eds.) *Causes, Coping and Consequences of Stress at Work*. Chichester : Wiley & Sons. 233-259

Eliot, S. (2011) *Using Excel for qualitative data analysis*. Available from: <http://www.qualitative-researcher.com/qualitative-analysis/using-excel-for-qualitative-data-analysis/>. [Last accessed 26th August 2014]

Elsweiler, D., Wilson, M. and Kirkegaard Lunn, B. (2011) Understanding Casual-Leisure Information Behaviour. In A. Spink and J. Heinström (eds) *New directions in information behaviour*. Bingley : Emerald, 211-241

Feather, J. (2008) *The information society: a study of continuity and change*. 5th ed. London : Facet

Fisher, K. and Landry, C. (2007) Understanding the Information Behaviour of Stay-at-Home Mothers Through Affect. In D. Nahl and D. Bilal (eds.) *The emergent affective paradigm in information behaviour and theory*. New Jersey : ASIST, 211-234

Fontana, A. and Frey, J. (1994) Interviewing: The Art of Science. In N. Denzin and Y. Lincoln (eds.) *Handbook of Qualitative Research*. London : SAGE,

Fulton, C. (2009) The pleasure principle: the power of positive affect in information seeking. *Aslib Proceedings*. 61(3), 245-261

Fulton, C. and Vondracek, R. (2009) Introduction: Pleasurable Pursuits: Leisure and LIS Research. *Library Trends*. 57(4), 611-617

Given, L. (2007) Emotional Entanglements on the University Campus: The Role of Affect in Undergraduates' Information Behaviour. In D. Nahl and D. Bilal (eds.) *The emergent affective paradigm in information behaviour and theory*. New Jersey : ASIST, 161-176

Gorman, G. and Clayton, P. (2005) *Qualitative research for the information professional: a practical handbook*. 2nd ed. London : Facet

Grensing-Pophal, L. (2013) What Does the Digital Generation's Tech Fatigue Mean for Content Providers? *EContent*, September 2013, 14-16

Hartel, J., Stebbins, R., Fulton, C., Chang, S. and Case, D. (2006) Taking Leisure Seriously: Information Realities in Leisure Time. *Proceedings of the ASIST Annual Meeting*. 43

Hurrell, J. (2011) Occupational Stress. In B. Levy, D. Wegman, S. Baron and R. Sokas (eds.) *Occupational and environmental health: recognising and preventing disease and injury*. 6th ed. Oxford : Oxford University Press

Jones, J. (2006) A Closer Look at Bibliotherapy. *Young Adult Library Services*, 5(1), 24-27

Joshua, J. and DiMenna, D. (2000) *Read 2 books and let's talk next week: Using bibliotherapy in clinical practice*. New York : Wiley & Sons

Kari, J. and Hartel, J. (2007) Information and Higher Things in Life: Addressing the Pleasurable and the Profound in Information Science. *Journal of the American Society for Information Science and Technology*, 58(8), 1131-1147

Knobloch, S. and Zillmann, D. (2002) Mood management via the Digital Jukebox. *Journal of Communication*. 52(2), 351-366

Kuhlthau, C. (1991) Inside the Search Process: Information Seeking from the User's Perspective. *Journal of the American Society for Information Science*, 42(5), 361-371

Mar, R., Oatley, K., Djikic, M. and Mullin, J. (2011) Emotion and narrative fiction: Interactive influences before, during and after reading. *Cognition and Emotion*, 25(5), 818-833

McKechnie, L., Ross, C. and Rothbauer, P. (2007) Affective Dimensions of Information Seeking in the Context of Reading. In D. Nahl and D. Bilal (eds.) *The emergent affective paradigm in information behaviour and theory*. New Jersey : ASIST, 187-196

McKenzie, P. (2003) A model of information practices in accounts of everyday-life information seeking. *Journal of Documentation*, 59(1), 19-40

Miller, D. (2008) *The Comfort of Things*. Cambridge : Polity Press

Muller, M. (2006) Keep breathing: Coping with technology. *Library Hi-Tech News*, 23(5), 27-30

Nahl, D. (2007a) Introduction. In D. Nahl and D. Bilal (eds.) *The emergent affective paradigm in information behaviour and theory*. New Jersey : ASIST, xvii-xxix

Nahl, D. (2007b) The Centrality of the Affective in Information Behaviour. In D. Nahl and D. Bilal (eds.) *The emergent affective paradigm in information behaviour and theory*. New Jersey : ASIST, 3-38

