Evaluating Persuasive User Interfaces for Online Help-Seeking for Domestic Violence

by

Manjeet Singh
B.Eng (Mechanical)

Submitted in fulfilment of the requirements for the degree of
Master of Science (Information Technology)

Deakin University
September, 2017
I am the author of the thesis entitled

**Evaluating Persuasive User Interfaces for Online Help-Seeking for Domestic Violence**

submitted for the degree of **Master of Science (Information Technology)**

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- Almighty God.
Research Output

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November 2015  Presented at Deakin-Swinburne IT Research Symposium 2015 (Awarded – Honourable Mention)


December 2015  Poster Presenter at the First Australia Stop Domestic Violence Conference 2015 (Canberra).


January 2016  Invitation to write an article in “Homelessness Australia” magazine to share research with community.

March 2016  Partnership with first community organisation for research into Domestic Violence and help-seeking.
Sikh Australia Support for Family Violence Inc. SASFV (Victoria)

March 2016  Interest by Deakin Advancement Office.
Invitation to attend Leading and Learning – Working on Wicked Problems hosted jointly by Melbourne Women’s Fund and Deakin University at Melbourne Corporate Centre.

December 2016  Presented at Deakin-Swinburne IT Research Symposium 2016. (Awarded - Best Speaker Award)
Abstract

In recent years, the application of Persuasive Technologies (PT) for influencing behaviour change has gained significant interest in the HCI research community. PT in web and mobile applications has been shown to influence human behaviour and attitudes. The premise of the research is that PT in domestic violence (DV) related websites plays a significant role in facilitating access to help services and ultimately reducing DV both in Australia and globally. The research addresses persuasiveness of user-interface design in DV prevention websites to influence participants (especially survivors of domestic abuse and violence) towards a desired target behaviour like seeking help online. In addition, the research also investigates the use of PT as an aid for easy and quick access to information and intervention services. In this study, I adopted a case study approach to evaluate the extent to which principles of persuasiveness are adopted in three DV related websites in Australia. Further, I identified gaps in these websites which can be filled to potentially improve the user experience to avail help-seeking functionalities. I collected qualitative and quantitative data from multiple sources of evidence, namely, experts-based (heuristics) and user-based evaluation sessions, interviews and questionnaires. The data were interpreted and analysed to evaluate the persuasiveness of help-seeking functionalities of the target websites.

Generally, the findings of the study were found to strongly support the use of PT in online help-seeking websites. However, due to the small-scale nature of the study, the findings cannot be used to draw firm conclusions. Dissemination of findings will potentially lead to more effective help-seeking websites and mobile applications, and thus have even wider implications.
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CHAPTER 1 INTRODUCTION

1.1 Introduction
Violence against women is a global public health phenomenon affecting an estimated one third of women across the world (WHO, 2013), and remains a worldwide reality and presents an on-going concern. On a global scale, 30% of women experience domestic and/or sexual violence with some regions in the world reporting levels as high as 38%. Women murdered by their partners account for 38% while the effects on women’s healthcare and mental wellbeing remain a public health concern worldwide (WHO, 2013). Particularly, overwhelming is the high incidence of violence and homicide cases prevalent in Australia. One in three women experience physical or sexual assault from a male in their lifetime (VicHealth, 2011). Many incidents of domestic violence remain unreported and often unsuspected or known by family or close friends. These statistics are further influenced by cultural, language barriers and other vulnerabilities that immigrant and other women face in many parts of the world (Ting et al., 2009).
Indigenous women and girls are 35 times more likely to be hospitalised due to family violence related assaults than other Australian women and girls. Domestic and family violence and sexual assault occurs across the Australian community. It is acknowledged that some groups of women experiencing violence will have limited access to services or have specific needs that generalised strategies do not account for. My research believes the online help-seeking user interfaces on websites to be critical in increasing interventions to help services and ultimately reducing domestic violence both in Australia and globally.
Among the many efforts globally to address this issue is Australia's National Plan to Reduce Violence against Women and their Children 2010-2022, which seeks to significantly reduce the violence and to sustain this reduction by the year 2022. The Second Action Plan's Priority
No.3 will focus on supporting innovative services and integrated systems, with actions to include building a first stop support for women and their children experiencing violence, based on 'what works', and develop national standards for telephone and online counselling services.

In this research, my aim is to evaluate website user interface designs together with the principles of persuasiveness and understand how these influences survivors of Domestic Violence (DV) to seek help online. I have systematically identified persuasive design criteria from past research and studies, using these criteria I evaluated online help-seeking functionalities available on various DV websites.

It is critical that potential users including survivors, family, friends, by-standers, neighbours and the public have access to timely and appropriate information, resources and services in order to support women and children impacted by the violence and aid the reduction of the incidence of violence against women in Australia. There is potential for this research to evolve to models and framework guidelines to be use in the design of user interfaces and user experiences for online help-seeking via websites and mobile applications.

I am confident that DV survivors, as well as their families, friends and the public will benefit from online help-seeking accessibility findings from this research. This research will further contribute to survivors risk management, provide immediate and appropriate interventions, as well as information to increase safety of the survivors and their children. Additionally, to make it quick and easy to recognise warning signs, plan for safety prior to or immediately after the incidence of violence, reach out to appropriate social services such as crisis intervention, and counselling services, criminal justice and healthcare services.
1.2 Motivation

As an IT consultant for the last 20 years, I have been involved in numerous ICT projects addressing various problems, some in the workplaces relating to human factors in addressing user interface design to bringing ‘bricks-and-mortar’ retailers online to launch their ecommerce storefronts. All projects which I have undertaken have been fulfilling, knowing users are always at the centre of the solutions proposed. However, it was my role as a volunteer with a community social welfare society that I experienced the critical need of being user-centred in our ICT solutions designs. Having been personally involved in helping domestic abuse victims who faced multiple challenges in seeking help, I observed that some survivors of domestic violence do not have knowledge and the capacity to access help support services in their community, while others survivors with access to help services are reluctant to seek help altogether fearing harm from their perpetrators.

With my experience in internet software applications development and web interface design, I began looking into how online help-seeking can be simplified, enhanced, improved and become motivating; such that survivors have an avenue to seek help from websites. The concept of enhancing usability by applying persuasiveness interests me, from a user psychology perspective understanding how individuals can be influenced and motivated to seek help online via websites offering such services and support. Challenges to design online help-seeking interfaces on websites and mobile applications still exists at several levels, from individual lack of technological knowledge, lack of motivation and comfort to use technology.

Websites now have features to promote online help-seeking, such as for individuals having malware attacks on their computers, where users often face the task of finding solutions to get rid of their computers from the malicious viruses or malwares. Seeking professional help in such situation is quick and simple with the availability of solution providers with services and
tools to help remove viruses and malware. SiteLock (www.sitelock.com) is an example of an online solutions provider which offers such services, their website has easy to access and informative help-seeking functionalities for users. In medical situations, family members faced with someone who has recovered from a stroke can seek help with the self-help website Stroke (www.stroke.org) to gain more information and help to better care for their loved ones.

Women seeking help from domestic crisis, violence or abuse in relationship can turn to the numerous websites such as LifeLine (www.lifeline.org.au) which provides help and information to keep safe, and the list goes on to various other contexts in online help-seeking.

In this research case study, I focused on domestic violence websites providing information and online help to abused women in Australia. In developing websites for DV survivors to get concise and relevant information online, to quickly and easily seek help from websites, we need to examine ethical issues in addition to asking questions that include but not limited to: What information should be made available? How should this information be made available? How the ‘need-to-influence’ concept can better address user behaviour during interaction? (Singh et al., 2015). It is important to understand the dynamics of abuse, risks and safety planning, culturally specific information, regionally adaptable for the global
community, and digitally available information with the ability to guide and persuade survivors to safeguard their risks of using the internet. Current mobile phone tracking and stalking including cyberstalking techniques are often used by abusers to instigate fear and further isolate survivors (Zaida et al., 2015; Alhusen et al., 2015; Scott et al., 2014).

1.3 Challenges in Existing Help-Seeking

In understanding help-seeking from website, we gathered preliminary responses from 2 Victorian based DV service providers as part of building a research scope boundary. We gathered information on the types of interventions needed on websites which will enable and enhance the access to online help services. As a first response input from these service providers, we noted that the challenges involved have been identified by previous studies. Such as what would ensure safety for survivors, and how to provide decision aid tools via internet which can empower women and build their confidence to leave an abusive relationship (Zaida et al., 2015, Westbrook, 2013, Bruckman et al., 2011).

The ability to seek help using technology is dependent on the survivors’ knowledge of any previously accessed help services, computer skills, access, language ability and safety issues. According to Nicholas et al. (2004), two-thirds of Australian adolescents are willing to seek help online for mental health issues. Accessibility and the cost effectiveness of technology have a potential to reach survivors of domestic violence (Alhusen et al., 2015).

A DV survivor could be in danger if the perpetrator found out that a DV website interface persuaded the DV survivor to contact a social service organisation to seek advice. In another scenario, simply surfing the web to seek help, the DV survivor overlooked deleting the websites visited from the browser’s history list. DV survivors who are less internet savvy may not know of this capability and not delete the list, leaving anyone else (possibly the
perpetrator) to lookup the history list, putting the DV survivor in a vulnerable situation to explain why these websites are being visited.

In presenting the contact listing of domestic violence help agencies, in what particular sort order should the listing be arranged? Should the listing be sorted with government linked agencies at the top or should it be the privately sponsored agencies, assuming both have equal expertise in helping the DV survivor. Or should there be a single contact point? Which will inevitably link the help-seeking DV survivor to an appropriate social services agency? These and other ethical considerations are paramount in considering the design of persuasive user interfaces, which not only influence the help-seeking behaviour but also ensures that good and tested principled guidelines are implemented in any persuasive user interface design (Singh et al., 2015). DV websites face challenges to ensure that different types of support are available in relation to domestic violence, both preventative and after an incident of domestic violence (Hester and Westmarland, 2005). Although there is growing support from government to increase awareness through creating user friendly information on DV and its essential components of support through the various critical stages of seeking help and receiving support – these are still in the ‘work-in-progress’ stage. The severity and widespread incidence of DV calls for an urgent need for the combination of coherent, effective, usable and persuasive user interfaces, comprehensive DV information, resources and referrals to ensure the safety of women and children and reduce the incidence of domestic violence nationally and globally.

Australia’s National Plan to Reduce Violence against Women and their Children 2010-2022 seeks to significantly reduce the violence and to sustain this reduction by the year 2022. The Second Action Plan’s Priority No.3 will focus on supporting innovative services and integrated systems, with actions to include building a first stop support for women and their
children experiencing violence, based on ‘what works’, and develop national standards for telephone and online counselling services. Notable recent initiatives include 1800RESPECT and the AURORA Mobile App, which have provided ‘first door support’ to ensure women who have experienced violence, their first point of contact should provide professional, capable and compassionate assistance.

1800RESPECT, established under the First Action Plan, is Australia’s first national telephone and online counselling service for domestic and family violence and sexual assault. In the Second Action Plan 1800RESPECT introduced and expanded innovative tools to enable women experiencing or at risk of violence, as well as their friends and family, to access information and help. It also explored best ways to appropriately support victims of complex forms of violence, including forced and servile marriage, with a particular focus on children and young people (Second Action Plan, 2013-2016).

In May 2013, Women NSW launched the Aurora Domestic and Family Violence (DFV) Smartphone Application (AURORA APP) for people experiencing DFV and concerned friends and family members to quickly access information, support and services. The application was developed in recognition of the fact that the majority of violence against women and girls occurs in their homes, and that smartphone technology can be very effective in assisting people in this situation. The Aurora app includes comprehensive information about DFV, quick links to support options and services available in NSW, quick links to emergency services and an innovative ‘message friends’ feature which allows women to quickly text message selected friends or family members when they feel threatened or harassed. The Aurora app serves as an effective response to an individual who may face danger from an abusive person. However, it is also considered to be an excellent prevention tool by providing individuals with helpful information about recognising violence and assisting people who might be at risk of abuse. The Aurora app has undergone usability
testing to help enhance its functionality and operation by end users. This helps to ensure that the Aurora app continues to serve as a valuable public resource. The Aurora app provides an example of the NSW Government delivering innovative world-class technology to address domestic and family violence. The app has generated interest from jurisdictions across the country, and discussions are continuing to determine whether it can be developed into a national resource.

The use of mobile phones and computers in our everyday lives in addition to the use of associated technologies bring added challenges to studies in the field of Human Computer Interaction (HCI). Persuasive Technologies (PT) are becoming important components of various web-based and mobile applications to influence behaviour and attitudes of users while interacting with a user interface.

In the course of my understanding online help-seeking behaviour and user interface design issues, I also studied website’s interface designing and how it contributes to a successful user experience. Designing a successful user experience means creating a design that allows users to move from a “can do” to a “will do” situation. Put another way, a successful user experience is one that is both usable and persuasive (Horvath et al., 2011). “Can do” builds on the user’s intent to proceed with accepting a change in behaviour and “will do” confirms earlier literature surveys of the “trigger” to give a commitment to the change.

User Interface designs have evolved over the last decade from being purely functional to usable and now to be persuasive, this flow process can bring about a successful user experience in accomplishing a task via a user interface.
The focus of my research is domestic violence websites which encourages online help-seeking but fail to persuade users to seek help via website’s content and functionalities. In today’s online world, numerous domestic violence help/support websites face challenges to ensure that different types of support are available in relation to domestic violence, both preventative and after an incident of domestic violence (Hester et al., 2005). Recently, the internet has been used to provide support (Westbrook, 2007). In order to be effective, websites and mobile applications with domestic violence information need to be comprehensive, up-to-date, accurate and usable and support the needs of potential users. In addition to these, I will investigate issues to make website’s help-seeking functionalities and user interfaces more persuasive for users with a case study research methodology in the next chapter.

Therefore, understanding how to influence victims to browse and benefit from information/support on websites and mobile phone applications becomes increasingly important to social services, police, healthcare or other content providers. How efficiently, safely and easily the victims interact with the user interface is critical for the success of DV related websites. It is critical for victims to recognise warnings signs, manage risk of potential dangers of the abuse, plan for the safety of their children and themselves, and have access to timely and appropriate information and supports.
The importance of evaluating the persuasiveness of a DV related website is well recognised, there is substantial interest in how persuasive technology play a crucial part in the overall interactive user experiences on such websites.

I progressed in my research by understanding the gaps in user interface designs, especially from a persuasive and behaviour modification perspective for seeking help online. Due to small published research in the area of online help-seeking from domestic violence websites, I relied on first hand informant feedback from the service providers and also from government reports such as Australia’s Royal Commission on Family Violence: Summary and Recommendations released in March 2016. I have listed the research questions in the next section, these will guide me in successfully completing my research.

1.4 Research Questions
The challenges identified above are used to formulate the research questions which are articulated in this section.

In the past two decades, persuasive technologies have entered the marketplace at an increasing rate. Although persuasive technologies serve many different purposes, the most important significant contribution arguably is in the domain of health (King et al., 1999).

Persuasive technologies use currently spans numerous areas in the health domain with applications promoting physical fitness (Consolvo et al., 2009), while others focus on preventive health care such as alcohol and smoking cessation (Lehto et al., 2011), unwanted pregnancies (www.stayteen.org), management of chronic diseases like diabetes (Mamykina et al., 2008), personal hygiene and tooth brushing for kids (Chang et al., 2008).

In the literature review spanning the last 2 decades, no research paper(s) were found that addressed the critical need of using persuasive technologies to encourage online help-seeking from DV websites or other related online DV media channels. The evaluation of users’
experience and satisfaction in the use of help-seeking functionalities from DV websites are also not available.

In the process of investigating preliminary impressions of DV websites in the Victoria, I observed that the website designers have adopted numerous help-seeking features / functionalities; online chat / counselling, listing of service providers to assist DV survivors, relevant information on websites that DV survivors can access and gain more knowledge on safety planning, risk assessments and keeping safe.

As a primary source of evidence, the Australian Royal Commission Report on Family Violence (2016) has explicitly made suitable recommendations to reduce domestic violence in Australia by recommending online help-seeking strategies on DV websites to be implemented urgently. I am encouraged by the Royal Commission’s Report to continue my research in the use of persuasive design principles on DV websites, empowering more DV survivors and their support network to access online help functionalities.

To guide me on this research path, I have articulated two research questions based on the gaps identified above. It has to be impressed upon that solving issues relating to domestic violence comes can be approached in many ways; the Australian Royal Commission Report on Family Violence (2016) has more than 2000 pages of recommendations and solutions in addressing this problem that we as a community are facing.

In investigating the persuasive user interface design for online help-seeking on domestic violence, it is my humble contribution to this vastness of research, studies, intervention which many researchers have embarked on and many valuable individuals who have made it their lifelong ambition to alleviate or eradicate this form of violence from our community.

My research will attempt to answer the following 2 questions:

1) How can persuasiveness in user interface design affect the users of domestic violence websites in seeking help online?
2) What critical interventions are needed for service providers to ensure their websites aids online help-seeking?

1.5 Thesis Overview
An overview is given for each of the chapters in the thesis.

In Chapter 2, I present the literature survey which addresses the concept of persuasion and converges to the area of Persuasive Technologies (PT) which is the state-of-art approach in the field of Human Computer Interaction (HCI) to influence user interaction and tasks management. I discuss online help-seeking from various models and principles and how it promotes online help-seeking behaviour.

In Chapter 3, I introduce the research design and methodology adopted for the evaluation of persuasiveness of help-seeking functionality from the websites. The mixed methods approach selected uses both qualitative and quantitative sources of evidence to arrive at my findings. The chapter details the selection process of users and websites, the use of expert review (heuristics), user sessions for completion of tasks, use of questionnaires and face-to-face interviews. Detailing the expert evaluation (heuristics) method for evaluating the websites for persuasiveness. Using the persuasive criteria from the Persuasive System Design (PSD) model, expert evaluations were conducted to inspect on help-seeking functionality of websites. This method of inspection greatly reduces time taken compared to a standard user-based evaluation method and is able to give a comprehensive evaluation. The approach is described on how the experts carried out the evaluation with a checklist as guide. It summaries the feedbacks, experiences and give the advantages and disadvantages of the evaluation method in this study.

Following the expert evaluation, the user-based evaluation of persuasiveness of DV websites is presented. The websites selected are targeted to assist DV survivors and their other users to get help and keep safe. The user-based evaluation was conducted using both qualitative and
quantitative methods and data was collected. Details of these experiments for user tests and its methods and tools are described in this chapter.

Chapter 4 shares the findings from the evaluations of the 3 DV websites. For each of the websites, details are given on the background, the target users, range of help services and support available. Analysis of the data is done to provide a systematic persuasive indicator of the user interface.

Chapter 5 utilises the outcomes from the research findings and analysis of the case study to present a set of guidelines for designing persuasive user interfaces for web-based help-seeking scenarios. The guidelines are based on and extends the recommendation of the PSD model for designing a persuasive website for help-seeking.

In Chapter 6, I conclude the thesis with a discussion on the research objectives and the research questions. I also present some future research directions that can be undertaken from the findings of this research.

1.6 Conclusion
This chapter gives the introduction to the research topic of the role of Persuasive Technologies (PT), to aid DV survivors. The motivation is presented which lays the background of selecting the topic of research and the challenges that are tied to enabling support and assistance to survivors of domestic violence. An overview is given for each of the chapters in the thesis as well. I gave an introduction of the research focus; persuasive technologies and the issues of domestic violence in our community, various strategies to aid support for online help and services for survivors. The motivation is presented which lays the background of selecting the topic of research and the challenges that are tied to enabling support and assistance to survivors of domestic violence. I presented the research problems taking the perspective of domestic violence social help issues on how to influence and
encourage to browse and benefit from information and support websites. By identifying the gaps, I present the research questions which will guide me in the process of this research thesis.
CHAPTER 2  LITERATURE SURVEY

“The Internet is a persuader’s paradise, with websites promoting millions of products and services.”

- Richard Perloff (The Dynamics of Persuasion)

2.1 Introduction
In this chapter, I present a thorough literature review of research which will guide me to seek answers for the research questions. The concept of persuasion is discussed from a broad lens perspective, which is gradually converged to the combined research area of Persuasive Technologies (PT) and User Interface Design. I present the associated theories, models and various system evaluation techniques, following which I introduce the topic of online help-seeking and discuss its relations to domestic violence. I conclude the chapter with the discussion on help-seeking using various online help-seeking design models, various principles of persuasiveness and user behaviour promoting online help-seeking.

2.2 Persuasion
Our research questions seeks to understand the very nature of human persuasion using user interface design concepts on help-seeking websites. Understanding the theory of Persuasion is critical in answering the research questions, persuasion has intrigued humankind since the dawn of civilisation. In history, we read how persuasion has been used by tribe leaders, politician, religious figures to influence attitudes and behaviour. In today’s world, through the varied media channels, we see TV advertisements by salespersons to influence a buying decision, we watch entertainment programming by religious personalities who try to win over converts. Social media has now become the de facto platform to persuade and influence.
More recently the use of the Internet to recruit innocent individuals into terror and extremist groups, where religious teachers use persuasion as a means to influence one’s mind, and in some cases to use coercion as well to fulfil the persuasion (Zakaria, 2001).

Just about anything that involves moulding and shaping attitudes involves persuasion. Persuasion is the study of attitudes and how to change them (Perloff, 1993). Numerous definitions of persuasion exist, (Perloff, 1993) is his book “The Dynamics of Persuasion” defines persuasion as ‘a symbolic process in which communicators try to convince other people to change their attitudes or behaviours regarding an issue through the transmission of a message in an atmosphere of free choice’. Persuasion is not an instant process, it takes time, consist of a number of steps and actively involves the recipient of the message. (Fogg, 2002) defines it as “an attempt to change attitudes or behaviour or both (without using coercion or deception)”, more specifically voluntary change rather than the use of force.

In the classical theory on persuasion, Greek philosopher Aristotle divided the means of persuasion appeals into three categories—Ethos (appeals to credibility), Pathos (appeals to emotional) and Logos (appeals to logical).

Persuasive communications have been used by many good people to implement change. Today, hardly a day go by where persuasive communication messages are not relayed to us in one way or another, through mediated channels, such as radio, television, the Internet and cell phones (Perloff, 1993). The reach of mass persuasive communications is phenomenal, from major cities to tiny villages in remote areas.

Persuasion also involves the use of symbols, with messages transmitted primarily through language with its rich, cultural meanings, Symbols include words like freedom, justice, equality; non-verbal sign like the flag, religious insignia, sports logos etc. Symbols are
persuaders tools, harnessed to change attitudes and mould opinions. Persuasion involves a deliberate attempt to influence another person (Perloff, 1993), some of these attempts may dramatically influence the attitudes while others may be more subtle, (Miller, 1987) exerts that persuasive communication have three persuasive effects on an individual: shaping, reinforcing and changing responses.

Persuasion is relevant in the context of the research questions, from the various theories and research mentioned above, it is noted that the intent to facilitate help-seeking and encouraging the users to seek help would require a deep understanding to the persuasive psychology of human behaviour and the associated influence to user interactions on a website.

### 2.3 Theories and Models of Persuasion

In this section, three main theories that explore aspects of persuasiveness and are specific to user interface designs understandings for websites are discussed in brief. Although applied here in the field of human computer interaction and computer science, these theories can also be applied to/from different viewpoints and contexts.

i) **Elaboration Likelihood Model (ELM)**

The Elaboration Likelihood Model (ELM) (Cacioppo, et al., 1985) of persuasion has been a central focus of most previous research on persuasive technology and states that in the process of persuasion, the target can follow two routes; cognitive and peripheral. Each route targets a widely difference audience and emphasises the importance of understanding the user better before creating a persuasive message.
ii) **Technology Acceptance Model (TAM)**

TAM was developed by (Davis et al., 1989) as a tool to expect the probability of an innovative technology being implemented within a group of firms. Anchored in the Theory of Reasoned Action / Planned Behaviour (TRA), the TAM is established upon the assumption that technology acceptance can be elucidated by: individual’s beliefs, attitudes, and intentions. Accordingly, it should be possible to forecast potential technology adoption via the TAM when a technology is launched.

iii) **Goal-Setting Theory (GST)**

The Goal Setting Theory describes how individuals respond to different types of goals, and thus how to set goals to motivate behaviour. One theory that is commonly used to drive the design of healthy lifestyle interventions that specifically encourage individuals to be physically active and/or eat well is Locke and Latham’s Goal Setting Theory (Locke et al., 2002; Consolvo et al., 2009).

In the next section, I describe Persuasive Technologies which are based on the theories described above and will subsequently introduce additional theories and models which are more specific to human computer interaction.

### 2.4 Persuasive Technologies (PT)

In this section, I describe PT which are used to evaluate DV websites in the context of the RQs. PT rely on one or more theories of persuasion (see Section 2.3).

Persuasion involves the persuaders’ awareness that he or she is trying to influence someone else. It also requires that the “persuader” make a conscious or unconscious decision to change his or her mind about something (Perloff, 1993).
(Cialdini, 1987) proposed six techniques of persuasion, which can initiate influence such as on the purchase of a product or service. 1) reciprocity: giving small gifts or rewards to potential consumers just before showing the main product, buyers are obliged to buy the main product; 2) scarcity: giving special discounts or coupons for a limited time, encouraging consumers to buy; 3) authority: online stores use expert reviews or endorsements to promote products such as giving reviews & comments; 4) commitment and consistency; online stores try to make consumers more committed by acknowledging product preference e.g. generating a wish list; 5) consensus: online stores often show how many people already bought a specific product e.g. similar products, e.g. also bought these; 6) liking: through social media, online stores use friend recommendations to increase conversion. e.g. “Like” and “recommend a friend”.

Persuasive technologies are broadly defined as technologies that are designed to change attitudes or behaviours of the users through persuasion and social influence, but not through coercion (Fogg, 2002).

2.4.1 Captology

Fogg’s pioneering work in “Captology” at Stanford University in the late 90s led to the definitive study of persuasive technologies, which just like human persuaders in our lives, persuasive computing technologies can bring about constructive changes in many domains, including health, safety and education (Fogg, 2002). Captology - based on an acronym derived from Computers as Persuasive Technology, has steady grown as a field intersecting the main domains of psychology and computer science.
According to Fogg, technology must fulfil the following certain key criteria to be considered as a persuasive technology; firstly, the technology needs to be focused on human-computer interaction (HCI) and not computer-mediated communication (CMC). CMC serves as a channel, while HCI involves the participant in the interaction and is the source of persuasion. Secondly, the outcome of behaviour change brought by the computers needs to be as intended by the designers of interactive technology products (intentional), and lastly the persuasive intent has to be focused on endogenous intent that is the motivation comes from what is “built-in” rather than as a side product (exogenous) source.

Initially computers were built for data handling - calculating, storing and retrieving, over time computers became more persuasive by design, being used as persuasive devices in all roles and domains. Fogg in his book (Fogg, 2002) demonstrated the phenomenal growth potential of “interactive computing systems designed to change people’s attitudes and behaviours”. The Internet and now mobile phones have emerged as a medium of choice to persuade or motivate people to change their attitudes and behaviour, with the millions of websites and applications designed to target a behaviour to modify. The key advantage over traditional media (print, TV and radio) which pulsates persuasion and behaviour change is “interactivity”. The ability to adjust influence tactics as the situations evolves, such as a salesman pitches to a potential customer.
Computers not only have advantages over traditional media but also human persuaders; (Fogg, 2002) have specified 6 advantages:

i) more persistent than human being

ii) offers greater anonymity

iii) manage huge volumes of data

iv) use many modalities to influence

v) scale easily

vi) go where humans cannot go or may not be welcome

2.4.2 The Functional Triad

The Functional Triad proposed by Fogg is a classification of the 3 basic ways that people view or respond to interactive technologies as i) tool, ii) medium or iii) social actor - or as a combination of the three (Fogg, 1998). Each of these three comes with its own set of persuasion techniques. As a tool, the technology is an interactive product designed to
change attitudes or behaviour by making desired outcomes easier to achieve. Seven persuasive technology tools have been identified as part of Fogg’s Functional Triad:

As Persuasive Tools:

<table>
<thead>
<tr>
<th></th>
<th>Reduction</th>
<th>Using computing technology to reduce complex behaviour to simple task increases the benefit/cost ratio of the behaviour and influences users to perform the behaviour.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Tunnelling</td>
<td>Using computing technology to guide users through a process or experience provides opportunities to persuade along the way.</td>
</tr>
<tr>
<td>3</td>
<td>Tailoring</td>
<td>Information provided by computing technology will be more persuasive if it is tailored to the individual’s needs, interests, personality, usage context, or other factors relevant to the individual</td>
</tr>
<tr>
<td>4</td>
<td>Suggestion</td>
<td>A computing technology will have greater persuasive power if it offers suggestions at opportune moments</td>
</tr>
<tr>
<td>5</td>
<td>Self-monitoring</td>
<td>Applying a computing technology to eliminate the tedium of tracking performance or status helps people to achieve predetermined goals or outcomes.</td>
</tr>
<tr>
<td>6</td>
<td>Surveillance:</td>
<td>Applying computing technology to observe others’ behaviour increases the likelihood of achieving a desired outcome</td>
</tr>
<tr>
<td>7</td>
<td>Conditioning</td>
<td>Computing technology can use positive reinforcement to shape complex behavior or transform existing behaviors into habits</td>
</tr>
</tbody>
</table>

(Perloff, 1993) argues that persuaders sometimes hide truth, mislead, or lie outright in their service of their aims and clients. The field of ethics is concerned with determining when it is morally appropriate to deviate from truth and when such deviations are ethically indefensible.

(Thomas, 1974) has also argued that persuasion is immoral because the communicator is trying to induce someone to do something that is in the communicator’s best interest, but not necessarily in the best interest of the individual receiving the message.

Persuasion can be used for good or bad purposes, with ethical and unethical intentions (Perloff, 1993).

The Fogg Behaviour Model shows that three elements must converge at the same moment for a behaviour to occur: Motivation, Ability, and Trigger. When a behaviour does not occur, at least one of those three elements is missing.
Persuasive technologies use on websites primarily focus on incorporating various persuasion steps into the flow process to influence a user’s decision or behaviour to perform a task or an action. (Orino, 2010) presented an approach defining the persuasive process consisting of 3 steps; firstly obtaining the user’s initial preference, next is to analyse the preference and lastly to create a plan to persuade. The experiment consisted of creating a prototype website of digital cameras and having users to select their camera of interest, the “persuader” in a form of a persuasive message is then injected onto the choice to influence the user into changing his choice decide on a “target camera”.

The persuasive messages presented the user with alternate options of the “target camera” having better specifications (zoom capability, pixels size and price). Out of 20 users in this experiment, only 2 were influenced by the persuasive message, while 8 participants could not see the persuasive message. 6 were not persuaded, 4 saw the message but did not know it was clickable. It can be concluded that at least 12 of the subjects (namely 8 who did not see the message and 4 did not know that it could be clicked) could have been influenced if the message was better placed and designed from a persuasive design perspective. A
A popular model to incorporate persuasiveness into the user interface is the Persuasive System Design (PSD) model proposed by (Oinas-Kukkonen et al., 2008).

### 2.4.3 Persuasive System Design (PSD) Model

Persuasive systems have been defined as “computerised software or information systems designed to reinforce, change or shape attitudes or behaviours or both using coercion or deception” with three outcomes; (i) voluntary reinforcement, (ii) changing of attitudes/behaviour and (iii) shaping of attitudes/behaviour (Oinas-Kukkonen et al., 2008). Oinas-Kukkonen and Harjumaa have conceptualised a framework for designing and evaluating persuasive systems, known as the Persuasive Systems Design (PSD) Model. The PSD model builds on multiple theoretical constructs, such as goal-setting theory (Locke EA, Latham GP, 2002), elaboration likelihood model (Petty R, Cacioppo J., 1986), theory of reasoned action/planned behaviour (Fishbein M, Ajzen I, 1967) and the technology acceptance model (Davis, Bagozzi & Warshaw, 1989). The PSD model has also adopted and modified early persuasive principles from the seminal work of captology (Fogg, 2003).

![Theories and Models for Persuasive Design](image)

Figure 2.4 Theories and models contributing to the Persuasive System Design Model (PSD)

The PSD model can be used for the analysis, design and evaluation of user interface’s persuasion context where persuasion context analysis includes recognising the intent, the event, and the strategy for persuasion. It is also considered the most sophisticated persuasive
design and evaluation methods available (Tuomas et al., 2011). Dey defines context as follows: “Context is any information that can be used to characterize the situation of an entity. An entity is a person, place, or object that is considered relevant to the interaction between a user and an application, including the user and applications themselves.” (Dey, 2001).

As discussed in Section 2.4.2, the Fogg Behaviour Model (FBM) introduced seven persuasive principles (reduction, tunnelling, tailoring, suggestions, self-monitoring, surveillance, and conditioning. (Cialdini, 2001) proposed six principles of persuasion (reciprocation, social proof, commitment and consistency, liking, authority and scarcity). Additional components in persuasiveness evaluation of website’s interface design has been proposed by (Kim et al., 2008) for destination (travel) websites, listing six components that can aid in the evaluation (informativeness, usability, credibility, inspiration, involvement and reciprocity).

Although the FBM is used widely in understanding the persuasive aspects of computer systems, according to (Oinas-Kukkonen et al., 2008) the FBM is too restricted to be applied to persuasive system development and/or evaluation. In the persuasive evaluation of a web based learning environment, (Daud et al., 2013) agrees that the PSD fulfils the gap lacking in the FBM framework. Using the PSD’s dimensions and components, an initial persuasive model of a Web Based Learning (WBL) Design has been proposed.

Since its introduction, the PSD model has been successfully used in the analysis and evaluation of persuasiveness in websites from different contexts with encouraging conclusions and summarised by (Daud et al., 2013).

The PSD model’s persuasion context consists of 3 elements: the intent (of the persuader), the event (that triggers the persuasion) and the strategy (by which the subject is persuaded). They are explained below by (Kegel et al., 2014) in their study of applying the PSD to
influence and change users’ attitudes to act more responsibility in matters of information security and practices.
<table>
<thead>
<tr>
<th>The Intent</th>
<th>This pertains to the goal and nature of the persuader. In the Intent, the Persuader and the Change Type are distinguished.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persuader:</td>
<td>The person that tries to convey a persuasive message to the subject. This falls into the three categories described by Fogg in his Captology publications: Endogenous, Exogenous and Autogenous.</td>
</tr>
<tr>
<td>Change Type:</td>
<td>These fall into the categories 'attitude' and 'behaviour'. These correspond to the Theory of Reasoned Action’s Attitude and behaviour. (i.e., attitudes influence behaviour and are harder to change). Furthermore, several theories, including the Elaboration Likelihood Model and Information Processing Model, distinguish short-term behaviour change and sustained behaviour change. As such, we regard change type to fall into the categories 'attitude change', 'sustained behavioural change' and 'short-term behavioural change'. These are also widely considered to range from hard to easy to achieve, respectively.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The Event</th>
<th>The Event is the context in which the persuasion takes place. This is considered by the authors to be an important part of the context analysis. The Event consists of the Use context, User context and Technology context:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use Context:</td>
<td>The problem domain dependent features of a system. Examples would be the features that should/are present in a system that is developed for reducing smoking, specifically. In the context of PISA, this would be information security.</td>
</tr>
<tr>
<td>User Context:</td>
<td>Similar to the Use context, the prospective/current users of a system should also be examined. Taking from the Elaboration Likelihood Model, some types of users have a low need for cognition, while others have a high need. This would affect how messages are best presented to the user.</td>
</tr>
<tr>
<td>Technology Context:</td>
<td>A system utilizes specific technologies that offer features to and impose restrictions on a system.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The Strategy</th>
<th>Finally, the Strategy examines how a persuasive system interacts with the user. As such, it considers two things, the Message and the Route:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message:</td>
<td>The message is concerned with the content and the format of the persuasive message. The message can use elements both of McGuire’s Information Processing Model (i.e., describing how a message is structured and conveyed to the reader) and Cialdini’s Principles of Influence (i.e., using for example the principle of influence to structure the message).</td>
</tr>
<tr>
<td>Route:</td>
<td>All persuasive content has to select one of two routes described in the Elaboration Likelihood Model (peripheral, central). Knowing which route to choose greatly affects the persuasive capabilities of a system.</td>
</tr>
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</table>

Table 2.1 Persuasive System Design model elements as described by (Kegel et al., 2014)
The PSD model offers ways to analyse the persuasion context, the PSD model also offers a classification of persuasive techniques that can be utilised by a system using the four categories: Primary task, Dialogue, Credibility and Social Support. Most of these principles augmented and adapted by Oinas-Kukkonen & Harjumaa (Kegel et al., 2014) shown in the tables below.

<table>
<thead>
<tr>
<th>Primary Task Support</th>
<th>Persuasive techniques that augment the user’s abilities and help them achieve goals. These are functional part of the system.</th>
</tr>
</thead>
</table>
| 1. Reduction         | A system that reduces complex behaviour into simple tasks helps users perform the target behaviour, and it may increase the benefit/cost ratio of a behaviour. System should reduce effort that users expend with regard to performing their target behaviour.  
- Mobile application for healthier eating habits list proper food choices at fast food restaurants (Lee et al. 2006)  
- Smoking cessation website provides an interactive test that measures how much money a user will save with quitting. |
| 2. Tunnelling        | Using the system to guide users through a process or experience provides opportunities to persuade along the way. System should guide users in the attitude change process by providing means for action that brings them closer to the target behaviour. Smoking cessation Web site offers information about treatment opportunities after a user has taken an interactive test about how addicted (s) he is on tobacco. |
| 3. Tailoring         | Information provided by the system will be more persuasive if it is tailored to the potential needs, interests, personality, usage context, or other factors relevant to a user group. System should provide tailored information for its user groups. Personal trainer Web site provides different information content for different user groups, e.g. beginners and professionals. Web site for recovering alcoholics presents stories that are close to the user’s own story. |
| 4. Personalization   | A system that offers personalized content or services has a greater capability for persuasion. System should offer personalized content and Services for its users. Arguments most likely to be relevant for the user presented first on a professional Web site rather than in random order. |
| 5. Self-monitoring   | A system that keeps track of one’s own performance or status supports the user in achieving goals. System should provide means for users to track their performance or status. Heart rate monitor presents a user’s heart rate and the duration of the exercise. Mobile phone application presents daily step count [Consolvo et al. 2006]. |
| 6. Simulation        | Systems that provide simulations can persuade by enabling users to observe immediately the link between cause and effect. System should provide means for observing the link between the cause and effect with regard to users’ behaviour. Before-and-after pictures of people who have lost weight are presented on a Web site. |
| 7. Rehearsal         | A system providing means with which to rehearse a behaviour can enable people to change their attitudes or behaviour in the real world. System should provide means for rehearsing a target behaviour. A flying simulator to help flight pilots practice for severe weather conditions. |
### Dialogue Support

Techniques used in dialogue with the user: These are techniques that are used when interacting with the user, bearing similarities to persuasive techniques used in human interactions.

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<tbody>
<tr>
<td><strong>Praise</strong></td>
<td>By offering praise, a system can make users more open to persuasion. System should use praise via words, images, symbols, or sounds as a way to provide user feedback information based on his/her behaviours. Mobile application that aims at motivating teenagers to exercise praises user by sending automated text messages for reaching individual goals. [Toscos et al. 2006]</td>
</tr>
<tr>
<td><strong>Rewards</strong></td>
<td>Systems that reward target behaviours may have great persuasive powers. System should provide virtual rewards for users in order to give credit for performing the target behaviour. Heart rate monitor gives users a virtual trophy if they follow their fitness program. Game rewards users by altering media items, such as sounds, background skin, or a user’s avatar according to user’s performance. [Sohn and Lee 2007]</td>
</tr>
<tr>
<td><strong>Reminders</strong></td>
<td>If a system reminds users of their target behaviour, the users will more likely achieve their goals. System should remind users of their target behaviour during the use of the system. Caloric balance monitoring application sends text messages to its users as daily reminders. [Lee et al. 2006]</td>
</tr>
<tr>
<td><strong>Suggestion</strong></td>
<td>Systems offering fitting suggestions will have greater persuasive powers. System should suggest that users carry out behaviours during the system use process. Application for healthier eating habits suggests that children eat fruits instead of candy at snack time.</td>
</tr>
<tr>
<td><strong>Similarity</strong></td>
<td>People are more readily persuaded through systems that remind them of themselves in some meaningful way. System should imitate its users in some specific way. Slang names are used in an application which aims at motivating teenagers to exercise. [Toscos et al. 2006]</td>
</tr>
<tr>
<td><strong>Liking</strong></td>
<td>A system that is visually attractive for its users is likely to be more persuasive. System should have a look and feel that appeals to its users. Web site that aims at encouraging children to take care of their pets properly has pictures of cute animals.</td>
</tr>
<tr>
<td><strong>Social role</strong></td>
<td>If a system adopts a social role, users will more likely use it for persuasive purposes. System should adopt a social role. E-health application has a virtual specialist to support communication between users and health specialists. [Silva et al. 2006]</td>
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</table>
## System Credibility Support

<table>
<thead>
<tr>
<th>Techniques used to influence a system credibility.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Trustworthiness</strong></td>
</tr>
<tr>
<td>2. <strong>Expertise</strong></td>
</tr>
<tr>
<td>3. <strong>Surface credibility</strong></td>
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<tr>
<td>4. <strong>Real-world feel</strong></td>
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<tr>
<td>5. <strong>Authority</strong></td>
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<tr>
<td>6. <strong>Third-party endorsements</strong></td>
</tr>
<tr>
<td>7. <strong>Verifiability</strong></td>
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</table>
# Social Support

Techniques used to determine the direct social and environmental interactions with the system that influences persuasiveness.