Nardi, P. (2013) *Doing survey research: a guide to quantitative methods*. 3rd ed. Boulder : Paradigm

Neville, P. (2014) Librarian or counsellor?: a pilot study of the experiences of library staff in one healthy reading scheme in Ireland. *Journal of Mental Health*, 23(1), 15-19

Norman, D. (2004) *Why we love (or hate) everyday things*. New York : Basic Books

Office for National Statistics (2014a) *Sickness Absence in the Labour Market, 2014*. [online government report] Available from: <http://www.ons.gov.uk/ons/rel/lmac/sickness-absence-in-the-labour-market/2014/index.html>. [Last accessed 26th August 2014]

Office for National Statistics (2014b) *European comparisons of well-being, 2014: Part of Measuring National Well-being, European comparisons 2014*. [online government report] Available from: <http://www.ons.gov.uk/ons/rel/wellbeing/measuring-national-well-being/european-comparisons--2014/info-eu-well-being-comparison.html>. [Last accessed 26th August 2014]

Raglio, A. (2011) When music becomes music therapy. *Psychiatry and Clinical Neurosciences*, 65(7), 682-683

Ross, C. (1999) Finding without seeking: the information encounter in the context of reading for pleasure. *Information Processing and Management*. 35(6), 783-799

Ross, C. (2000a) Finding without seeking: what readers say about the role of pleasure reading as a source of information. *Australasian Public Libraries and Information Services*. 13(2), 72-80

Ross, C. (2000b) Making Choices: What readers say about choosing books to read for pleasure. *The Acquisitions Librarian*, 13(25), 5-21

Ross, C. (2009) Reader on Top: Public Libraries, Pleasure Reading and Models of Reading. *Library Trends*, 57(4), 632-656

Rubin, R. (1978) *Using Bibliotherapy: A guide to theory and practice*. Phoenix : Oryx Press

Sacks, O. (2006) The power of music. *Brain: a journal of neurology*, 129(10), 2528-2532

Saarinen, K. and Vakkari, P. (2013) A sign of a good book: readers' methods of accessing fiction in the public library. *Journal of Documentation*, 69(5), 736-754

- Sami, L. and Pangannaiah, N. (2006) "Technostress": A literature survey on the effect of information technology on library users. *Library Review*, 56(7), 429-439
- Savolainen, R. (1995) Everyday Life Information Seeking: Approaching Information Seeking in the Context of "Way of Life". *Library and Information Science Research*, 17, 259-294
- Silverman, D. (2006) *Interpreting Qualitative Data: Methods for Analyzing Talk, Text and Interaction*. 3rd ed. London : SAGE
- Stanley, J. (1999) *Reading to heal: How to use bibliotherapy to improve your life*. Boston : Element
- Stebbins, R. (1997) Casual Leisure: a conceptual statement. *Leisure Studies*, 16(1), 17-25
- Stebbins, R. (2009) Leisure and its relationship to Library and Information Science: bridging the gap. *Library Trends*. 57(4), 618-631
- Stivers, R. (2004) *Shades of loneliness: pathologies of a technological society*. Lanham : Rowman & Littlefield
- Stoica, M. and Buicu, F. (2010) Occupational stress management. *Management in health*. 14(2), 7-9
- Turner, J. (2008) Bibliotherapy for health and wellbeing: an effective investment. *Australasian Public Libraries and Information Services*. 21(2), 56-61

Appendix A: Recruitment advert for survey respondents

Hello,

I am conducting a study as part of my Masters, researching how people access and use information while under stress or pressure and how the information they access then influences their emotional state. Participants must be aged 18 or over. The study consists of a survey, link to access below, with 24 questions to answer. It will take approximately 15 minutes to complete. The information gathered will be used within my dissertation and hopefully help to further our understanding of how people interact with information and cope with stress.

Please feel free to repost this message and send it on to anyone who may be interested in participating! The survey shall be available until Friday 25th July.

Thanks

Nicole

Appendix B: Survey participant information sheet and consent questions

The purpose of this survey is to investigate the impact of stress on individuals' access and use of information, and the characteristics of the information sought in such situations. The survey consists of 24 questions, some of which are multiple choice, others free text; please provide as much detail as possible. The survey should take approximately 15 minutes to complete.

Participants will be asked questions about themselves, their job, their preferred information sources and the pieces of information that they prefer to access when suffering from stress, a high level of pressure or anxiety. Participants will also be asked questions to gauge their perceived levels of stress. The data collected shall be analysed and studied to complete a final dissertation, and may be used in future by the researcher for a related article for publication.