<table>
<thead>
<tr>
<th></th>
<th>Social Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Social learning</strong></td>
</tr>
<tr>
<td>2</td>
<td><strong>Social comparison</strong></td>
</tr>
<tr>
<td>3</td>
<td><strong>Normative influence</strong></td>
</tr>
<tr>
<td>4</td>
<td><strong>Social facilitation</strong></td>
</tr>
<tr>
<td>5</td>
<td><strong>Cooperation</strong></td>
</tr>
<tr>
<td>6</td>
<td><strong>Competition</strong></td>
</tr>
<tr>
<td>7</td>
<td><strong>Recognition</strong></td>
</tr>
<tr>
<td>Related research</td>
<td>Description</td>
</tr>
<tr>
<td>------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Persuasive System design (PSD) – Oinas-Kukkonen and Harjumaa (2008)</td>
<td>The model put emphasis on detailed and rigorous analysis of the persuasion context, the event and the strategy. It provides 28 design principles divided in four dimensions (primary task support {self-monitoring, reduction, personalization, rehearsal, tunnelling, simulation &amp; tailoring}, dialogue support {reminders, praise, suggestion, rewards, similarity, social role &amp; liking}, credibility support {trustworthiness, real-world feel, expertise, verifiability, authority, 3rd party endorsement, surface credibility} and social support social comparison, cooperation, social facilitation, norm influence, competition, social learning &amp; recognition) with example how these principles could be to implemented.</td>
</tr>
<tr>
<td>Lehto and Oinas-Kukkonen (2009)</td>
<td>Evaluated persuasive system design (PSD) components in Web-based alcohol interventions.</td>
</tr>
<tr>
<td>Lehto and Oinas-Kukkonen (2010)</td>
<td>Evaluated all the 28 principles of persuasive system design (PSD) into six weight loss web sites.</td>
</tr>
<tr>
<td>Lehto and Oinas-Kukkonen (2011)</td>
<td>Systematic Literature review on persuasive system design (PSD) in web site alcohol and smoking interventions.</td>
</tr>
<tr>
<td>Langrial et al. (2011) [20]</td>
<td>Evaluated all the 28 principles of PSD into twelve native mobile applications for general well-being.</td>
</tr>
</tbody>
</table>

Table 2.2: Summary of PSD and PSD evaluation in different context (Daud et al., 2013).
From the literature review, we are encouraged by the work of Oinas-Kukkonen and Harjumaa in the PSD model’s application to research in various persuasive contexts. (Kegel et al., 2014) agrees that building upon earlier persuasive theories and the work of Fogg, the PSD Model has the potential to be applied in further research by identifying real-work software which incorporates these techniques to persuade, thus examining the effectiveness of the products.

Adopting evaluation methods from the domain of Usability Testing of software and user interfaces we are keen to study the convergence of methodologies associated with evaluating usability and persuasiveness. We have not found any research which assesses the comparative evaluation of the two website user interface design principles; namely usability versus persuasiveness.

Usability refers to the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use (ISO 9241-11). (Nielsen, 2000) defines usability is a quality attribute that assesses how easy user interfaces are to use and measures how easy the interface is to use. With regards to websites, Nielsen explained that usability is essential for any website to survive; especially for ecommerce websites success is linked to users being able to find the products - “if users are unable to find a product, they cannot buy it.” Usability also refers to methods for improving ease-of-use during the design process, some of the common methods for evaluation of ecommerce website usability will be discussed.

According to Nielsen, usability is not a single attribute; instead usability is defined in terms of five characteristics: (1) learnability: the system or product is easy to learn so that users can perform tasks the first time they interact with the interface; (2) efficiency: the system or product is efficient to use so that once users have learned the system, they will perform.
tasks quickly; (3) memorability: the system or product is easy to remember so that if users return to the system after a period of not using it, they can use it easily; (4) errors: the system or product has a lower error rate so that users make few errors while interacting with it and they can easily recover from these errors; (5) satisfaction: the system or product is pleasant to use and users are subjectively satisfied while using it (Nielsen, 2000).

Additionally, (Sharp et al., 2007) added effectiveness and safety to the list of usability characteristics proposed by Nielsen. Effectiveness means that the system or product is effective to use and good at doing what it is supposed to do so that users can carry out their work accurately and successfully; safety means that the system or product is safe to use so that it protects users from dangerous conditions and undesirable situations.

Various Usability Evaluation methods to consider:

a) Formative Usability Evaluation
Where it is the developer/designer perspective during development, often iteratively, with the goal of detecting and eliminating usability problems at design phase. (Hartson, 2003 and Sauro, 2010).

b) Summative or Comparative Usability Evaluation
It is done near-complete design under realistic conditions that can be used to determine if the design meets specific measurable performance and/or satisfaction goals, or to establish a usability benchmark or to make comparisons (Hartson, 2003 and Sauro, 2010).

c) Cognitive Walkthrough
An approach to evaluating a user interface based in stepping through common tasks that a user would perform and evaluating the interface’s ability to support each step. This approach is intended especially to help understand the usability of a system for the first-time or infrequent users, for users in an exploratory learning mode (Polson, 1992).
d) Heuristics or Guidelines-Based Expert Evaluation
A method in which several usability experts separately evaluate a user interface design (probably a prototype) by applying a set of “heuristics” or design guidelines that are relevant. No representative users are involved. Results from several experts are then combined and ranked to prioritize iterative (re)design of each usability issue discovered (Nielsen, 1993).

e) Interview/Demo
A technique for gathering information about users by talking directly to them. An interview can gather more information than a questionnaire can and may go into deeper details. Interviews are good for getting subjective reactions, opinions, and insights into how people reason about issues. Structured interviews have a defined set of questions and responses. “Open-ended interviews” permit the interviewee to provide additional information, ask broad questions with a fixed set of answers, and explore paths of questioning that may occur to the interviewer spontaneously during the interview. Demonstrations (of prototypes) may be used in conjunction with user interviews to aid a user talking about the interface (Hartson, 1993).

f) Post-adhoc Questionnaire
A written set of questions used to obtain demographic information and views and interests of users after they have participated in a usability evaluation session. Questionnaires are good for collecting subjective data and are often more convenient and more consistent than personal interviews (Hartson, 1993).

g) Analytics / Performance Metrics
Web Analytics involves the collection of website usage data. It also involves the measuring, monitoring, analysing and reporting of these data to understand user experiences while using the websites. Analytics can help to optimise web sites in order to accomplish business
goals and/or to improve customer satisfaction and loyalty, and have proven useful in identifying potential design and functionality problems (Layla et al, 2009 and Peacock et al., 2003).

From the above usability evaluation methods, we acknowledge the work done by researchers in the development of numerous usability/ergonomics standards, checklists, guidelines, recommendations that can also be adapted and used to evaluate the persuasiveness of user interfaces. (Nemery et al., 2014) presented a set of guidelines for evaluating persuasive interfaces, with a total of eight persuasive criteria and 23 sub-criteria differentiating between static and dynamic aspects of the persuasion. Building in the work of (Oinas-Kukkonen et al., 2008) and (Fogg, 2003), the guidelines and checklist presented the set of persuasive criterions, noting that static criteria (user interface) and the dynamic criteria (user’s behaviour) are effectively engaged in the persuasion of the interface.

<table>
<thead>
<tr>
<th>Static Criteria</th>
<th>Dynamic criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credibility</td>
<td>Solicitation</td>
</tr>
<tr>
<td>Privacy</td>
<td>Priming</td>
</tr>
<tr>
<td>Personalisation</td>
<td>Commitment</td>
</tr>
<tr>
<td>Attractiveness</td>
<td>Ascendancy</td>
</tr>
</tbody>
</table>

Figure 2.5 Interactive persuasive criteria proposed by (Nemery et al., 2014)

The above two criteria were part of toolkit to evaluate the persuasive dimensions of user interfaces, where criteria for interactive persuasion emphasize the social and emotional dimensions of interfaces, including usability (Nemery et al., 2014). The adoption of usability assessment metrics as an overlap to persuasive technologies further contributed to the set of criteria which aims to define and gather all aspects of persuasion present on the interfaces. In an experiment to test the criteria, the researcher invited 30 usability experts to perform an evaluation task on a persuasive human-computer interfaces. This further
encourages the need to make interfaces not only useful, efficient, simple, pleasant etc but to adopt and embed persuasive elements as well.

### 2.5 Online Help-Seeking and Domestic Violence (DV)

“There is one universal truth, applicable to all countries, cultures and communities: violence against women is never acceptable, never excusable, and never tolerable.”

- Ban Ki-Moon (United Nations Secretary-General)

In this section, I address the role of PT in online help-seeking by DV survivors. A whole range of healthcare and safety issues are faced by women and their children as a result of the domestic violence prevalence. The World Health Organization, 2013 report expressed the need for a 2-fold response to address the issue: prevention and effective response with resources for women in these situations. Women make many attempts of leaving abusive situations, although some to them result in returning to the abusive relationship on several occasions (Campbell et al., 1998). According to Campbell, women seek ways to stop the violence in their relationships instead of deciding to end the relationships. In many instances, the decision to leave is often dependent on the support that exists for her and the safety of her children.

Help-seeking has been defined as ‘…any communication about a problem or troublesome event which is directed toward obtaining support, advice, or assistance in times of distress’ (Gourash et al., 1978). Help-seeking can be compromised by factors like shame associated with the violence, fear of retaliation, family and cultural pressures to retain the family unit, community tolerance of violence, gaps in service provision, poor responses to those seeking help, threats to confidentiality in small communities (Farrelly et al., 2010).

Everyone experience tough times and there are moments where we cannot solve our problems ourselves and seek help from others, asking for help can be difficult, particularly when we’re stressed or confused. Sometimes we do not even realise that we need help; some of the reasons where we might not seek help include; thinking a problem will go away
on its own, feeling afraid or embarrassed to ask for help, thinking that no one wants to help or understands us, do not know where to find help, lack of support avenues, thinking that people will judge you or getting help can be time consuming or expensive (Lifeline Australia, 2010).

In providing help for individuals, the questions that should be asked include and are not limited to: What information should be made available? How should this information be made available? Research will need to be conducted to increase the use of online Internet technology, online information made available being non-print (Houston et al., 2013) – so that there is easy access and survivors have a choice with regards to when they access it.

Factors affecting the help information provided and what factors play a role for survivors in accessing it online:

- Information identifying abuse – many women and supporters (family, friends, neighbours and community members and the general public) do not understand the full spectrum of what constitutes abuse (Alhusen et al., 2015).
- Information seeking is a complex process requiring good computer skills – based on a study conducted by Westbrook, 2013, more than half of the staff at a shelter expressed a ‘need’ for “means to have survivors do their own information seeking”.
- Research relating support systems for survivors – often the concerns include: not wanting to cause more harm to the survivor or increase the safety risks for them and their children when the abuser finds out about their involvement, avoid the family dynamics, cultural and societal norms and the concept of ‘the private matter’, reaction from the abuser, lack the knowledge to navigate and guide survivors who are not ready to leave, through the complex justice and safety systems and
landscape, and face confusion, feeling of helplessness and exhaustion when women keep returning to the relationship or take time deciding their choices of leaving the relationship and face financial, social and cultural situations (shame, blame and of being a single parent) of custody and legal matters of leaving the relationship and face the possibility of having to raise their children on their own (Amar et al., 2010; Anderson et al., 2007; Latta et al., 2011; Alhusen et al., 2015).

Why is there a need for DV survivors and their support systems to have access to information and online help-seeking resources?

- Ready access to hand phones, emails, social media and exposure to global news make it possible for survivors and their support networks to have it when they want it. It is important to understand the dynamics of abuse, risks and safety planning, culturally specific information, regionally adaptable for the global community, and digitally available information with the ability to guide survivors to safeguard their risks of using the internet and current cell phone tracking and stalking including cyberstalking techniques often used by abusers to instigate fear and further isolate survivors. (Zaida et al., 2015; Alhusen et al., 2015; Scott et al., 2014; Bradbury et al., 2012)

- The dangers faced by survivors of potential risk to their lives and those of their children based on statistics that is apparent from the commitment of governments globally in addressing this issue. DV affects many women and children and in turn increase the costs associated with healthcare, legal services consequently utilised by women.

- The use of technology hence becomes critical to lend support to reducing the prevalence of this issue. Much research has focused on the ways to influence the
help-seeking strategies of survivors using both formal and informal systems of gaining access to information and support. (Cohen et al., 2005; Bruckman et al., 2011; Zaira et al., 2015).

- It is the connectivity of the available technologies, current communication tools and the understanding of help-seeking behaviours and barriers facing DV survivors that can greatly benefit them. It is the understanding of the complexity facing DV survivors and the features of the current technology that women can access guided by the help-seeking behaviour of survivors that have the potential to prevent and reduce the rate of DV for many countries.

- Critical questions such as what would ensure safety for survivors, how to provide decision aid tools via internet that can aid empowering women and building their confidence to leave abusive relationships require future focus. (Zaida et al., 2015, Westbrook, 2013, Bruckman et al., 2011). A further understanding of the safety and risk assessment factors (Campbell et al., 1998) and what support and resources are available to the survivor before a decision is made to leave the relationship remains critical. (Alhusen et al., 2015)

- Research undertaken by (Barrett et al., 2011), provided evidence that DV survivors tend to be actively involved in formal and informal help-seeking strategies in order to remain safe in their relationships or inform their decisions to leave the situations of violence. The study also indicated that the fear for the safety of their lives and that of their children increased their need to seek both formal and informal supports and resources.

- Hence the aspect of help-seeking that is critical for future support to DV survivors is the provision and increased usage of enhance information technology to remain safe in their relationships or exit them safely. It is equally important for them to access
decision making aids available to them anonymously, and well-informed support networks of friends, family and community members. It is access to the updated, current and accurate information, readily available and that provides a clear mapping for navigating the complex landscape of what awaits the woman and her children when they plan for their safety for preventing and intervening in situations of DV (Alhusen et al., Westbrook, 2013, Zaida et al., 2015)

- Research is hence important to reach the 70% of global DV survivors who do not report or disclose the situations of violence (WHO, 2012).

Women in general face a wide range of barriers/challenges when deciding to seek help for domestic violence. The reasons include and are not limited to gender inequality and cultural factors influencing disclosures, and often the lack of information relating to what constitutes abuse or resources as to where to get help, fear of being involved in systems and cultural and societal norms which play a critical role.

The pre-migration experience of new immigrants coming from culturally diverse backgrounds, influences the help-seeking behaviours of women. These experiences are influenced by the strong patriarchal systems, preference for sons, the dowry system, arranged marriages, forced marriages, child marriages, the migration factor resulting in further isolation, lack of support and knowledge of local resources and laws, financial and psychological stress, the sacrament of marriage, the negative attitudes associated with separated or divorced women, all of which influences attitudes and social underpinnings of domestic violence, and social positioning in society (Light et al., 2008).

An exploration of help-seeking formal and informal strategies in a study by (Ansara et al., 2010) suggest differing patterns between women and men. Women were found to seek
formal assistance from system based on the severity of the violence they experienced. Reaching out to informal supports that included family members, friends and neighbours were also common among all women in the study, although the reasons for choosing these individuals was not discussed in the study.

Online help-seeking preferences in general appeal to survivors due to the benefits of computer and internet services due to the anonymity, convenience and the time it allows them to make their decision at their own time and when they feel safe enough. (Greidamus et al., 2010). The ability to seek help online using the technology is dependent on the survivors’ knowledge, computer skills, access, language ability and safety issues. According to a study done by Nicholas et al., 2004, two-thirds of Australian adolescents were willing to seek help online for mental health issues, also accessibility and the cost effectiveness of internet technology has a potential to reach survivors of domestic violence. (Alhusen et al., 2015).

In today's online world, DV websites face challenges to ensure that different types of support are available in relation to domestic violence, both preventative and after an incident of domestic violence (Hester and Westmarland, 2005). Recently, the internet has been used to provide support (Westbrook, 2008). In order to be effective, websites and mobile applications with domestic violence information need to be comprehensive, up-to-date, accurate, persuasive and usable and support the needs of potential users. Therefore, understanding how to influence victims to browse and benefit from information/support on websites and mobile apps becomes increasingly important to social services, police, healthcare or other content providers. How efficiently, safely and easily the victims interact with the user interface is critical for the success of DV related websites and mobile applications. It is equally critical for victims to recognise warnings signs, manage risk of
potential dangers of the abuse, plan for the safety of their children and themselves, and have access to timely and appropriate information and supports.

A study by (Lee et al., 2012) involving mental imagery processing perspective on website interfaces was investigated, and it was noted that implementing persuasive techniques in website user interface designs will have positive impact on triggering the visitors attention. Many previous studies argue that visual elements on a user interface possess the power of persuasion and contribute in persuading the end users. However, not much attention has been given in assessing the implementation of persuasive techniques in a website’s visual design (Ibrahim et al., 2013). This research endeavour to fill this gaps and provide greater understanding in evaluating and applying persuasive design principles on user interface designs.

2.6 Conclusion

Literature survey from various related research studies were presented covering the topics of Persuasive Technology (PT) and Interface Design. Various PT associated theories, models and various usability evaluation techniques were discussed. The introduction of domestic violence online help-seeking issues and strategies provided insight to the challenges faced by various support services. Various online help-seeking design models, principles of persuasiveness and user behaviour promoting online help-seeking were also presented. These concepts provided me the necessary background to answer the research questions.
CHAPTER 3 RESEARCH DESIGN

3.1 Introduction
In this chapter, I discuss the overall design of the research which I have used to answer the research questions. I justify the adoption of a case study methodology for the research to evaluate the DV websites with a sample set of test users completing specific help-seeking tasks on the websites. I streamlined the process to select 3 DV websites from a large number of similar sites, ensuring that these websites can be used to seek answers to my research questions. Selecting the PSD Model’s criteria discussed in the literature survey, I defined the heuristics which are used in the user interface evaluation of websites for persuasiveness. Qualitative and quantitative sources are defined and discussed with the appropriate data collection method for each is proposed and utilised in this research.

3.2 Case Study
I selected case study research methodology because it is suitable for an exploratory study to understand how persuasiveness in user interface design can affect online help-seeking scenarios. Yin, (2011) defines a case study as an empirical enquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident. Such as how users’ responds to or interacts with various user interface designs on a website; especially to seek content or information related to help-seeking. As case study requires that the case or the unit of analysis is defined, I define the case as the cohort of participants undertaking the same activities in the websites, with the aim to seek help in DV situations using a set of defined tasks.

The case study is also an approach that facilitates exploration of the persuasive phenomenon within the context of user interface design and provides guidelines to design data collection
from both qualitative and quantitative sources. A case study approach is particularly useful for understanding how different user interface elements on a website fit together and how these elements are able to produce the impact needed, which will assist in answering the research questions on what critical interventions are needed to enhance persuasiveness in help-seeking. Using a mixed method approach, I gather data from qualitative and quantitative sources, with tasks-based user testing and questionnaire surveys, this method will further assist to answer the research questions identified. Usability experts and test users were invited to assist in the testing and evaluation process of a set of pre-selected DV related websites. The data collected, was analysed and presented in the following Chapter 4 Findings.

Where test users are involved in a case study, ethical consideration is critical as it deals with user’s emotions and behaviours. In the context of ethics, I have presented a position paper at the OzCHI 2015 conference’s workshop session titled “Ethical Considerations in Persuasive User Interface Design: Domestic Violence Online Help-Seeking.” (Singh et al., 2015). Ethical considerations guided me in the design of evaluation sessions of user interfaces for online help-seeking. Details of the position paper are available in Appendix B of this thesis.

The first research question is *How can persuasiveness in user interface design affect the users of domestic violence websites in seeking help online?* I will gather qualitative and quantitative from the case study during evaluation of DV websites by experts and users. I will be able to measure and determine if the design elements are able to persuade and encourage users to seek help online. Help-seeking encompasses getting appropriate information or content from the website; the speed and the ease of finding help services from the website and the ability of the design elements to encourage users to send messages to seek help through various communications channels such as email, online messages or chats. The analysis of the data will assist me to seek answers for the second research question: *What critical interventions are needed for service providers to ensure their websites aids online help-seeking?*
The mixed methods approach, using both quantitative and qualitative methods is used in the evaluation of the websites for persuasive design. These methods employed will assist to better understand the persuasive elements presence on the user interfaces of websites, and provide measures on how well the interfaces encourage help-seeking behaviour for an online user.

Qualitative methods include an expert (heuristic) evaluation of the website user interfaces based on a pre-set list of persuasive design criteria from the Persuasive System Design (PSD) model as discussed in Section 2.4.3. Qualitative data is also collected during test user sessions involving tasks completions observations and user interviews. Resulting persuasive ratings are used to measure the extent of each criteria and this provides the first source of evidence for the case study.

Quantitative methods include designing a set of benchmark tasks and performance levels for users to performance a set of task-goals on the websites under observed testing conditions. The timings for tasks completion will be the second source of evidence and the data collected from the post-test structured questionnaire will be the final source of evidence for the case study.

### 3.3 DV Websites Selection

An extensive search was conducted on the Internet in September 2015 with the aim of identifying 3 DV websites for the case study. Utilising public search engines like Google (www.google.com.au) and Yahoo! (www.yahoo.com.au), the following search terms: “domestic violence”, “IPV”, “family violence”, “DV services”, “help”, “websites” to bring out relevant results and hence suitable websites. The search method used here is by no means exhaustive, such as for the search “domestic violence”, more than 100,000+ results were
returned. The entire list was not scrutinised, which would have been not only impossible but not relevant for this case study purpose.

Other sources of websites listing were gathered from community, social services brochures, flyers and News channels which pointed to relevant literature as well on such DV related websites. Concluding in a listing of about 200 DV websites in the State of Victoria targeting the community, each offers varied information and content, connection to support services and self-help functionalities.

This number was still large for our case study purpose, to reduce the number of websites selection, I applied an inclusion criteria to reduce the number of websites which will be use in the final study. This process resulted in about 50 DV websites being shortlisted, which fulfilled the following criteria:

- the website contains general information on domestic violence.
- the website has a section which list services provided to domestic violence survivors
- the website has a Help-page, which encourages and attempt to persuasive domestic violence survivors to seek help.
- the website targets communities in State of Victoria (Australia) and;
- the website is in English language.

![Figure. 3.1 Selection process for shortlisting DV websites](image_url)
Following which, the assistance of a volunteer (domestic violence support practitioner and family counsellor with more than 20 years of social welfare experience) was requested to assist in vetting the relevant domestic violence content and services on each of the 50 websites. The practitioner was a 52 years old male Australian resident who is currently working with one of the largest social welfare organisation in Victoria. He was able to ascertain the quality of content on each of the websites relating to domestic violence. The other criteria were assessed by expert review and walk through of each website. For a case study to be effective and conclusive, considering the number of websites more than 50 was not practical and needed to be reduced. To arrive at a smaller number of websites, a second level of criteria was used; which now focused on online help-seeking features, these included features on the websites which had the following help-seeking features. The following will be elaborated and defined as the 7 Persuasive Help-seeking criteria as discussed in Section 3.5.

- Quick Exit Feature
- Hotline Phone Number
- Online Counselling / Chat Feature
- Links to Services
- Information for friends, family and support networks
- Content on safety planning & risk management
- Help-seeking visual designs (images, buttons etc.)

The resulting websites (n=3) were the outcome of the above criteria and this was a more suitable number to be used in the case study.
### Table 3.1 Initial listing of domestic violence related websites (n=50) with shortlisted 3 websites for evaluation in shaded.

<table>
<thead>
<tr>
<th>S/No.</th>
<th>Website Name</th>
<th>URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Lifeline Australia</td>
<td><a href="http://www.lifeline.org.au">www.lifeline.org.au</a></td>
</tr>
<tr>
<td>2.</td>
<td>ReachOUT Australia</td>
<td><a href="http://www.au.reachout.com">www.au.reachout.com</a></td>
</tr>
<tr>
<td>3.</td>
<td>Beyond Blue</td>
<td><a href="http://www.beyondblue.org.au">www.beyondblue.org.au</a></td>
</tr>
<tr>
<td>4.</td>
<td>Relationships Australia</td>
<td><a href="http://www.relationships.org.au">www.relationships.org.au</a></td>
</tr>
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<td>5.</td>
<td>WIRE</td>
<td><a href="http://www.wire.org.au">www.wire.org.au</a></td>
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<tr>
<td>7.</td>
<td>1800Respect</td>
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<td>8.</td>
<td>Domestic Violence Victoria</td>
<td><a href="http://www.dvvic.org.au">www.dvvic.org.au</a></td>
</tr>
<tr>
<td>11.</td>
<td>Rape and Domestic Violence Services Australia</td>
<td><a href="http://www.rape-dvsvservices.org.au">www.rape-dvsvservices.org.au</a></td>
</tr>
<tr>
<td>12.</td>
<td>Tune In Not Out</td>
<td><a href="http://www.tuneinnotout.com">www.tuneinnotout.com</a></td>
</tr>
<tr>
<td>15.</td>
<td>Centre Against Sexual Assault in Victoria</td>
<td><a href="http://www.secasa.org.au">www.secasa.org.au</a></td>
</tr>
<tr>
<td>16.</td>
<td>InTouch Multicultural Centre Against Family Violence</td>
<td><a href="http://www.intouch.asn.au">www.intouch.asn.au</a></td>
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<td>17.</td>
<td>FVPLS Victoria</td>
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<td>Women with Disabilities Victoria</td>
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<td>19.</td>
<td>Women's Legal Service Victoria</td>
<td><a href="http://www.womenslegal.org.au">www.womenslegal.org.au</a></td>
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<td>North Yarra Community Health</td>
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<td>24.</td>
<td>Men's Referral Service</td>
<td><a href="http://www.mrs.org.au">www.mrs.org.au</a></td>
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<td>25.</td>
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<td>No To Violence</td>
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<td>Federation of Community Legal Centres</td>
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</tr>
<tr>
<td>34.</td>
<td>Immigrant Women's Health Service</td>
<td><a href="http://www.immigrantwomenshealth.org.au">www.immigrantwomenshealth.org.au</a></td>
</tr>
<tr>
<td>35.</td>
<td>Adults Surviving Child Abuse</td>
<td><a href="http://www.asca.org.au">www.asca.org.au</a></td>
</tr>
<tr>
<td>36.</td>
<td>Another Closet</td>
<td><a href="http://www.anothercloset.com">www.anothercloset.com</a></td>
</tr>
<tr>
<td>37.</td>
<td>Gender Centre</td>
<td><a href="http://www.gendercentre.org.au">www.gendercentre.org.au</a></td>
</tr>
<tr>
<td>38.</td>
<td>OII Australia</td>
<td><a href="http://www.ioni.org.au">www.ioni.org.au</a></td>
</tr>
<tr>
<td>39.</td>
<td>Sikh Australian Support for Family Violence</td>
<td><a href="http://www.sasfv.org.au">www.sasfv.org.au</a></td>
</tr>
<tr>
<td>40.</td>
<td>Victoria Legal Aid</td>
<td><a href="http://www.legalaid.vic.gov.au">www.legalaid.vic.gov.au</a></td>
</tr>
<tr>
<td>41.</td>
<td>Our Watch</td>
<td><a href="http://www.ourwatch.org.au">www.ourwatch.org.au</a></td>
</tr>
<tr>
<td>42.</td>
<td>Domestic Violence Prevention Centre</td>
<td><a href="http://www.domesticviolence.com.au">www.domesticviolence.com.au</a></td>
</tr>
<tr>
<td>43.</td>
<td>Go 4 Zero</td>
<td><a href="http://www.go4zero.vic.gov.a">www.go4zero.vic.gov.a</a></td>
</tr>
<tr>
<td>44.</td>
<td>Royal Commission into Family Violence</td>
<td><a href="http://www.rcfv.com.au">www.rcfv.com.au</a></td>
</tr>
<tr>
<td>45.</td>
<td>Refuge of Hope</td>
<td><a href="http://www.refugeofhope.org.au">www.refugeofhope.org.au</a></td>
</tr>
<tr>
<td>46.</td>
<td>The Salvation Army</td>
<td><a href="http://www.salvationarmy.org.au">www.salvationarmy.org.au</a></td>
</tr>
<tr>
<td>47.</td>
<td>Gay and Lesbian Health Victoria</td>
<td><a href="http://www.glhv.org.au">www.glhv.org.au</a></td>
</tr>
<tr>
<td>48.</td>
<td>Break the Cycle</td>
<td><a href="http://www.breakthecycle.org">www.breakthecycle.org</a></td>
</tr>
<tr>
<td>49.</td>
<td>Department of Human Services</td>
<td><a href="http://www.humanservices.gov.au">www.humanservices.gov.au</a></td>
</tr>
<tr>
<td>50.</td>
<td>Domestic Violence Crisis Service</td>
<td><a href="http://www.dvcs.org.au">www.dvcs.org.au</a></td>
</tr>
</tbody>
</table>
3.4 DV Websites Evaluation
In this section, I address the sources of evidence used for data collection. Most DV website have attempted to include various help-seeking strategies within the pages of the websites; however the perceived persuasion to influence the user to seek help is the focus of the study. Accordingly, the design elements on the websites which encourages users to seek help are the starting points of the user interface evaluation. One of the desired outcomes of the evaluation is to be able to review the website as a whole in a short amount of time. Numerous intervention for DV survivors exist on the websites which were selected, some attempt to focus on providing links to services for further follow-up, others provide information on safety planning, volunteering and support etc.
A total of 3 existing websites related to DV support and interventions were evaluated, where the expert evaluators examined the websites independently and judged their compliance with a list of persuasive heuristics.

3.5 Persuasive Help-Seeking Heuristics
In this section, I identify the criteria against which experts evaluate the 3 DV websites identified for the case study. These criteria are referred to as heuristics.
In the past two decades, developing persuasive heuristics have been the subject of increasing interest, with the most important significant contribution arguably in the domain of health (King et al., 1999). Applications promoting physical fitness (Consolvo et al., 2009), on preventive health care such as alcohol and smoking cessation (Lehto et al., 2011), unwanted pregnancies (www.stayteen.org), management of chronic diseases like diabetes (Mamykina et al., 2008), personal hygiene and tooth brushing for kids (Chang et al., 2008). The health domain has evolved with specialised guidelines (heuristics) which make health applications more persuasive for users and encourage behaviour change.
However, no research existed that addressed the critical need of facilitating heuristics which contribute and encourage online help-seeking from DV websites or other online/social DV media channels.

In the process of investigating preliminary impressions of DV websites in the Victoria, we note that website designers have adopted numerous help-seeking functionalities; online chat/counselling, listing of service providers to assist DV survivors, relevant information on websites that DV survivors can access and gain more knowledge on safety planning, risk assessments and keeping safe.

The process for defining the final list of 7 online help-seeking heuristics for evaluating the persuasiveness is summarised here. Firstly, online help-seeking elements on the 3 DV websites were compiled by 3 experts involved in the expert evaluation. Two of the experts were specialists in website design and usability with 25 combined years of experience in usability consultancy and website development. The other expert had 7 years expertise in web designing for various organisations and had good working knowledge of usability principles and user-centred design concepts. The 3 experts contributed about 3-5 hours of their time each to evaluate the 3 DV websites. They received no monetary rewards for their time and assistance in this research and were part of the researcher’s social network of friends who they responded when asked to assist in this research.

These 3 experts each generated a list of 10 key features which they believed were the most important on various DV websites, a total of 30 such features were generated. Many of the key features from the experts were common, such as personal data security and protection, details of contact help numbers and address of organisations, emotionally appealing images and photos etc. Next, I overlapped the 3 lists from the experts and noted similar key features across. I was thus able to combine and prioritised the list into a concise list of the most 7 significant criteria. Those which were not common between the 3 lists were discarded. Each
online help-seeking feature was then cross referenced to its similar contextual criteria from the PSD Model and given a short name and a longer definition, as shown in Table 3.2.

<table>
<thead>
<tr>
<th>No.</th>
<th>Help-seeking Feature</th>
<th>Relates to PSD</th>
<th>Short Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Content on Safety Planning &amp; Risk Management</td>
<td>Primary Task Support</td>
<td>Content is easily available for DV survivors and their support group to assess the safety and risks.</td>
</tr>
<tr>
<td>H2</td>
<td>Help-seeking Visual Designs (images, buttons etc.)</td>
<td>Dialogue Support</td>
<td>Website provides easy to use and navigational visual elements.</td>
</tr>
</tbody>
</table>
| H3  | Protect User Privacy and Safety                          | System Credibility Support | The ability keep personal information private, users can control what, when, to whom, how, and how much information is made public or to the webmasters. The ability to quickly and easily navigate / jump out of the website with a single click; safety aspect.  
  e.g. Quick Exit button |
| H4  | Provisions for Online Communications                     | System Credibility Support | Provides the feature to interact via typing a message directly from the website to a counsellor or service staff.  
  e.g. Online Counselling / Chat Feature |
| H5  | Accuracy of Information                                 | System Credibility Support | Provide a list of services which can be selected for quick and easy referrals.  
  e.g. Links to direct services |
| H6  | Visibility of Contact Details                           | Social Support      | Easily view the contact details for quick contact purpose.  
  e.g. Hotline Contact Number |
| H7  | Visibility of Support Networks                          | Social Support      | Provides content for various persons wanting to assist and help people in distress etc.  
  e.g. Information for friends, family and support networks |

Table 3.2 Final list of Online Help-seeking Feature

Finally, I referenced the features to a specific heuristics from the PSD model, and can now use this for the evaluation of a website user interface’s persuasion context where persuasion context analysis includes recognising the intent, the event, and the strategy for persuasion. It
being the most sophisticated persuasive design and evaluation methods available (Tuomas et al, 2011) the PSD model has been successfully used in the analysis and evaluation of persuasiveness in websites from different contexts with encouraging conclusions and summarised by (Daud et al., 2013). The PSD Model categorises persuasive principles into four groups: 1) providing primary task support; 2) dialogue support, 3) system credibility and 4) social support. Each category has 7 design principles to validate the interface elements for persuasion. In the table below, each of the 28 persuasive principles have been elaborated to a user-specific help-seeking context to validate in the heuristic evaluation by experts.

These 28 persuasive principles are also adapted to the test user questionnaire during post-evaluation sessions.

<table>
<thead>
<tr>
<th>Reduction</th>
<th>I find it easy to complete the tasks on the websites.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tunnelling</td>
<td>I am guided to complete the tasks step by step.</td>
</tr>
<tr>
<td>Tailoring</td>
<td>I can easily understanding the terms for me to complete my task.</td>
</tr>
<tr>
<td>Personalisation</td>
<td>The tasks can be easy completed by anyone with little or no internet web surfing knowledge</td>
</tr>
<tr>
<td>Self-monitoring</td>
<td>I can easily locate the links needed to complete the tasks.</td>
</tr>
<tr>
<td>Simulation</td>
<td>I can complete the tasks quicker if there is more guidance provided.</td>
</tr>
<tr>
<td>Rehearsal</td>
<td>I can easily complete the tasks after few tries.</td>
</tr>
</tbody>
</table>

Table 3.3 Primary Task Support

<table>
<thead>
<tr>
<th>Praise</th>
<th>The information and images on the website are able to guide me to complete the tasks.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rewards</td>
<td>The website encourages me to complete my tasks by providing me ‘rewards’ such as user points, badges etc.</td>
</tr>
<tr>
<td>Reminders</td>
<td>The website content constantly reminds me that help is available.</td>
</tr>
<tr>
<td>Suggestions</td>
<td>There is advice and suggestions for me to complete my tasks.</td>
</tr>
<tr>
<td>Similarity</td>
<td>The help features are similar to offline help support.</td>
</tr>
<tr>
<td>Liking</td>
<td>The website design is appealing and nice.</td>
</tr>
<tr>
<td>Social Role</td>
<td>There are any supporting features to help me complete the task.</td>
</tr>
</tbody>
</table>

Table 3.4 Dialogue Support
Trustworthiness | I trust the information on the website.
---|---
Expertise | The information provided is accurate and much focused to help me complete the tasks.
Surface Credibility | The overall website designs give a very trustworthy feel.
Real-world feel | The help features are similar to offline help support.
Authority | The website promotes the government services and encourages to seek help.
Third Party Endorsements | Any information entered on the websites is safe and secure.
Verifiability | Any information entered on the websites is can be verified and tracked.

Table 3.5 System Credibility Support

Social Learning | I would have been able to complete the tasks better if someone had shown me first.
---|---
Social comparison | I will be able to complete the tasks better if I know someone has completed it before.
Normative influence | I found all help-seeking related information and content on a single page.
Social facilitation | I can tell how many people have sought help from the website before me.
Cooperation | The website guided me to complete the tasks easily.
Competition | The website is able to guide me to seek help from other outside sources.
Recognition | The website provided information about other help seekers like me.

Table 3.6 Social Support

### 3.6 Expert Evaluation and Data Collection
To study and evaluate the persuasive effects of the web user interface, an expert review and evaluation was carried out based on heuristics described in Section 3.5. This involved the expert to walk-through the web user interfaces. The evaluation was done against a list of
persuasive design principles or ‘heuristics’ defined in Section 3.5. The expert’s evaluations resulted in a set of numerical data which was statistically analysed and presented in the next Chapter 4: Findings. This is similar to expert or ‘heuristics’ evaluation studies done to identify usability issues with user interfaces (Nielsen, 1993). This research will also give us informed validation of using persuasive heuristics in a similar evaluation as proposed by Nielsen.

Specifically for the expert evaluation, the evaluation approaches a standard website user interface by firstly defining the inputs to the evaluation. Understanding the users of the websites is important as well as the relevant sample tasks which are commonly associated with online help-seeking. The heuristics defined helps in promoting behaviour change or the likely-hood of encouraging user to seek help when in need. Research in evaluating persuasive technologies have been in the focus in numerous studies as discussed in earlier literature review chapters. Expert (Heuristic) evaluation has been a popular evaluation method in Human Computer Interaction (HCI) domain since it was introduced by (Nielsen, 2000). Nielsen set of usability heuristics enabled interfaces to be evaluated for problems that may affect its usability in a shorter span of time using a set of guidelines in a checklist – heuristics.

Practitioners have reported that heuristic evaluation is a good way to find significant usability problems at many stages of the design process (Virzi et al., 1992). Nielsen’s technique has been widely adopted, and recently, there has been a trend to develop and validate more specialised heuristics for more specialised technologies.

Heuristics for persuasive health technologies been proposed in a study by (Kientz et al. 2010), where Nielsen’s usability heuristics were compared in performance to 10 persuasive heuristics developed for persuasive health technologies. The results of the study concluded that the persuasive heuristics were effective in finding usability problems in the domain of
persuasive health technologies. Concluding that a set of good persuasive health heuristics helps evaluators to find; i) more severe issues, (ii) more severe issues more frequently, and (iii) more issues that are useful in improving persuasive aspects of the interface evaluated. While the evaluation of persuasive user interfaces using a set of heuristics is still a difficult task (Kientz et al. 2010). There is encouraging data to show that heuristics methods for evaluation can serve as a guideline with validated persuasive criteria – such using the Oinas-Kukkonen & Harjumaa’s Persuasive System Design (PSD) Model’s evaluation criteria. As discussed in Chapter 2, the PSD criteria was used as an attributes checklist for various user interface elements. Several researchers (Derrick et al., 2011; Loock et al., 2011; Yetim, 2011) have also used the PSD model in different context where the analysis includes recognising the intent (persuader), the event (context) and the strategies (message).

The 3 interface design experts carried out the evaluation using the 7 help-seeking persuasive interface features. For each of the 3 websites, the experts independently examined the interface elements and compared them with the recognised persuasion criteria listed. To ensure a consistent evaluation, each expert was given a checklist template with description of each criteria to cross-reference on each website interface. When all the 3 experts completed their evaluation, their results were consolidated and further discussions were carried out to arrive at the persuasive satisfaction rating.

3.7 Empirical Tasks
The section above described data collection from experts. I also collected data from users who were recruited to engage in empirical tasks. An observation schedule was used to collect data which included personal information of the user (e.g. gender, age and web surfing experience), the observation included noting down verbal feedback given in the process of completing the tasks, and time specific data measured in seconds for each task completion.
time. These relevant observation data was written together with the user’s website evaluation and task list form to ensure consistent and prevention of errors from one user to the next.

To evaluate a website user interface that has already been designed and launched, a set of benchmark tasks and performances levels have been defined. In this way, a set of tasks can be established which were commonly accessed by the users to seek help online and information from the DV websites.

In identifying the tasks, the DV expert who had assisted in the website selections process earlier, was requested to list a set of tasks for help-seeking. These task are all specific to survivors or support circles seeking various form of information or help from the service providers, counsellors and DV support workers in the community. After discussion and feedback from the DV expert on the tasks, I finalised a list of 5 tasks to be used in the performance test covering online help-seeking. The tasks covered seeking critical information from website content, contacting the nearest service provider for DV counselling, checklist for safety planning to be safe etc. Using Goal-Oriented testing methods, which evaluated how well a website supports users in accomplishing their goals to seek help online and search for services. This gave indication of content and functionality of the website to support users through their help-seeking process.

Similarly, for Help-Page Testing, user tasks are designed to establish how well the webpage value-adds the online help-seeking process, noting that this page contains details to help users’ seek services and get in touch with various services for follow-up. Additionally, this page is be tested for webpage content, comprising specific words, images/photos, help services details and categorisations. The details of the tasks are listed later in Section 3.9.
3.8 Test User Questionnaire & Interview

A structured user questionnaire comprising 28 questions was prepared and included in Appendix A (each corresponding to the 28 PSD criteria discussed in Section 2.4.3) will be conducted to determine the users’ perception of the user interface design. Attributes of a persuasive design interface will be addressed by structure questionnaires on a 5-step Likert rating scale response and feedback. In addition to the questionnaire, users will also be interviewed to determine their attitudes towards the online help-seeking elements on the user interface.

This part of the evaluation comprises user’s reactions to the website user interface indicated in the tasks scenarios, questionnaires, interviews etc. User questionnaires and surveys using an appropriate instrument provides an important source of data. The three principal instruments used in the evaluation of the 3 DV websites are:

(i) Persuasion Rating Scales

(ii) Questionnaires

(iii) Interviews

Such instruments are indispensable for evaluation, since they offer a rapid means of determining user attitudes and opinions towards a system (or a user interface). Each instrument is described in the sections below.

User Persuasion Rating

The persuasion rating questionnaire shown in (Appendix A) was used to measure the persuasiveness of the user interface to influence the user to seek help online from the website after completing the task scenarios. The overall subjective persuasiveness score was computed as the average of the numerical scores for the test users’ responses to the 2 questions as a post task evaluation interview.
1) How do you like the content provided by the website for seeking help?

2) If you could find the information for help-seeking on the websites, would you still prefer using the website or would you contact the help desk or support staff and speak to a person?

User Questionnaires

Questionnaires were used to elicit the user’s perception and behaviour when interacting with the websites. The questionnaires consisted of a short series of questions (28 questions in total) which are adopted from the Persuasive System Design (PSD) model (refer Section 3.5) as listed in Appendix A. It is important that the questionnaire address user interface evaluation concerns comprehensively. The user interface attributes address were based on the PSD model offering a classification of persuasive techniques that can be utilised by a system using the four categories: Primary task, Dialogue Support, Credibility Support and Social Support (Oinas-Kukkonen et al., 2008).

However these categories of concerns were not made explicit in the questionnaire to avoid user bias towards particular attributes. This questionnaire was administered to the users after completion of the tasks scenarios for each of the DV websites being evaluated. The questionnaires use ratings scales, to help users assess the websites. Users were asked to choose from a 5-point scale: Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), Strongly Disagree (1). The value in bracket corresponds to the relative ‘persuasiveness’ of the user interface. The value of 5 (Strongly Agree) would be more favourable than a 4 (Agree) in terms of ‘goodness’ of a particular attribute.
User Interviews

Interviewing was another survey method used to determine the user’s attitude and opinion towards the user interface of the DV website. It was found to be more flexible than a questionnaire. Structured interview questions using simple open ended questions were chosen to elicit feedback on the user’s evaluation of the interface. Users were asked 3 questions after they completed the assigned tasks. They were encouraged to be critical of any aspect of the DV website which caused any usability issues to realise the objective of seeking help. Interviews were found to provide a fairly comprehensive view of usability, functionality and the overall tasks objective of seeking help information from the websites.

1. Is there any part of the website which you found to be particularly confusing or difficult to seek information for getting help?
2. What do you think is the most common mistake you made when seeking the help information?
3. Do you have any other remarks or comments on the website relating to seeking help?

Figure 3.2 Test user interview questions

User Task Evaluation

The user task evaluation part of the user test involved using realistic representation tasks that users are expected to perform during seeking help from a typical DV website. Tasks are used in this evaluation because they provide the most effective way of demonstrating the usability and functionality of the user interface. Many significant problems and difficulties are revealed only when carry out tasks activities. Important information is also gathered in observing and recording a test user’s performance. The first step is to construct the tasks to be used, there are basically 3 stages in the task construction; namely Task Analysis, Task Specification and Task Goals.
a) Task Analysis

For task analysis, information was gathered about the intended work to be performed using the DV websites for help-seeking. It involves understanding what is done, in what order and why.

b) Task Specification

After task analysis stage, the number of tasks that is to be deployed in the testing is established. The tasks chosen should be realistic but not too complex that the majority of the users could not complete them. However, tasks should involve the help-seeking user interface functionality comprehensively. In this way, the evaluation and testing would be realistic and representative

| Evaluation task should be representative | The task should contain all elements which are commonly used. These should be accurately represented, both in terms of their criticality to successful performance of the task and their relative occurrence within the task. The task should be realistic, and describe a ‘problem-to-be-solved’ using the system. |
| Evaluation task should enable successful performance | Tasks created should be reasonable, so that it can be successfully completed by the majority of users participating in the evaluation process. |
| Evaluation task should cover as much functionality as possible | Tasks chosen should be reasonably broad to enable the required functionality of both the system and the interface to be explored. |

Figure 5.4 Guideline for tasks selection to be representative and realistic.
c) Task Goals

The next step in the evaluation is to establish quantitative help-seeking goals, for accessing whether a user interface is good and persuasive enough to influence help-seeking. It is crucial that these specifications be established as early as possible as they represent target levels of attributes which are operationally defined for ascertaining the success of the user interface. In other words, they provide a guide against which the persuasiveness of the user interface can be measured.

To determine the attributes, it was decided that a realistic set of representatives tasks be chosen based on a common usage by ‘real-users’. The time taken for each tasks may ascertained through typical user task based scenarios being tested. The purpose of this is to establish what performance and time-based tasks completion is acceptable, based on the tasks and the user characteristics.

To prepare for the evaluation, a list of tasks was written down, subsequently, five (5) tasks were chosen that represented typical help-seeking scenarios. For the user evaluation, all were given the same instructions and the same degree of help. Generally, the evaluator handed the participant the written list of tasks through the ‘Website Evaluation & Task List Script’ in Annex A. The user test began with close observation by the evaluator.

User testing is one of the most widely used and effective methods for evaluating user interfaces (Nielsen, 2000; Rubin 2008). This method was selected to evaluate the persuasiveness of various DV websites for help-seeking scenarios as it enables ‘real-world’ testing with ‘real-users’ in a one-to-one closed environment setting. The main objective was to identify interface elements which enable behaviour change and influence online help-seeking for DV survivors. In evaluating the level of persuasiveness for the selected public domain help-seeking websites, it is also critical to identify the websites’ usability problems
by observing how users navigate the websites to seek help, how easily and quickly the user interfaces enable the users to perform the desired tasks to seek help.

3.9 Tasks Scenarios
Each test user was given 5 tasks to complete on each of the 3 DV websites. These tasks were created after consultation with DV experts on the common help-seeking scenarios from websites. Using a “Website Evaluation & Task Lists Script”, each user was briefed at the beginning of their test session, this list contained a brief introduction to the test session, the URL or Internet address of the 3 DV websites being evaluated and lastly the scenarios of the 5 tasks are listed.

| Task # 1 | In this situation you have a family member who is experiencing difficulties in their relationship. You believe that there may be possible physical abuse and want to get more information on determining the signs of an abusive relationship. You have now been surfing the internet to find more information, so you are able to advise and help your family member. |
| Task # 2 | In this situation you know someone who is in immediate danger of physical abuse by their partner and in need of urgent help to keep that person safe and get support. Not being able to help directly, you want to seek someone to speak to who can guide and advise you what to do next. Using the same website, locate any nearest support organisation in Victoria and get the contact details (phone or email). |
| Task # 3 | In this situation you are a mother of 3 kids who has been experiencing marital violence and abuse and want to keep your kids and yourself safe. You want to have a plan and prepare for the time when you will be quickly escaping from further harm. Using the same website, locate how you can prepare for such a situation. |
| Task # 4 | In this situation you are a young adult (above 18 years of age) who is constantly being verbally abused by your parents. You want to get help and support for yourself. You want to get help by speaking to someone or to have an online chat with a counsellor to speak about your problems. Using the same website, locate |
| Task #5 | In this situation you are aware of various organisations which offer help and support for domestic violence survivors. You want to offer your time to be a volunteer, or in any way you can help the community you live in. Using the same website, locate how you can be more involved and help create awareness of domestic violence in our community. Where can you sign-up for such a support group in Victoria? |

Figure 5.5 User Task Scenarios

3.10 Standard Task Timings
To determine how “fast” or “slow’ the test users accomplish the given tasks on each of the websites, a “Standard Task Timing” is determined for each of the tasks on the websites, it is a suitable measure of efficiency of a task. The 3 experts assisted to list the most appropriate timings for the completion of each of the task, taking this measure given, I took the average of the 3 timings for each task to arrive at the “Standard Task Timing”. The timings for the 5 tasks used for the evaluation is presented in chapter 4 section 4.1.1

3.11 Recruiting Test Users
Recruiting of test users is always a challenging task, the users must be representative of the actual users of the DV websites. For the purpose of this evaluation, it was decided to focus on female test users; violence against women remains a world-wide reality and presents an ongoing concern. On a global scale, 30% of women experience domestic and/or sexual violence with some regions in the world reporting levels as high as 38% (WHO, 2013). One in three Australian women experience physical or sexual assault from a male in their lifetime (VicHealth Research Summary report, 2011). A representative number of 10 test users were recruited from the general public by approaching them on Deakin University’s campus, off-campus and other public places by giving an invitation flyer to the individual. Users needed
to have basic internet surfing knowledge and were not screened or questioned on their experiences with domestic violence; both personally or as a third party.

It was a challenging situation to decide on the number of test users to be recruited, to enable an effective evaluation sessions. How to ensure that a sizable portion of persuasive problems with the DV websites can be identified? It was decided to refer to prior research and conduct a literature survey on past experiments conducted which found more than 80% of usability problems on websites. The recommended number were between 4 to 6 users (Virzi, 1992; Nielsen et al., 2003; Lewis, Faulkner, 2003). However, Hwang and Salvendy reported a meta study on the effectiveness of usability evaluation, concluding that a sample size of 10±2 is sufficient for discovering 80% of usability problems (Hwang et al., 2010).

Approaching the research with a mixed method approach, the qualitative method was more critical as test users were encouraged to ‘Think-Aloud’ while completing the task in the evaluation, capable of identifying notable issues using this method having a small sample size of users. Also, to keep the cost low for the reimbursement to test users who would be given a $50 Coles Gift card each for their time in taking part in the research.

The flyer (Appendix A) contained a description of the project, information about the research and contact persons. Interested individuals contacted the researcher directly and after a short pre-selection (only female participants were required for this test sessions), a copy of the Plain Language Statement (PLS) for the potential test users were sent either through email or hardcopy printout. A signed consent form was completed before the start of the evaluation.

The test users were told not disclose to the researchers if they have had any previous domestic violence encounters. Thus making this a low-risk application to the Deakin University’s Faculty Human Ethics committee, where approval was given. The user testings were conducted in a room-based setting over a 1 month period (March – April 2017), the 10
participants undertook user testing sessions which typically lasted for an hour and comprise the following activity: Introduction (10 minutes), free browsing (5 minutes), tasks completion & performance test (25 minutes), questionnaire/interview (20 minutes). The personal details of the 10 users comprising of gender, age and internet browsing experience is given in chapter 4 section 4.1.2.

3.12 Conducting Evaluation

The user evaluation sessions of the websites were conducted through 10 face-to-face sessions which involved each of the 10 test users individually. In each session, the test users were present with the student researcher conducting the website evaluation session. The location of the evaluations sessions were in meeting rooms in the Library Building (Deakin University Burwood Campus) and held within normal working hours (9am to 5pm) on a working weekday (Monday to Friday).

The session had a laptop computer with connection to the Internet, allowing the participants to browse the evaluated website freely. The test users will be told prior to start of the evaluation that they can stop the evaluation at any time should they feel uncomfortable or do not want to proceed. The evaluation will stop immediately at the request of the participant.

Test users were required to navigate, interact and perform tasks on the website interfaces, including the “Help Pages” and the “Services Pages” of the websites being evaluated.

A consent form is also used in this evaluation, the form is an obligation to the user and also a legal document to protect the evaluation organisation from harm as a result of the evaluation (it has to be emphasised that the evaluation process did not include any life threatening or body harming activities).
3.13 Data Collection

The main data to be collected would be during the evaluation session for each website interface, where the user interacts with the user interface through a various task scenarios. The data could be overwhelming but with proper preparation this would not be a problem. We defined what data is to be collected, and how it should be done. Basically, two sets of data are to be collect, namely; quantitative data and qualitative data.

3.13.1 Quantitative Data

Quantitative data refers to the measures obtained through observations which can be assigned a value. The two main sources of this data are:

(a) Tasks Timings

For the tasks scenarios, the time (in seconds) to complete a particular task and the number of errors made in completing the task. The time taken for task completions were recorded concurrently for each task

(b) User Questionnaires Responses

The second set of quantitative data collected was effected via questionnaires using differential scales, where a value of 5 corresponds to a high persuasive rating and 1 to a low persuasive rating. It was found that questionnaires were most effective for collecting quantitative data on user opinions of an interface. A sample copy of the questionnaires used in the evaluation is presented in Appendix A.

3.13.2 Qualitative Data

The techniques used to generating this data include user responses via word of mouth in terms of feedbacks and personal opinions. It was more difficult to collect this type of data.

(a) Think-aloud Verbal Protocol
The most common technique for such data collection is called ‘think aloud’. This approach can be immensely effective in determining what the problems in the user interface which the users’ are having and what might be done to fix them. Here, the test users are asked to say during the evaluation what they are trying to do, or why they are having a problem, what they expect to happen that did not, what they wished had happened and so on. This technique did not prove too successful as most users would get engrossed with the tasks and forget to ‘think-aloud’. Nonetheless, the evaluator would constantly prompt the user to ‘think- aloud’ frequently during the evaluation.

(b) Structured Interviews
Structured interviews using simple open ended questions were asked to the users after the evaluations and task scenarios completion provided another avenue for qualitative data generation. These took the form of a post evaluation interview with questions asked discussed in Section 3.8 (Figure 3.2). Feedback on user interface issues, difficulties encountered and other usability related issues were also gathered, some of these feedback are incorporated into various design guidelines in chapter 6.

With the adoption of the mixed methods approach and collecting both qualitative and quantitative data from the evaluations, I will be able to answer my research questions specifically on how persuasiveness in user interface design effects user of DV websites. The chosen task for the evaluation will assist me to answer the section research question on what critical interventions are needed for service providers to ensure their website aid online help-seeking. In the next chapter, I present the findings and analysed the user tasks performances to conclude by findings and help answer the research questions presented in Chapter 1.
3.14 Conclusion

In this chapter, we detailed the research design and methods of collecting the evaluation data. Firstly on the selection of the 3 websites to be evaluation using the assistance of expert and test users via persuasive criteria of the PSD model. We shared how users were recruited and the actual sessions of evaluation for this research, identifying various methods and tools to collect both Quantitative and Qualitative Data. The next chapter covers the results findings and analysis for these websites.
CHAPTER 4 RESEARCH FINDINGS

4.1 Introduction
This chapter presents the findings of evaluation of the three domestic violence websites which were identified in Chapter 3. Data for each website is collected and analysed in the context of the RQs. The findings are presented for the 1800Respect website followed by the ReachOUT website and finally the Domestic Violence Resource Centre (DVRC) Victoria website.

4.1.1 Task Completion Standard Timings
As discussed in section 3.10, standard timings for each of the 5 tasks are given in the table 4.1.1 below. The timings in seconds are the proposed time that a typical user will take to complete the assigned task. The listed standard timings will be used as a comparison for each of the tasks performed.

<table>
<thead>
<tr>
<th>Website</th>
<th>1800Respect (secs)</th>
<th>ReachOut (secs)</th>
<th>DVRCV (secs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task # 1</td>
<td>25</td>
<td>35</td>
<td>15</td>
</tr>
<tr>
<td>Task # 2</td>
<td>30</td>
<td>40</td>
<td>15</td>
</tr>
<tr>
<td>Task # 3</td>
<td>30</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>Task # 4</td>
<td>25</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>Task # 5</td>
<td>35</td>
<td>15</td>
<td>15</td>
</tr>
</tbody>
</table>

Table 4.1.1 Standard Task Timings for Websites

4.1.2 Test Users Details
As discussed in section 3.11, the participants are representatives of the typical users who are seeking help on domestic violence related information and content. For this research, we are inviting only female participants for the evaluation. The table 4.1.2 below shows the participant’s data who took part in the research to evaluate the 3 websites.
<table>
<thead>
<tr>
<th>1.1.1.1.1</th>
<th>1.1.1.1.2</th>
<th>1.1.1.1.3</th>
<th>1.1.1.1.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test User</td>
<td>Gender</td>
<td>Age</td>
<td>Surfing Experience</td>
</tr>
<tr>
<td>1</td>
<td>F</td>
<td>38</td>
<td>Advance</td>
</tr>
<tr>
<td>2</td>
<td>F</td>
<td>35</td>
<td>Intermediate</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>40</td>
<td>Intermediate</td>
</tr>
<tr>
<td>4</td>
<td>F</td>
<td>30</td>
<td>Advance</td>
</tr>
<tr>
<td>5</td>
<td>F</td>
<td>40</td>
<td>Intermediate</td>
</tr>
<tr>
<td>6</td>
<td>F</td>
<td>33</td>
<td>Advance</td>
</tr>
<tr>
<td>7</td>
<td>F</td>
<td>28</td>
<td>Intermediate</td>
</tr>
<tr>
<td>8</td>
<td>F</td>
<td>20</td>
<td>Beginner</td>
</tr>
<tr>
<td>9</td>
<td>F</td>
<td>21</td>
<td>Beginner</td>
</tr>
<tr>
<td>10</td>
<td>F</td>
<td>38</td>
<td>Intermediate</td>
</tr>
</tbody>
</table>

Table 4.1.2 Background of 10 users in the evaluation.

4.2 Website Evaluation 1 - 1800RESPECT Website

The 1800RESPECT website is one of Australia’s most popular website for counselling services related to sexual assault, domestic and family violence. 1800Respect reported an increase in visitors of more than 30 percent in the period December 2016 to January 2017 compared to last year. In December and January, 1800Respect counsellors answered 6309 and 6284 calls respectively via phone and online chat service. Helpline workers responded to a total of 5289 calls in the last six months of 2015. A quarter of all calls were made by people seeking help and information or advice about how to support someone, or concerned about someone affected by violence. (Bendigo Advertiser, 7 Feb 2017). Together with dial-in-phone services (1800 737 732) the website complements to provide confidential online counselling and support 24 hours a day, 7 days a week to people living in Australia. Additionally, it provides support to people experiencing the impacts of sexual assault, domestic or family violence. Provides information, advice and support to frontline workers, and family and friends, to help them to respond appropriately to sexual assault, domestic or family violence. The website is operated as a service of Medibank Health Solutions - which is Australia’s largest supplier of telehealth services. With a team of over 600 clinicians who
provide more than 2.5 million healthcare interactions per year, over the telephone, online and face-to-face (Medibank Health Solutions Telehealth Website, 2017).

4.2.1 Brief Description of Website
The website provides a simple menu driven navigation layout, with major links and resources easily accessible from various links on the main page. Support and help details are well placed on the layout pages and most prominent is the Hotline Dial-in number. Links to FAQs on help and support is also provided. Link to the DAISY Mobile APP is promoted with a banner on the main page, which is an initiative to use mobile apps to assist in responding to violence. Developed with input by all State and Territory governments and funded by the Australia government to provide specialist services such as lists of legal services, housing, finance and children’s services (1800Respect website, 2017). Counselling services and various language interpreter services are easily accessible from the main page as well. Site summary is also provided at the footer for easy location of resources and information within the website. Subscription to an email newsletter is available for users who want to get further information and frequent updates from 1800RESPECT; especially for workers and professionals who want to informed via emails on any new developments, news features and support services being introduced by 1800Respect.. Figure 4.2.1 shows the main page of the website.

Some key help-seeking functionality and features of the website is the ability to have multi-lingual content (although limited to the key information from the website), this feature provides adequate information to the Culturally And Linguistically Diverse (CALD) community.
The use of an online chat enables users to have a quick and seamless typed conversation with an “Online Counsellor”. ‘Quick Exit’ feature is present to allow the user to quickly leave the website if she or he is concerned that it could be an issue should someone know that such information is being accessed, especially helpful when someone is watching over the shoulder suddenly or enters a room unexpectedly. Sign language video for hearing impaired and via the National Relay Service (NRS) for the visually impaired. It also provides various contact phone numbers prominently displayed on the main page.

### 4.2.2 User Groups

The website provides help and support related information to DV survivors, their associated family and supports circles as well as service workers and professional. These clear scopes for various user background can be clearly seen from the main page navigation image banner in Figure 4.2.2.
4.2.3 Help-seeking Page

A dedicated help-seeking page is provided via the “Get Help” menu link as shown in Figure 4.2.3. Figure 7.2.4 shows the ‘Help Page’ which is accessible by clicking the ‘Get-Help’ link from the web menu bar.
4.2.4 Analysis of Data

From Section 3.13, we discussed the methods for data collection, which covered 2 sets of data needed for the evaluation research as users interacted with the web user interface. Namely; quantitative and qualitative data and the respective analysis is presented in the following section for the 1800Respect website persuasive evaluation.

a) Quantitative Data - Task Completion Timings

For quantitative data, we consider the time taken to complete each task and the subjective questionnaire which is given to the test users after completion of each website test. Task completion time takes it reference from the navigations steps, timings and loading of the page with the required information in the Table 4.2.1 below. The mean-time, or throughput, for the test users to complete each task is given in the Table 4.2.4. For a clearer representation and comparison between the ‘standard time’ for task completion and the actual time taken by the users, graphs for each of the 5 tasks (Figure 4.2.5 to Figure 4.2.9) were constructed. Note that ‘standard-time’ for each task was determined based on heuristic expert performance as discussed in Section 3.10 in Chapter 3.

**Task #1**

“….find the signs of an abusive relationship.”

The user access the required page for required content.

1. **Home**
2. **Get Help**
3. **Common Questions**
4. **Domestic and family violence:**
   What is it and where do I f...

Standard Time – 25 secs
Evaluating Persuasive User Interface Design for Online Help-Seeking for Domestic Violence

**Task #2**
“...locate any nearest support organisation in Victoria and get the contact details…”

The user access the required page for required content.

1. Home
2. Services & support map
3. Victorian Services

Standard Time – 30 secs

**Task #3**
“...want to have a plan and prepare for the time when you can quickly escape from further harm…”

The user access the required page for required content.

1. Home
2. Get Help
3. About safety planning

Standard Time – 30 secs

**Task #4**
“...locate how you can seek out to have an online chat…”

The user access the required page for required content.

Standard Time – 25 secs
**Task #5**

“…where you can sign up for such a support group in Victoria….”

The user access the required page for required content.

1. Home
2. Workers & Professionals
3. Promote 1800RESPECT

**Standard Time – 35 secs**

Table 4.2.1 Task Completion References for 1800-RESPECT Website. (2017, April10). Retrieved from www.1800respect.org.au

<table>
<thead>
<tr>
<th>Users</th>
<th>Task #1</th>
<th>Task #2</th>
<th>Task #3</th>
<th>Task #4</th>
<th>Task #5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>30</td>
<td>25</td>
<td>32</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>35</td>
<td>40</td>
<td>45</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>60</td>
<td>100</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>4</td>
<td>20</td>
<td>30</td>
<td>35</td>
<td>100</td>
<td>50</td>
</tr>
<tr>
<td>5</td>
<td>30</td>
<td>35</td>
<td>20</td>
<td>20</td>
<td>25</td>
</tr>
<tr>
<td>6</td>
<td>8</td>
<td>60</td>
<td>15</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>7</td>
<td>40</td>
<td>35</td>
<td>45</td>
<td>30</td>
<td>100</td>
</tr>
<tr>
<td>8</td>
<td>35</td>
<td>40</td>
<td>30</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>9</td>
<td>80</td>
<td>75</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>10</td>
<td>50</td>
<td>55</td>
<td>100</td>
<td>60</td>
<td>40</td>
</tr>
</tbody>
</table>

**Mean**

<table>
<thead>
<tr>
<th>Task #1</th>
<th>Task #2</th>
<th>Task #3</th>
<th>Task #4</th>
<th>Task #5</th>
</tr>
</thead>
<tbody>
<tr>
<td>34.8</td>
<td>45.5</td>
<td>52.2</td>
<td>50</td>
<td>57.5</td>
</tr>
</tbody>
</table>

**Standard-Time**

<table>
<thead>
<tr>
<th>Task #1</th>
<th>Task #2</th>
<th>Task #3</th>
<th>Task #4</th>
<th>Task #5</th>
</tr>
</thead>
<tbody>
<tr>
<td>28.16%</td>
<td>34.07%</td>
<td>42.53%</td>
<td>50%</td>
<td>39.13%</td>
</tr>
</tbody>
</table>

Table 4.2.2 Task completion timings (seconds) and percentage difference for 1800RESPECT Website

It can be seen that all users failed to complete the 5 tasks within the ‘standard-time’ for task completion. Taking the mean time for each task and relating it to the ‘standard-time’, the percentage difference is obtained. Some of the tasks took much longer to complete simply because more navigation and scanning for information was involved. Users had some level
of difficulties in navigating the various sections of the website. Some user found the help tasks to be challenging to complete and had to be prompted where possible. Tasks which took disproportionately longer than the ‘standard-time’ could be viewed as more difficult and less intuitive than others. We will further discuss this impact on the persuasive elements on the user interface in the discussion chapter.

Figure 4.2.5 Time Taken by Users to Complete Task #1 – 1800 Respect Website
Figure 4.2.6 Time Taken by Users to Complete Task #2 – 1800 Respect Website

Figure 4.2.7 Time Taken by Users to Complete Task #3 – 1800 Respect Website
b) Quantitative Data – Questionnaire feedback
We collected the primary qualitative data from the subjective questionnaire through feedback from users on the persuasiveness of the website user interface. The users were asked 28 questions categories into the 4 main categories of the PSD Model as listed in Section 3.5 in Chapter 5; (i) Primary Task Support (A1 to A7), (ii) Dialogue Support (B1 to B7), (iii) System Credibility Support (C1 to C7) and (iv) Social Support (D1 to D7).
## Questionnaire questions and responses – 1800Respect Website

<table>
<thead>
<tr>
<th>No.</th>
<th>Question</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>I find it easy to complete the tasks on the websites.</td>
<td>0</td>
<td>9</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>A2</td>
<td>I am guided to complete the tasks step by step.</td>
<td>0</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>A3</td>
<td>I can easily understand the terms for me to complete my task.</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>A4</td>
<td>The tasks can be easily completed by anyone with little or no internet web</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>A5</td>
<td>surfing knowledge</td>
<td>0</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>A6</td>
<td>I could have completed the tasks quicker if there was more guidance</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>A7</td>
<td>provided.</td>
<td>0</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>A8</td>
<td>I can easily locate the links needed to complete the tasks.</td>
<td>2</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>B1</td>
<td>The information and images on the website are able to guide me to complete</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>B2</td>
<td>the tasks.</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>B3</td>
<td>The website content constantly reminds me that help is available.</td>
<td>1</td>
<td>7</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>B4</td>
<td>There is advice and suggestions for me to complete my tasks.</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>B5</td>
<td>The help features are similar to offline help support.</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>B6</td>
<td>The website design is appealing and nice.</td>
<td>0</td>
<td>7</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>B7</td>
<td>There are supporting features to help me complete the task.</td>
<td>1</td>
<td>6</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>C1</td>
<td>I trust the information on the website.</td>
<td>3</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>C2</td>
<td>The information provided is accurate and very focused to help me complete</td>
<td>1</td>
<td>8</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>C3</td>
<td>the tasks.</td>
<td>0</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>C4</td>
<td>The overall website designs give a very trustworthy feel.</td>
<td>0</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>C5</td>
<td>The help features are similar to offline help support.</td>
<td>0</td>
<td>3</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>C6</td>
<td>The website promotes the government services and encourages users to seek help.</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>C7</td>
<td>Any information entered on the websites is safe and secure.</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>D1</td>
<td>Any information entered on the websites can be verified and tracked.</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>D2</td>
<td>I would have been able to complete the tasks better if someone had shown me first.</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>D3</td>
<td>I found all help-seeking related information and content on a single page.</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>D4</td>
<td>I can tell how many people have sought help from the website before me.</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>7</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>D5</td>
<td>The website guided me to complete the tasks easily.</td>
<td>0</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>D6</td>
<td>The website is able to guide me to seek help from other outside sources.</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>D7</td>
<td>The website provided information about other help seekers like me.</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>10</td>
</tr>
</tbody>
</table>

Table 4.2.3 Questionnaire questions and responses – 1800Respect Website
### Table 4.2.4 Subjective responses indicating persuasive level

5 – Highest Persuasive Level, followed by 4, 3, 2 and 1 being the lowest persuasive indicator

The overall persuasive rating (subjective) for the user’s attitude to the help-seeking aspect of the website was also noted. Users’ responses to the questions below were noted as the indication of the desire to use the website again in future for help-seeking related tasks.

**Question 1:** How do you like the content provided by the website for seeking help?
Question 2: If you could find the information for help-seeking on the websites, would you prefer using the website or would you contact the help desk and speak to a person.

<table>
<thead>
<tr>
<th>User</th>
<th>Persuasive Help-seeking Ratings</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Question 1</td>
<td>Question 2</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
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<td>2</td>
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<tr>
<td>10</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Mean</td>
<td>3.8</td>
<td>3.8</td>
</tr>
</tbody>
</table>

“5” indicates – will definitely use the website for future help-seeking, while a “1” – no future interest to use the website for help-seeking

Table 4.2.5 Users’ attitude towards the 1800Respect website for help-seeking

c) Qualitative Data – Think Aloud Protocol and Structured Interviews

As users worked on the task, they were encouraged to verbalise aloud their thoughts on their navigational actions for each tasks. This provided very helpful feedback on how they experience navigation, interactions and satisfaction for the tasks, they feedback on their inputs and suggestions through the short post evaluation interview. Some verbal comments and feedback are presented here for the 1800Respect website and the help pages.

What some test user say about the website:

- ‘The website design is nice with contact details given clearly, but I can’t find the information help with domestic violence.’

- ‘It does not give clear indication on where I can get help within my location, a google maps type would be helpful.

- ‘I can find safety planning details easily, this is very clear.”

- “It does not help me to support my neighbour in need of help.”
• “The online counselling chat is not user friendly.”

4.2.5 Comparing Data from Experts and Users

In this section, I draw relationships between responses from experts and users.

Using the mean of the subjective responses to the questionnaire and the expert heuristics data on a radial graph, we can visually show the relative persuasiveness rating levels for the particular website. The area within the radial boundary is indicative of the persuasiveness of the website. Thus, the more the boundary area of the radial graph, the higher the persuasiveness of the website. Data from the subjective test was compared with those from the objective test (heuristics), the results of the analysis are given for three aspects of the interface.

<table>
<thead>
<tr>
<th>Question No.</th>
<th>Expert1</th>
<th>Expert2</th>
<th>Expert3</th>
<th>Mean</th>
</tr>
</thead>
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<td>H5</td>
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<td>H6</td>
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<tr>
<td>H7</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

5 – Highest Persuasive Level, followed by 4, 3, 2 and 1 being the lowest persuasive indicator

Table 4.2.6 Experts responses indicating persuasive level to Help-seeking Heuristics
(i) **Task Completion and Responses**: User’s feedback derived from the post task questionnaire data reflects that the tasks responses were satisfactory, as shown in Table 4.2.5. However, this contradicted the overall completion timings which indicated most users have difficulties completing this tasks within the stipulated times. Also, the persuasive levels contributing to help task completion is also satisfactory. This conclusion was drawn from the persuasive ratings given by the users.

(ii) **Persuasive Satisfaction Rating**: User’s persuasive satisfaction rating was high. Almost 80% of users gave a good ratings and expressed the desire to use the website for future help-seeking tasks. It is critical that user are able to note various help-seeking content and information from the website, here the users perception to seeing the various help-seeking content and information is
conclusive to the selection of a high persuasive rating. This feedback was also noted from 3 users who could identify help-seeking content which is being searched. However, we note that although persuasive rating was high, the overall usability and task completion is not achieved and this results contradicted the task completion data which showed that none of the users were able to complete the given tasks within the standard times. This conclusion can be referred to the attitude that users are not too concern with the time of tasks completion but are comfortable to navigate and search the website without concern on time. Experts had given a higher persuasive ratings level for the website, which correlated well to the objective data collected.

(iii) Help-seeking Guidance: The help-seeking guidance provided by the website was satisfactory where almost 80% of users were able to complete the help-seeking tasks. There was minimal prompting from the evaluator when user asked for help in navigating and completing the tasks. This contradicted the overall satisfaction rating where user claim that the website was able assist in completing the help-seeking tasks easily.

(iv) Persuasive Help-seeking Indicators: Primary Task support and website credibility support show satisfactory persuasive levels, however for the website lacked on providing effective dialog support and social support for users to complete their help-seeking tasks. Experts also gave the website good indicators for providing accurate information, good online communication features. The website also give a good indication for protecting a users’ privacy.
4.3 Website Evaluation 2 – ReachOUT Australia Website

The ReachOut website is one of Australia’s leading online mental health organisation for young people, the website provides practical support to help the youngsters get through everything from everyday issues to tough times. The website has a number of online-tools that address typical youth issues and also help parents and carers to improve the wellbeing of young people with their family environment. The website is accessed by about 110,000 Australian each month (www.reachout.com.au).

4.3.1 Brief Description of Website

The website uses a drop-down menu with related sub-menus/topics for easy navigation. Major sections are accessible from the drop-down menu, giving good indication of associated topics. Support and help details are well positioned at the top and highlighted with “Yellow” colour to attract user attention. Links to “Learn more about…” topics give the users better access to topics of interest with well documented facts provided on each page. Well positioned Search bar is provided to enable topics to be easily located from the web content, this was noted by atleast 4 users during the testing process of the website.

The website provides links to external services (e.g. counselling) which is not within their focus. Site summary is also provided at the footer for easy location of resources and information within the website. Figure 4.3.1 shows the main page of the website.
Some key help-seeking functionality and features of the website is the “Nextstep” side toolbar which provide focus help-seeking to various real-life situations through and personalised recommendation system.

The website has a Forum section with provided a platform for young Australians (14-25 years old) to read about other people’s experiences and talk to other young people. The forum topics covers wide ranges of issues as well as “Getting Help” topic.

Figure 4.3.1 ReachOUT Main Page. (2017, April10). Retrieved from au.reachout.com
4.3.2 User Groups

The website provides help and support related information to essentially young people with mental health issues, relationship issues and violence within family. It also targets professionals, parents and supports circles to come forward and be involved in the community to help address issues relating to young people.

Figure 4.3.2 ReachOUT Page for Parents. (2017, April 10). Retrieved from au.reachout.com

Figure 4.3.3 ReachOUT Page for Professionals. (2017, April 10). Retrieved from au.reachout.com
4.3.3 Help-seeking Page

A dedicated help-seeking page is provided via the “Emergency Help & Info” menu link in Figure 4.3.4. The Figure 4.3.5 shows the ‘Help Page’ which is accessible by clicking the link from the web top menu bar.

![Emergency Help & Info](image)

**Figure 4.3.4 ‘Emergency Help’ Help-page Link.** (2017, April10). Retrieved from au.reachout.com

The help page has a listing of the various hotlines for user to get help, web chats links.

![ReachOUT Help Page](image)

**Figure 4.3.5 ReachOUT Help Page.** (2017, April10). Retrieved from au.reachout.com
4.3.4 Analysis of Data

From Section 3.13, we discussed the methods for data collection, which covered 2 sets of data needed for the evaluation research as users interacted with the web user interface. Namely; quantitative and qualitative data and the respective analysis is presented in the following section for the ReachOUT website persuasive evaluation.

(a) Quantitative Data - Task Completion Timings

For quantitative data, we consider the time taken to complete each task and the subjective questionnaire which is given to the test users after completion of each website test. Task completion time takes it reference from the navigations steps, timings and loading of the page with the required information in the Table 4.3.1 below. The mean-time, or throughput, for the test users to complete each task is given in the Table 4.3.2. For a clearer representation and comparison between the ‘standard time’ for task completion and the actual time taken by the users, graphs for each of the 5 tasks (Figure 4.3.6 to Figure 4.3.10) were constructed. Note that ‘standard-time’ for each task was determined based on heuristic expert performance as discussed in section 3.10 in Chapter 3.
Task #1
“...find the signs of an abusive relationship.”

The user access the required page for required content.

- Bullying, abuse and violence
- Abusive relationship
- Signs of an abusive relationship

Standard Time – 35 secs

Task #2
“...locate any nearest support organisation in Victoria and get the contact details...”

The user access the required page for required content.

- Bullying, abuse and violence
- Abusive relationship
- Domestic Violence Support

Standard Time – 40 secs
Task #3

“…..want to have a plan and prepare for the time when you can quickly escape from further harm…”

The user accesses the required page for required content.

- Bullying, abuse and violence
- Abusive relationship
- What to do if you’re in an abusive relationship

Standard Time – 30 secs
Evaluating Persuasive User Interface Design for Online Help-Seeking for Domestic Violence

**Task #4**

“……locate how you can seek out to have an online chat…”

The user access the required page for required content.

Standard Time – 20 secs

**Task #5**

“……where you can sign up for such a support group in Victoria….”

The user access the required page for required content.

- Home
- Get Involved
- Volunteer with ReachOUT

Standard Time – 15 secs

Table 4.3.1 Task Completion References for ReachOUT Website.
(2017, April10). Retrieved from au.reachout.com
It can be seen that all users failed to complete the 5 tasks within the ‘standard-time’ for task completion. Taking the mean time for each task and relating it to the ‘standard-time’, the percentage difference is obtained. Some of the tasks took much longer to complete simply because more navigation and scanning for information was involved. Tasks which took disproportionately longer than the ‘standard-time’ could be viewed as more difficult and less intuitive than others. We will further discuss this impact on the persuasive elements on the user interface in the discussion chapter.
Figure 4.3.6 Time Taken by Users to Complete Task #1 – ReachOUT Website

Figure 4.3.7 Time Taken by Users to Complete Task #2 – ReachOUT Website
Figure 4.3.8 Time Taken by Users to Complete Task #3 – ReachOUT Website

Figure 4.3.9 Time Taken by Users to Complete Task #4 – ReachOUT Website
(b) Quantitative Data – Questionnaire feedback

We collected the primary qualitative data from the subjective questionnaire through feedback from users on the persuasiveness of the website user interface. The users were asked 28 questions categories into the 4 main categories of the PSD Model as listed in Section 3.5 in Chapter 5; (i) Primary Task Support (A1 to A7), (ii) Dialogue Support (B1 to B7), (iii) System Credibility Support (C1 to C7) and (iv) Social Support (D1 to D7).
### Table 4.3.3 Questionnaire questions and responses – ReachOUT Website

<table>
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<tr>
<th>No.</th>
<th>Question</th>
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<th>3</th>
<th>2</th>
<th>1</th>
<th>Total</th>
</tr>
</thead>
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<td>A1</td>
<td>I find it easy to complete the tasks on the websites.</td>
<td>1</td>
<td>8</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>A2</td>
<td>I am guided to complete the tasks step by step.</td>
<td>0</td>
<td>9</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>A3</td>
<td>I can easily understanding the terms for me to complete my task.</td>
<td>2</td>
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<td>2</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>A4</td>
<td>The tasks can be easily completed by anyone with little or no internet</td>
<td>2</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>web surfing knowledge</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>A5</td>
<td>I can easily locate the links needed to complete the tasks.</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>A6</td>
<td>I could have completed the tasks quicker if there was more guidance</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>10</td>
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<tr>
<td></td>
<td>provided.</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A7</td>
<td>I can easily complete the tasks after a few tries.</td>
<td>3</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>B1</td>
<td>The information and images on the website are able to guide me to</td>
<td>4</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>complete the tasks.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B2</td>
<td>The website encourages me to complete my tasks by providing me</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>‘rewards’ such as user points, badges etc.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>B3</td>
<td>The website content constantly reminds me that help is available.</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>10</td>
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<tr>
<td>B4</td>
<td>There is advice and suggestions for me to complete my tasks.</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>B5</td>
<td>The help features are similar to offline help support.</td>
<td>0</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>B6</td>
<td>The website design is appealing and nice.</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>10</td>
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<tr>
<td>B7</td>
<td>There are supporting features to help me complete the task.</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>C1</td>
<td>I trust the information on the website.</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>C2</td>
<td>The information provided is accurate and very focused to help me</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>10</td>
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<tr>
<td></td>
<td>complete the tasks.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C3</td>
<td>The overall website designs give a very trustworthy feel.</td>
<td>0</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10</td>
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<tr>
<td>C4</td>
<td>The help features are similar to offline help support.</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>1</td>
<td>0</td>
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<tr>
<td>C5</td>
<td>The website promotes the government services and encourages users</td>
<td>2</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>to seek help.</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C6</td>
<td>Any information entered on the websites is safe and secure.</td>
<td>0</td>
<td>2</td>
<td>7</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>C7</td>
<td>Any information entered on the websites can be verified and tracked.</td>
<td>0</td>
<td>3</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>10</td>
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<tr>
<td>D1</td>
<td>I would have been able to complete the tasks better if someone had</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>0</td>
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</tr>
<tr>
<td></td>
<td>shown me first.</td>
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<tr>
<td>D2</td>
<td>I will be able to complete the tasks more confidently if I am informed</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>3</td>
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<tr>
<td></td>
<td>that someone else has completed it successfully before me.</td>
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<tr>
<td>D3</td>
<td>I found all help-seeking related information and content on a single</td>
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<tr>
<td>D4</td>
<td>I can tell how many people have sought help from the website before</td>
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<tr>
<td>D5</td>
<td>The website guided me to complete the tasks easily.</td>
<td>2</td>
<td>6</td>
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<td>D6</td>
<td>The website is able to guide me to seek help from other outside</td>
<td>3</td>
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<tr>
<td>D7</td>
<td>The website provided information about other help seekers like me.</td>
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<td>3</td>
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Evaluating Persuasive User Interface Design for Online Help-Seeking for Domestic Violence
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<td>3</td>
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<td>4</td>
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<tr>
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<td>4</td>
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<td>4</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

5 – Highest Persuasive Level, followed by 4, 3, 2 and 1 being the lowest persuasive indicator

Table 4.3.4  Subjective responses indicating persuasive level – ReachOUT Website

The overall persuasive rating (subjective) for the user’s attitude to the help-seeking aspect of the website was also noted. User responses to the questions below were noted as the indication of the desire to use the website again in future for help-seeking related tasks.
Question 1: How do you like the content provided by the website for seeking help?

Question 2: If you could find the information for help-seeking on the websites, would you prefer using the website or would you contact the help desk and speak to a person.

<table>
<thead>
<tr>
<th>User</th>
<th>Question 1</th>
<th>Question 2</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
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<td>3</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>3</td>
<td>2.5</td>
</tr>
<tr>
<td>Mean</td>
<td>3.2</td>
<td>2.7</td>
<td></td>
</tr>
</tbody>
</table>

“5” indicates – will definitely use the website for future help-seeking, while a “1” – no future interest to use the website for help-seeking

Table 4.3.5 Users’ attitude towards the ReachOUT website for help-seeking

(c) Qualitative Data – Think Aloud Protocol and Structured Interviews

As users worked on the task, they were encouraged to verbalise aloud their thoughts on their navigational actions for each tasks. This provided very helpful feedback on how they experience navigation, interactions and satisfaction for the tasks, they feedback on their inputs and suggestions through the short post evaluation interview. Some verbal comments and feedback are presented here for the ReachOUT website and the help pages.
What some test user say about the website:

- ‘The website does not help me how to help someone with domestic violence issues.’
- ‘It is much clustered with so much information (text).’
- ‘I can’t find any online chat interface.’
- ‘The colour and design is very pleasant and welcoming.’

4.3.5 Comparing Data from Experts and Users

<table>
<thead>
<tr>
<th>Question No.</th>
<th>Expert1</th>
<th>Expert2</th>
<th>Expert3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>H2</td>
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<td>3</td>
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<tr>
<td>H3</td>
<td>3</td>
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<td>H4</td>
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<td>H5</td>
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<tr>
<td>H7</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

5 – Highest Persuasive Level, followed by 4, 3, 2 and 1 being the lowest persuasive indicator

Table 4.3.6 Experts responses indicating persuasive level to Help-seeking Heuristics

Using the mean of the subjective responses to the questionnaire and the expert heuristics data on a radial graphs (Figure 4.3.11), we can visually show the relative persuasiveness rating levels for the particular website. We can sufficiently refer the amount of area within the radial boundary to show the relative persuasiveness of the website. Thus, the more the boundary area of the radial graph, the higher the persuasive rating level of the website. Data from the subjective test was compared with those from the objective test (heuristics), the results of the analysis are given for three aspects of the interface.
Figure 4.3.11 Radial graphs combined to show the persuasive ratings for ReachOUT website

(i) **Task Completion and Responses**: User’s feedback derived from the questionnaire data reflects that the tasks responses were less satisfactory. This corresponds to the difficulties encountered by users in completing the help-seeking tasks, the overall completion timings were found to be much more for Task #4 & #5. The information was difficult to locate for these 2 tasks and thus a number of users were frustrated during these tasks. Also, the persuasive levels contributing to help task completion is satisfactory as drawn from the persuasive ratings given by the users.

(ii) **Persuasive Satisfaction Rating**: User’s persuasive satisfaction rating was sufficiently high. Almost 60% of users gave a good ratings and expressed the desire to use the website for future help-seeking tasks. This result is in line with
the task completion data which showed that none of the users were able to complete the given tasks within the standard times. This conclusion can be referred to the attitude that users are not too concern with the time of tasks completion and are comfortable to navigate and search the website without concern on time. Experts had given a higher persuasive ratings level for the website, which contributed well to the objective data.

(iii) **Help-seeking Guidance:** The help-seeking guidance provided by the website was satisfactory where almost all of users were able to complete the help-seeking tasks. There was minimal prompting from the evaluator when user asked for help in navigating and completing the tasks. This contradicted the overall satisfaction rating where user claim that the website was able assist in completing the help-seeking tasks easily.

(iv) **Persuasive Help-seeking Indicators:** Overall the website’s primary task support, dialogue support and credibility support shows less satisfactory persuasive levels, also social support ratings were slightly higher as the website had complementing social pages which engaged very well with the users personas (parents, professionals, youngsters etc.). Experts also gave the website good indicators for providing accurate information, good online communication features. The website also give a good indication for overall information for help-seeking and support services, which were key reasons for a higher heuristics persuasive rating.
4.4 **Website Evaluation 3 – DVRC Victoria Website**

The Domestic Violence Resource Centre (DVRC) Victoria website is a state-wide service based in Melbourne, Victoria. It is a non-profit organisation supported by the Department of Human Service (Victoria), providing training, publications, research and other resources to those experiencing family / domestic violence. The organisation supports workforce development in the community sector around family violence, improving the quality of services and raise awareness and promote community responsibility for violence prevention.

4.4.1 **Brief Description of Website**

The website provides information and referral services relating to family violence. Online information can be accessed through a drop-down menu with sub-topics and major links. Support and help details are well placed through the resources page providing associated links to external services as well. Figure 4.4.2 show the main page, showing the various links to services and support.
Some key help-seeking functionality and features of the website the listing of support services in the state of Victoria. The easy to use and navigate map of Victoria provides a listing of organisation in specific region in the state (Figure 7.4.1).

![Figure 4.4.1 DVRC Map Services](https://www.dvrcv.org.au)

![Figure 4.4.2 DVRC Victoria Main Page](https://www.dvrcv.org.au)
4.4.2 Users Groups

The website provides help and support related information to a wide range of individuals. The links to each is provided in the help page and is well organised for easy access (Figure 4.4.3).
4.4.3 Help-seeking Page

A dedicated help-seeking page is provided via the “Get Help” menu link in Figure 4.4. Figure 4.5.5 shows the ‘Help Page’ which is accessible by clicking the ‘Seek Help’ link from the web menu bar.

Figure 4.4.4 ‘Seek Help’ Help-page link. (2017, April10). Retrieved from www.dvrcv.org.au

Figure 4.4.5 DVRC Victoria Help Page. (2017, April10). Retrieved from www.dvrcv.org.au
4.4.4 Analysis of Data

From Section 3.13, we discussed the methods for data collection, which covered 2 sets of data needed for the evaluation research as users interacted with the web user interface. Namely; quantitative and qualitative data and the respective analysis is presented in the following section for the DVRCV website persuasive evaluation.

(a) Quantitative Data - Task Completion Timings

For quantitative data, we consider the time taken to complete each task and the subjective questionnaire which is given to the test users after completion of each website test. Task completion time takes it reference from the navigations steps, timings and loading of the page with the required information in the Table 4.4.1 below. The mean-time, or throughput, for the test users to complete each task is given in the Table 4.4.1. For a clearer representation and comparison between the ‘standard time’ for task completion and the actual time taken by the users, graphs for each of the 5 tasks (Figure 4.4.6 to Figure 4.4.10) were constructed. Note that ‘standard-time’ for each task was determined based on heuristic expert performance as discussed in Section 3.10 in Chapter 3.
Task #1
“….find the signs of an abusive relationship.”

The user access the required page for required content.

→ Home
→ About
→ What is Domestic Violence?

Standard Time – 15 secs

Task #2
“….locate any nearest support organisation in Victoria and get the contact details…”

The user access the required page for required content.

→ Home
→ Talk to someone
→ Victorian Services

Standard Time – 15 secs
**Task #3**
“…want to have a plan and prepare for the time when you can quickly escape from further harm…”

The user access the required page for required content.

- Home
- Help & advice
- Do you feel safe at home?

Standard Time – 20 secs

**Task #4**
“…locate how you can seek out to have an online chat…”

The user access the required page for required content.

Standard Time – 15 secs
Task #5
“……where you can sign up for such a support group in Victoria…..”

The user access the required page for required content.

- Home
- Talk to someone
- What is a support group?

Standard Time – 15 secs

Table 4.4.1 Task Completion References for DVRCV Website. (2017, April10). Retrieved from www.dvrcv.org.au
It can be seen that all users failed to complete the 5 tasks within the ‘standard-time’ for task completion. Taking the mean time for each task and relating it to the ‘standard-time’, the percentage difference is obtained. Some of the tasks took much longer to complete simply because more navigation and scanning for information was involved. Tasks which took disproportionately longer than the ‘standard-time’ could be viewed as more difficult and less intuitive than others. We will further discuss this impact on the persuasive elements on the user interface in the discussion chapter.
Figure 4.4.6 Time Taken by Users to Complete Task #1 – DVRCV Website

Figure 4.4.7 Time Taken by Users to Complete Task #2 – DVRCV Website
Figure 4.4.8 Time Taken by Users to Complete Task #3 – DVRCV Website

Figure 4.4.9 Time Taken by Users to Complete Task #4 – DVRCV Website
(b) Quantitative Data – Questionnaire feedback

We collected the primary qualitative data from the subjective questionnaire through feedback from users on the persuasiveness of the website user interface. The users were asked 28 questions categories into the 4 main categories of the PSD Model as listed in Section 3.5 in Chapter 5; (i) Primary Task Support (A1 to A7), (ii) Dialogue Support (B1 to B7), (iii) System Credibility Support (C1 to C7) and (iv) Social Support (D1 to D7).
<table>
<thead>
<tr>
<th>No.</th>
<th>Question</th>
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<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>I find it easy to complete the tasks on the websites.</td>
<td>0</td>
<td>9</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>A2</td>
<td>I am guided to complete the tasks step by step.</td>
<td>0</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>A3</td>
<td>I can easily understanding the terms for me to complete my task.</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>A4</td>
<td>The tasks can be easily completed by anyone with little or no internet web surfing knowledge</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>A5</td>
<td>I can easily locate the links needed to complete the tasks.</td>
<td>0</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>A6</td>
<td>I could have completed the tasks quicker if there was more guidance provided.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>A7</td>
<td>I can easily complete the tasks after a few tries.</td>
<td>2</td>
<td>8</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>B1</td>
<td>The information and images on the website are able to guide me to complete the tasks.</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>B2</td>
<td>The website encourages me to complete my tasks by providing me ‘rewards’ such as user points, badges etc.</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>B3</td>
<td>The website content constantly reminds me that help is available.</td>
<td>1</td>
<td>7</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>B4</td>
<td>There is advice and suggestions for me to complete my tasks.</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>B5</td>
<td>The help features are similar to offline help support.</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>B6</td>
<td>The website design is appealing and nice.</td>
<td>0</td>
<td>7</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>B7</td>
<td>There are supporting features to help me complete the task.</td>
<td>1</td>
<td>6</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>C1</td>
<td>I trust the information on the website.</td>
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<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>C2</td>
<td>The information provided is accurate and very focused to help me complete the tasks.</td>
<td>1</td>
<td>8</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>C3</td>
<td>The overall website designs give a very trustworthy feel.</td>
<td>0</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>C4</td>
<td>The help features are similar to offline help support.</td>
<td>0</td>
<td>3</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>C5</td>
<td>The website promotes the government services and encourages users to seek help.</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>C6</td>
<td>Any information entered on the websites is safe and secure.</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>C7</td>
<td>Any information entered on the websites can be verified and tracked.</td>
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<td>3</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>D1</td>
<td>I would have been able to complete the tasks better if someone had shown me first.</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>D2</td>
<td>I will be able to complete the tasks more confidently if I am informed that someone else has completed it successfully before me.</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>D3</td>
<td>I found all help-seeking related information and content on a single page.</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>D4</td>
<td>I can tell how many people have sought help from the website before me.</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>7</td>
<td>1</td>
<td>10</td>
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<tr>
<td>D5</td>
<td>The website guided me to complete the tasks easily.</td>
<td>0</td>
<td>6</td>
<td>2</td>
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<td>D6</td>
<td>The website is able to guide me to seek help from other outside sources.</td>
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<td>3</td>
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<td>The website provided information about other help seekers like me.</td>
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Table 4.4.3 Questionnaire questions and responses – DVRCV Website
### Table 4.4.4  Subjective responses indicating persuasive level

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</tbody>
</table>

5 – Highest Persuasive Level, followed by 4, 3, 2 and 1 being the lowest persuasive indicator

The overall persuasive rating (subjective) for the user’s attitude to the help-seeking aspect of the website was also noted. Users’ responses to the questions below were noted as the indication of the desire to use the website again in future for help-seeking related tasks.
Evaluating Persuasive User Interface Design for Online Help-Seeking for Domestic Violence

Question 1:  How do you like the content provided by the website for seeking help?
Question 2:  If you could find the information for help-seeking on the websites, would you prefer using the website or would you contact the help desk and speak to a person.

| Persuasive Ratings |
|-------------------|-----------------|-----------------|----------------|
| User  | Question 1 | Question 2 | Mean |
| 1     | 4     | 3     | 3.5 |
| 2     | 3     | 4     | 3.5 |
| 3     | 4     | 3     | 3.5 |
| 4     | 5     | 3     | 4   |
| 5     | 3     | 4     | 3.5 |
| 6     | 2     | 4     | 3   |
| 7     | 3     | 5     | 4   |
| 8     | 4     | 4     | 4   |
| 9     | 5     | 3     | 4   |
| 10    | 5     | 4     | 4.5 |
| Mean  | 3.8   | 3.7   |     |

“5” indicates – will definitely use the website for future help-seeking, while a “1” – no future interest to use the website for help-seeking.

Table 4.4.5 Users’ attitude towards the DVRCV website for help-seeking

(c) Qualitative Data – Think Aloud Protocol and Structured Interviews

As users worked on the task, they were encouraged to verbalise aloud their thoughts on their navigational actions for each tasks. This provided very helpful feedback on how they experience navigation, interactions and satisfaction for the tasks, they feedback on their inputs and suggestions through the short post evaluation interview. Some verbal comments and feedback are presented here for the DVRCV website and the help pages.

What some test user say about the website:

- “I can’t find help services and resources.”
- “I like the colourful map which show the services in my area.”
- “I can’t find safety planning details from the website.”
- “There is no online chat for help services.”
4.4.5 Comparing Data from Experts and Users

<table>
<thead>
<tr>
<th>Question No.</th>
<th>Expert1</th>
<th>Expert2</th>
<th>Expert3</th>
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</tbody>
</table>

5 – Highest Persuasive Level, followed by 4, 3, 2 and 1 being the lowest persuasive indicator

Table 4.4.6 Experts responses indicating persuasive level DVRCV Website to Help-seeking Heuristics

Using the mean of the subjective responses to the questionnaire and the expert heuristics data on a radial graphs (Figure 4.4.11), we can visually show the relative persuasiveness rating levels for the particular website. We can sufficiently refer the amount of area within the radial boundary to show the relative persuasiveness of the website. Thus, the more the boundary area of the radial graph, the higher the persuasive rating level of the website. Data from the subjective test was compared with those from the objective test (heuristics), the results of the analysis are given for three aspects of the interface.
(i) **Task Completion and Responses**: User’s feedback derived from the questionnaire data reflects that the tasks responses were less satisfactory. This corresponds to the difficulties encountered by users in completing the help-seeking tasks, the overall completion timings were found to be much more for Task #5. The information was difficult to locate for this task and some users gave up after becoming frustrated. The persuasive levels contributing to help task completion is less satisfactory as drawn from the persuasive ratings given by the users.

(ii) **Persuasive Satisfaction Rating**: User’s persuasive satisfaction rating was less satisfactory. Almost 50% of users gave a good ratings and expressed the desire to use the website for future help-seeking tasks. This result is in line with the task completion data which showed that none of the users were able to complete
the given tasks within the standard times. This conclusion can be referred to
design of content for the website which caused users to have difficulties in
location the relevant help-seeking information. The overall attitude of the users
that the website does not provide adequate information for support and help
services contributed to users giving a lower persuasive ratings. Experts had also
given lower persuasive rating levels for the website, which contributed well to
the subjective data collected.

(iii) Help-seeking Guidance: The help-seeking guidance provided by the website
was less satisfactory amongst the 3 DV websites, where users experienced much
difficulties to complete the help-seeking tasks. There was minimal prompting
from the evaluator when user asked for help in navigating and completing the
tasks. This is in line with the overall satisfaction rating where users claim that
the website was unable to assist in completing the help-seeking tasks easily.

(iv) Persuasive Help-seeking Indicators: Only the website’s credibility support
shows satisfactory persuasive levels, with primary task support, dialogue support
and social support ratings lower comparatively. Although, the website did
provide a good navigation menu feature, users were at times confused on their
tasks objectives while locating the task information. Experts only gave higher
rating for information accuracy and visibility of help-seeking information.

4.5 Conclusion
This chapter presented the findings and analysis of the data collected in for the research. By
selecting the mixed method approach, where a variety of different methods (both qualitative
and quantitative) were used to collect data instead of relying on a single type, I am able to gain multiple perspectives on approaching the research questions.

Replying on my findings from task completion responses on each of the websites, as well as getting user feedback from questionnaire and interviews we are able to determine i) the persuasive satisfaction ratings, ii) the help-seeking guidance levels and iii) the help-seeking indicators. I will now use these 3 indicators to answer my research questions discussed in Chapter 1.

**How can persuasiveness in user interface design affect the users of domestic violence websites in seeking help online?**

Persuasiveness in user interface design can affect the interaction and navigational experience of users, almost all users were unable to complete the task within the desired standard time but during the feedback and interview, all user strongly supported the help information to be made available on the first page of the website. Indicating that if any help related content is within sight, the influence of user to seek help increases. Such as contact phone number, online chats, service provider listing is necessary to be on the main page and within ‘view-range’ of the users.

Information which was difficult to locate for any task, some users would gave up after becoming frustrated. The persuasive levels contributing to help task completion is less satisfactory as drawn from the persuasive ratings given by the users.

Where the persuasiveness was missing for the website design, with a below satisfaction ratings users would not return to the website to seek help. This result is in line with the task completion data which showed that none of the users were able to complete the given tasks within the standard times. This conclusion can be referred to persuasive design of content
for the website which caused users to have difficulties in location the relevant help-seeking information.

In terms of the websites to enable help-seeking guidance, user are indeed affected by various help features in navigating and completing the tasks. This is in line with the overall satisfaction rating where users claim that the website was unable to assist in completing the help-seeking tasks easily.

This research have attempted to present ‘persuasive help-seeking indicators’ which can easily give a reading on the overall persuasiveness to influence users to seek help online. Due to the small nature of data collected (3 DV websites and 10 users), it directs us to further increase the data collection parameters with more websites to evaluate and more user test session.

What critical interventions are needed for service providers to ensure their websites aids online help-seeking?

In addressing the second research questions, various interventions exists on DV websites; such as direct to 24/7 help support, online chat with an expert counsellor, directing to the nearest service support organisation for follow-up. These are well placed and easily located from the evaluated websites, this is seen from the task completion and responses. However, the persuasiveness in user interface design becomes critical to address that users do indeed access or make use of the following interventions available on the websites. A more standardise approach incorporating usability and persuasive principles in user interface design is needed to facilitate the intervention mentioned above.

One feature which can be used is the design of location maps to easily and quickly locate service organisations and their service support with a click on a map, map which uses
persuasive design elements in its interface; such as showing the number of survivors being
helped by a particular organisation (social support).

The test users also provided quantitative data for overall persuasive rating for each of the 3
websites, where the users answers to the 2 questions to measure satisfaction and attitude to
the help-seeking aspect of the websites. Users’ responses to the questions also provided
indicative rating of preference for use by the users to seek-help. It also provided the desire
to use the websites again in future for help-seeking related tasks. Collating data from Tables
4.2.5, 4.3.5 and 4.4.5, a comparision can be made on users’ responses, it is noted that users
prefer the 180Respect website over the 2 others with an average of 3.8 out of 5. DVRC is a
close next with an average of 3.75, while ReachOUT is 2.95. It can be concluded that
amongst the 3 DV websites, 1800Respect is most preferred for DV help-seeking.

![Comparative User Satisfaction Ratings for 3 DV websites](image)

Figure 4.4.12 Comparative User Satisfaction Ratings for 3 DV websites

In conclusion, persuasive design for help-seeking and interventions can be further enhanced
to bring about a more robust and efficient user interface on today’s DV websites. Some
guidelines and features which support the persuasive design principles is given the next
chapter on recommendations.
5. RECOMMENDATIONS

5.1 Introduction
This chapter highlights that in designing a website user interface, special attention is always given to functionality and usability to make a website not only pleasant to use but one which is easy to use and quick to navigate. Persuasiveness in user interface design is critical if we seek to influence user behaviour and attitude to achieve a certain goal through a task. From the understanding of the results and analysis of the data, a set of design guidelines are presented which expands the PSD model’s 28 salient features for designing a persuasive interface.

After answering the 2 research questions in the previous chapter; I have a better understanding of how persuasiveness in user interface design affects the users of domestic violence websites in seeking help online and secondly what interventions are critical and needed to be added for service providers to ensure their online websites will aid online help-seeking?

By focusing on specific user interface elements and the analysis presented in the earlier chapter, we will make suitable recommendations in design to enable a website is “persuasively” designed.

As the study covers domestic violence websites, we have presented the guidelines and associated discussions from the evaluated domestic violence websites design perspective. Expert evaluation data has been used as a benchmark only in presenting the following guidelines in the next section.
5.2 Guidelines - Persuasive Interface Design for Help-seeking

Using sample illustrations from various DV websites and other related help-seeking websites, a set of 27 Persuasive design elements are presented to assist designers to make a website interface more persuasive to help-seeking. Some key guidelines are: ensuring help-seeking goal tasks, knowing the user, enhancing the navigational experience of the user and presenting accurate and appropriate content on the webpages.

To assist website developers and web designers, the following guidelines have been classified in 2 categories: (i) “Must Have” features in **RED** labels, and (ii) “Good To Have” features in **GREEN** labels. The classification of various features was based on user inputs, feedbacks and suggestions gathered from the user testing sessions.

### #1 – Appropriate Help-seeking Content

6 out of 10 users responded in the post task interview that the website must contain appropriate and relevant content that is integrated seamlessly with help-seeking functionality that guides the user to accomplishing help-seeking goals. Ensuring that content is easily available for DV survivors and their support group to assess the safety and risks.

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#2 – Help Visuals & Designs

All 10 were easily attracted to website visuals and feedback that a website should have attractive and easy to use and navigational visual elements for help-seeking, such as suitable images, buttons. These elements should be made clickable for quick and easy navigation to the desired content for help-seeking.

![Safe Steps Help Banner Main Page](https://www.safesteps.org.au)

#3 – Protect User Privacy and Safety

All 10 users felt that website must have the ability to keep personal information private, users can control what, when, to whom, how, and how much information is made public or to the webmasters. The ability to quickly and easily navigate / jump out of the website with a single click; safety aspect. E.g. Quick Exit button

![WIRE Top Banner Main Page](https://www.wire.org.au)
#4 – Visibility of Support Networks

All 10 users agreed that the website design needs to provide content for various persons wanting to assist and help people in distress etc.

e.g. Information for professionals, friends, parents, family and support networks


#5 – Tunnelling

**Question A2** – “I am guided to complete the tasks step by step.” - Tunnelling

More than 80% of test users agree that a user interface can persuade for help-seeking task completion if there is a process to guide users towards the target goal. Guiding user to complete their help-seeking is best presented using questions prompts, where users have provided feedback that the process of asking questions does prompts and persuade them to move on to the next step. From these questions, users can be prompted further to next steps and subsequently complete and get support information which is relevant and targeted to their needs.

#6 – Provisions for Online Communications

**Question B7 – “There are supporting features to help me complete the task.” - Social Role**

Almost 63.3% of test user agreed that having supporting features like sms, chats bring the much needed requirements for an Online Chat facilities for any help-seeking website. The online chat features provides easy interactions via typing a message directly from the website to a counsellor or service staff. Using an online chat, users can get help faster and in real-time, get quick responses to questions.

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### #7 – Accuracy of Information

**Question C7** – “Any information entered on the websites can be verified and tracked.” - Verifiability

**Question C6** – “Any information entered on the websites is safe and secure.” - Third-party endorsements

**Question D6** – “The website is able to guide me to seek help from other outside sources.” - Third-party endorsements

More than 56.6% agreed that having content from outside sources (3rd party) does contribute to help-seeking process. In interview sessions, more than 6 out of 10 users highlighted and expressed that having accurate and verifiable content enables help-seeking to be enhanced. Therefore in designing the information architecture of the website, it has to be noted that matter different users will navigate the site differently to reach the desired information/content differently. Therefore, providing a comprehensive list of services which can be selected for quick and easy referrals from different parts of the website is necessary. e.g. Links to direct services

---

**Family & domestic violence**

1800Respect
Counselling services for sexual assault and domestic family violence.

**Child Abuse Prevention Service**
CAPS aims to improve outcomes for children by delivering family support, prevention and community education services.

**Domestic violence crisis service**
Provides a variety of services from crisis intervention to community education.

**Family Relationships Online**
Information about family relationship issues, ranging from building better relationships to dispute resolution.

**Financial Counselling Australia**
Information about how financial counsellors can support and advocate for people experiencing financial difficulty.

**Homelessness Australia**
Information on national and local support services for people who are homeless or at risk of becoming homeless.

**Kids Helpline**
Free, private and confidential, telephone and online counselling service for young people aged between 5 and 25 years.

**Lifeline**
Access to online, phone and face to face crisis support 24 hours a day, seven days a week.

**MensLine Australia**
Telephone counselling support for men and specialist support to those who use or experience family and domestic violence.

**Relationships Australia - Victoria**
Counselling, mediation, community education and professional development services.

**White Ribbon**
National and state based support organisations where domestic and family violence is a concern.

#8 – Visibility of Contact Details

**Question B4** – “There is advice and suggestions for me to complete my tasks.” - Suggestions

At least 5 users highlighted in post task interviews that having readily available contact details does contributes and persuade one to proceed to seek help. Hence it is necessary that any help-seeking website user interface presents easily viewable contact details for quick call to action purpose. e.g. Hotline Contact Number, emails, walk-in support, maps etc.

#9 – Tailoring

**Question A3** – “I can easily understand the terms for me to complete my task.” - Tailoring

80% of users responded that website content terms need to be tailored to potential needs, interests, usage context to help-seeking, which will bring the user closer to completing the help-seeking tasks. All wordings and messages must be custom tailored to the desired outcome for a user seeking help. These practices in designing help-seeking websites will ensure the content can easily be understood and persuades / influences the user to seek help when needed.

![1800Respect Banner](https://www.1800respect.org.au)

#10 – Reduction

**Question A1** – “I find it easy to complete the tasks on the websites.” - Reduction

86.6% of users agreed that the help-seeking process and features have to be simple and intuitive. The help-seeking also has to be intuitive such that help content is visible from the start. The Help page designed to ensure it provides all tasks related to help-seeking into a complete and easy-to-use layout. Users are able to easily understand the information presented and complete the help-seeking tasks from the websites through fewer clicks of the mouse and with minimal navigation and searching.

![Lifeline Get Help Page](https://www.lifeline.org.au)
#11 – Similarity

**Question B5** – “The help features are similar to offline help support.” - Similarity

In the post task interviewed, the general feel was that any help-seeking process has to be similar in nature to offline help, since many users are familiar with such help services. The help features presented are similar to offline help support. Such as ability to call someone and speak to another person on the phone vs online chat.

![1800Respect Banner](www.1800respect.org.au)

#12 – Personalisation

**Question A4** – “The tasks can be easily completed by anyone with little or no internet web surfing knowledge.” - Personalisation

66.6% of user responded that any help-seeking task has to be personalised in such a way that anyone with little or no experience in web surfing can complete and seek help easily. Although most websites may not be able to adapt to every users’ needs, some level of personalisation become necessary to facilitate easy tasks completion by anyone with little or no internet web surfing knowledge. The design below shows the Help page from 1800Respect which systematically show all options available for help-seeking; including “interpreter services” for those not conversant in the English language.

![1800Respect Online Counselling Page](www.1800respect.org.au)
#13 – Social facilitation

Question D4 – “I can tell how many people have sought help from the website before me.” – Social Facilitation

At least 5 users noted that where there is indicators of numbers or counts of similar help-seeking individual being assisted, it made the process of seeking help more encouraging. The website provided information about other help seekers who have accessed the help features and benefited from the content presented.

![Domestic violence support](image)


#14 – Self-monitoring

Question D4 – “I can easily locate the links needed to complete the tasks.” – Self Monitoring

86.6% of users agreed that having websites to monitor the user location does present an advantage to further present relevant help-seeking content to the user. Such as a website monitors the user location and is able to recommend related services within the locality, suburb or state. Visual of a map gives the user a sense of belonging and implies that the website is concern on the user safety within the locality.

![Support services](image)

#15 – Simulation

Question A6 – “I could have completed the tasks quicker if there was more guidance provided.” – Simulation

6 out of 10 users gave feedback that a simulated help-seeking interface does enable great support for user seeking help from websites. While only 3 were able to specify prompting questions to aid help-seeking, others could not give examples to reiterate their feedback. Users’ help-seeking task can be simulated and prompted towards getting the necessary help. Questions prompts are helpful for users in simulating their thoughts and behaviour. The example from the website show how simulated questions can be asked to assist help-seeking.

#16 – Reminders

Question B3 – “The website content constantly reminds me that help is available.” – Reminders

83.3% supported the use of reminders that help is available through the use of visuals, message etc. With the use of appropriate images / buttons, website promoting help-seeking can influence users to click the “Call-To-Action” features for help. Prominent placement of buttons and images on the navigation banners, gives users the confidence and constant reminders that help is available online.

#17 – Suggestions

**Question B4** – “There is advice and suggestions for me to complete my tasks.” – Suggestions

8 users out of 10 noted suggestions on websites that persuaded help-seeking, users shared through Think-Aloud process when they pointed out words like “Get Help!” Website goals has to be addressed from a user-centred perspective. These goals (e.g. help-seeking) must recognise that users are in control and they need to be prompt where necessary. Words like “I need help now!”, “Get Help!” suggests, prompts and persuades users to seek help when in need.

#18 – Liking

**Question B6 – “The website design is appealing and nice.” – Liking**

Users agreed by 80% overall that a website for help-seeking has to have a ‘likable’ interface. The website design is appealing and nice, the various elements to influence and persuade users to seek help is effectively put together in the overall website design. To be able to seamlessly integrate content, images, messages with functionality is the key aspect of a persuasive website interface.

---

#19 – Social Role

**Question B7** – “There are supporting features to help me complete the task. – Social Role

73.3% gave feedback and agreed that a website provides supporting features visually to help in contact details and follow-up. This design provides sample of a primary and secondary response; primary is through the hotline number, and a secondary through a chat line.

![Lifeline Get Help Page](www.lifeline.org.au)

#20 – Trustworthiness / Credibility / Authority

**Question C1** – “I trust the information on the website. – Trustworthiness

**Question C3** – “The overall website designs give a very trustworthy feel.” – Credibility

**Question C5** – “The website promotes the government services and encourages users to seek help. – Authority

All 10 users agreed in post interviews and feedback that help-seeking websites need to show users aspects of credibility, authority and trustable content, which will enhance confidence and better use of the services and support listed on the website. These reassurances can be woven into the website through the mentions of trustworthy sources of information (e.g. government, state sponsors) This is the single most important interface element that seeks to persuade users to seek help from a particular website.

![Our Watch Help Page](www.ourwatch.org.au)
#21 – Real-world feel

Question C4 – “The help features are similar to offline help support.” – Real-world feel

5 of the 10 users shared that it was important for websites to embed help-seeking features which induces features that are related to real help services, promoting support services that are close to user and the ability to search these supporting services easily.

**#22 – Third Party Endorsements**

**Question C6 – “Any information entered on the websites is safe and secure. – Third Party Endorsed**

8 of the 10 users shared that having any information appearing on the website which shows support and endorsements from other similar entities, constitutes to be “reliable” and trustworthy as well. Support is inter-operable and user have the discretion to select from the various support services where possible.

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#23 – Social comparison

**Question D2** – “I will be able to complete the tasks more confidently if I am informed that someone else has completed it successfully before me.” – Social Comparison

4 user out of 10 informed that giving messages on websites which showed previously help-seeking success will encourage them to seek help similarly from the website. Website promoted help-seeking by convincing users that there are others in a similar situation and they have some to the right place to get help.

“**I thought no one could help me and I felt so desperate, but talking to someone was the first step to getting my life back.”**

Get help search

I am looking for ______________________________

#24 – Normative influence

**Question D3** – “I found all help-seeking related information and content on a single page.” – Normative Influence

50% of user agreed that to have all help services listed on a single web page will serve enable better help-seeking. Website help page design utilising a set of flows and sequence which promote the normal flow of help-seeking all on a single page.

#25 – Expertise

**Question C2** – “The information provided is accurate and very focused to help me complete the tasks.” – Expertise

83.4% of users agreed that expert and accurate advice is critical for users to seek help online. The website shows expert information on help-seeking which is accurate and assists in completing the tasks.

---

**Seeking help early**

Fact Sheet | 41 people have found this helpful

Telling someone that you’re going through a tough time isn’t easy and usually, the worse a problem becomes, the more difficult it is to talk about. Even though seeking help can be difficult, it’s important to talk about what you are going through as soon as possible. There are lots of different people you can talk to.

**This can help if:**

- You’ve been going through a tough time
- You know someone who’s going through a tough time
- You really don’t like the idea of seeking help

**Why seek help early?**

It can be difficult to know when a problem is serious enough to speak to someone. You might be concerned about the person you are talking to judging you, or trying to intervene when you’d prefer to sort things out for yourself. While you might prefer to wait until a problem is obvious before you seek help, the fact of the matter is that as we become more distressed, we are less likely to seek help. Talking about our problems becomes harder because we start to believe that no one can help us overcome the problem we are facing.

**Challenges to seeking help**

Seeking help can be difficult for lots of reasons. Below are some of the reasons that other young people have identified as stopping them from seeking help:

- Not having anyone to talk to about the things which worry you the most.
- Wanting to solve problems on your own.
- Feeling embarrassed, uncomfortable, scared or stupid about the idea of seeking help.
- Concerns about confidentiality or your parents finding out.
- Hoping the problem will resolve on its own.

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#26 – Praise

Question B1 – “The information and images on the website are able to guide me to complete the tasks.” – Praise

86.6% of users agreed that giving appropriate messages and images for getting help is important and ensuring that every effort of assistance will be given to the user, especially when the user completed a specific task (e.g. contacting a support services)

5.3 Conclusion

It has become necessary to embed elements of persuasion to enable influence and behaviour change in people; especially when encouraging victims of domestic violence to seek help online. This is chapter we addressed the important user interface requirements and
specifications by answering the research questions; we concluded this using a list of recommended style guidelines which can be seen in existing website support help-seeking.

We also note that not all guidelines are possible in the a single website design, however we note that having a combination and multiple of these style guides, can indeed improve the persuasiveness of websites for help-seeking tasks.
6. CONCLUSION

6.1 Overview
In our case study, we investigated the use of Persuasive Technologies (PT) principles in user interface designs on various domestic violence websites and how these affected users to seek help online. Online help-seeking behaviour in our findings with test users have shown that there is potential for user interface designs to influence and encourage people with problems to seek help from support services available from websites.

6.2 Findings
From the evaluation of the 3 domestic violence related websites, it is noted that help-seeking tasks can be enhanced through better interface design involving persuasive principles. The study utilises the Persuasive System Design (PSD) model, and its sets of evaluation criteria to conclude that it can be applied successfully to ascertain the level of persuasiveness of a web user interfaces. Findings also shows that applying the PSD criteria and principles in user-interface design plays a significant role for the success of help-seeking tasks on websites. An increase in persuasive criteria also contributes to usability of the websites by users with ease of use in accomplishing the help-seeking tasks. This answers the first of our research questions that introducing persuasive principles to user interface designs on websites does encourage and influence help-seeking. Seen from evaluation on domestic violence websites for this study, there is indeed possible impact on how persuasive user interface will empower more survivors to seek help from online channels.

The second research question addresses the persuasive elements present on the user interface which does contribute to users finding various help interventions and accessing the help-seeking services and support. It can be a challenge for website designers who are
always seeking for better interfaces, navigation and interactions to encourage help services to be accessed online. Some guidelines and recommendations have been made in the previous chapter which will assist website designers to incorporate persuasive design criteria into various help seeking interventions online.

One of the important protocols of the user testing was to encourage users to think aloud as they navigated and attempted their tasks. I was able to identify various elements on the user interface which assisted in tasks completion, user would always comment on important aspect of the interface which assisted them. These user feedback were collated, analysed and presented as user style guidelines for the designing of persuasive user interfaces for online help-seeking; especially for help-seeking websites related to domestic violence. A total of 27 design guidelines were listed covering various aspects of user interface and navigation design for website developers and stakeholders. These guidelines assisted in answering the research questions on how persuasiveness in user interface design affect the users of domestic violence websites in seeking help online and what interventions are critical for service providers to ensure their online websites will aid online help-seeking.

6.3 Limitations
There are limitations in this study and it has to be highlighted that the nature of the small sample of website and user does impact the findings, a bigger sample; comprising of more websites & users will be beneficial for a more in-depth study across more domestic violence websites. The scope of this research was limited to only 3 domestic violence websites with 10 user test sessions, hence it is not possible to draw firm conclusions on the persuasive interfaces designs for help-seeking. The guidelines proposed for persuasiveness will inevitably bring us closer to understanding user interface design principles and the dissemination of findings will potentially lead to more effective DV related website designs and have even wider implications.
The current trend of website designs have progressed to design for “Responsiveness”, where the website re-purposes its layout to conform to the device which it is being viewed on. Layout changes for mobile, tablet and desktop displays. This scenario makes design for devices (i.e. responsiveness) even more challenging, the viewports are different and need to be considered at the start of the design process contributing to smaller content layout, navigation which still ensures that the initial website goals are being met. One of the biggest problems with responsive design is the lack of consistency, users may have trouble navigating website on a tablet when they are used to their desktop design.

The aims of this research was successfully met namely to evaluate the persuasive user interface design of various domestic violence websites. Guidelines were also identified which provided improvements to the user interface to ensure a more persuasive interface for help-seeking.

It can be concluded that an evaluation method; such as the one used in this project, can be used conveniently for user based web evaluation purposes. However, a great deal of planning was required to ensure meaningful collection and analysis of data. The techniques used for objective analysis were successful as well. Throughput timings were found to be useful for establishing persuasive user interface evaluation, a larger user sample would provide more reliable results.

Data collected from questionnaires provided information on users’ perception of the user interface. Interviews provided an avenue for users to highlight problematic aspects of the user interface and interaction while completing the tasks. A limited comparison of the results of objective and subjective evaluation revealed a poor correlation.

Finally, the various evaluated domestic violence websites do meet users’ needs in seeking help online; as majority were able to complete their tasks but fell outside the ‘standard
times’. To ensure a more persuasive user interface design is adopted for help-seeking tasks, some guidelines have also been proposed.

6.4 Future Research
Future directions in the research cover websites accessed on mobile phones for surfing the internet and also for information seeking, it becomes necessary to further this research scope to mobile applications for help-seeking as well. There are currently a dozen mobile applications which focus on domestic violence services and support within Australia, most are simple “information providers” with little focus on help-seeking scenarios. It is recommended that the mobile applications be considered for evaluations similar to websites, and to justify a guided vision to make persuasive design criteria and principles embedded into mobile help-seeking applications as well.
REFERENCES


Lifeline Australia - https://www.lifeline.org.au


Evaluating Persuasive User Interface Design for Online Help-Seeking for Domestic Violence


# APPENDIX A - Human Ethics (Low Risk) Forms

Office use only  
Reference number: STEC-38-2016-SINGH  
Quiz results received for all applicants? YES

## DEAKIN UNIVERSITY HUMAN ETHICS ADVISORY GROUP  
LOW-RISK APPLICATION FORM

The *National Statement on Ethical Conduct in Human Research* (2007) defines low risk research as:  
‘Research in which the only foreseeable risk is one of discomfort. Research in which the risk for participants is more serious than discomfort is not low risk.’

<table>
<thead>
<tr>
<th>Project Title:</th>
<th>Evaluating Persuasive User Interfaces for Online Help-Seeking for Domestic Violence.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed Start Date:</td>
<td>5 Dec 2016</td>
</tr>
<tr>
<td>Principal Investigator/s:</td>
<td>Dr Atul Sajjanhar</td>
</tr>
<tr>
<td>Student Investigator/s (if applicable):</td>
<td>Manjeet Singh</td>
</tr>
<tr>
<td>Degree/s for which student/s enrolled:</td>
<td>MSc (Research)</td>
</tr>
<tr>
<td>School:</td>
<td>Information Technology</td>
</tr>
<tr>
<td>Contact Telephone No:</td>
<td>92517441</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:atul.sajjanhar@deakin.edu.au">atul.sajjanhar@deakin.edu.au</a></td>
</tr>
</tbody>
</table>

**Contact details of all researchers involved in the project:**

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Atul Sajjanhar</td>
<td>Principle Investigator</td>
<td><a href="mailto:atul.sajjanhar@deakin.edu.au">atul.sajjanhar@deakin.edu.au</a></td>
<td>92517441</td>
</tr>
<tr>
<td>Manjeet Singh</td>
<td>Student Investigator</td>
<td><a href="mailto:manjeets@deakin.edu.au">manjeets@deakin.edu.au</a></td>
<td>0429111102</td>
</tr>
</tbody>
</table>

Please note: if the hyperlinks to sections of the Deakin Human Ethics Guidelines do not work:  
1. right click on the hyperlink  
2. click on Edit Hyperlink  
3. copy the URL to your browser.
PART A: Excluded Categories (See National Statement 5.1.6)

1 Does your project focus on any of the following?
   Yes [ ] No [x] Aboriginal or Torres Strait Islander Peoples or issues
   Yes [ ] No [x] Research involving pregnant women or the human foetus
   Yes [ ] No [ ] People highly dependent on medical care who may be unable to give consent
   Yes [ ] No [ ] People with a cognitive impairment, an intellectual disability, or mental illness
   Yes [ ] No [ ] People who may be involved in illegal activities
   Yes [ ] No [ ] Interventions and therapies, including clinical and non-clinical trials and innovations
   Yes [ ] No [ ] Human genetics
   Yes [ ] No [ ] Human stem cells
   Yes [ ] No [x] Projects involving ionising radiation
   Yes [ ] No [x] People in countries that are politically unstable, where human rights are restricted; and/or where the research involves economically disadvantaged, exploited or marginalized participants from such countries
   Yes [ ] No [x] Projects involving active concealment or planned deception of participants
   Yes [ ] No [x] Collection of identifiable personal information, without permission from the person identified
   Yes [ ] No [x] Risk of harm to participants (more serious than discomfort, National Statement 2.1.6)

If you answered yes to ANY of these elements, your project is not eligible for low-risk review. You should complete the Full Ethical Review Application for DUHREC.

2 Does your project involve ethical review by another Australian organisation?
   Yes [ ] No [x]
   If yes, your project is not eligible for review by HEAG. You should consult the Human Research Ethics Guidelines regarding the Prior Approval processes.

3 Does your project involve ONLY use of existing collections of non-identifiable data?
   Data are non-identifiable when they do not identify the people to whom the information relates – identifiers should never have been collected, or should have been permanently removed from the data set before you received it.
   Yes [ ] No [x]
   If yes, you should complete the application form for Exemption from Ethical Review.

PART B: Checklist
Evaluating Persuasive User Interface Design for Online Help-Seeking for Domestic Violence

This checklist will help you decide whether your research may be submitted for low risk review by your Faculty HEAG. Research is eligible for low-risk review if the foreseeable risk level is no more than discomfort.

If you answer ‘YES’ to any items on the checklist your project is not eligible for low risk review unless you can explain how this potential risk will be managed or minimised to ensure that the project remains low risk. This should be explained in the special case assessment section (section 6) below.

It is your responsibility to assess the level of risk associated with your project. If your project is not considered low risk by the HEAG, you will be required to complete the application for DUHREC approval.

*Please ensure you include all signatures before submitting the application as approval cannot be granted until they are received.*

1. Are any of the following topics to be covered in part or in whole?

<table>
<thead>
<tr>
<th>Topic</th>
<th>YES</th>
<th>NO</th>
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<tbody>
<tr>
<td>Parenting</td>
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