All aspects of the research are entirely voluntary and participants are under no obligation to answer any questions with which they feel uncomfortable.

Participants can choose to withdraw or have their data withdrawn from the research at any time without having to provide a reason for doing so. All data will be treated confidentially. All personally identifiable information will be removed in the final dissertation as well as in any possible resulting future publication.

All data will be stored on password protected computers and, where possible, in encrypted and password protected files. All file names shall be anonymous. All data will be destroyed within two months of receiving the project results, unless the decision to publish is taken by the researcher. If this decision is taken, then all data will be destroyed within a month of any article being published.

Ethics approval has been obtained for this research project. If participants have any queries or concerns regarding the ethics of this study or any questions about the study in general, they should contact the researcher at: [email address removed for privacy reasons].

PARTICIPANT CONSENT

- I confirm that I have read the above information and understand what participation in this study involves.

- I understand that all aspects of the study are voluntary and that I am free to withdraw myself or my data from the research at any time without having to provide a reason for doing so.
- I understand that all information provided will remain confidential and no personally identifiable information will be made publicly accessible.
- I consent to participating in the study.

Appendix C: Interview participant information sheet and consent form

Study into the impact of stress on individuals' information seeking and use.

Nicole Wilson, University of Strathclyde

Researcher: Nicole Wilson

University: University of Strathclyde

Department: Computer and Information Sciences

Programme: Information and Library Studies

PARTICIPANT INFORMATION SHEET (email addresses, telephone number and supervisor information removed for privacy reasons)

Title of investigation	Study into the impact of stress on individuals' information seeking and use.
Duration of investigation	June – September 2014
Researcher	Nicole Wilson
	Student at University of Strathclyde, Department of Computer and Information Sciences.
Researcher's email	
Researcher's telephone number	
Supervisor	
Supervisor's email	

Summary of investigation

The purpose of this research is to investigate the impact of stress on the information people access while under its influence, the characteristics of that information and the way that information accessed is used by an individual to affect a positive emotional change.

The study will investigate this type of information and behaviour within a casual leisure context.

What the study will involve

Participants will have already completed a survey connected to the research, and given permission to be contacted for further discussion of responses. Participants will be expected to take part in one interview which will be conducted either face-to-face or via Skype. The interview will be audio-recorded and transcribed. Manual notes will also be taken during the interviews. The interviews will take place at a time (and a place if face-to-face) agreed on prior to interview by both participant and researcher.

Participants will be asked questions relating to their information behaviour and the impact that stress has on their information habits. Participants will be asked to provide examples of information accessed, the qualities that information has, how they find that information and the emotional response elicited and aimed for.

All aspects of the research are entirely voluntary and participants are under no obligation to answer any questions with which they feel uncomfortable. Participants can choose to withdraw or have their data withdrawn from the research at any time without having to provide a reason. All data will be treated confidentially. All names will be changed and personally identifiable information removed in the final dissertation.

Participants will be required to sign a consent form or reply to an email with written consent given in the case of participants taking part in Skype interviews. This indicates that the participant is aware of what their participation involves, and that any questions concerning the investigation have been answered to their satisfaction.

Data storage and security

The recorded interviews will be transcribed and quotes used in the final dissertation. All data will be stored on password protected computers and, where possible, in encrypted and password protected files. All file names shall be anonymous. All data will be destroyed within two months of receiving the project results, unless the decision to publish is taken by the researcher. If this decision is taken, then all data will be destroyed within a month of any article being published.

Ethics approval

Ethics approval has been obtained for this research project. If participants have any queries or concerns regarding the ethics of this study or any questions about the study in general, they should contact the researcher at: [email address removed for privacy reasons].

Researcher: Nicole Wilson

University: University of Strathclyde

Department: Computer and Information Science

Programme: Information and Library Studies

PARTICIPANT CONSENT FORM

- I confirm that I have read the information sheet and understand what participation in this study involves.
- I understand that all aspects of the study are voluntary and that I am free to withdraw myself or my data from the research at any time without having to provide a reason for doing so.
- I understand that all information provided will remain confidential and no personally identifiable information will be made publicly available.
- I consent to interviews being audio-recorded.
- I consent to participating in this study.

I confirm that I have read and agree to the above and am willing to participate in the above project.

Name of participant (please print):.....

Participant's signature (if Skype interview, please enter "I consent"):.....

Date: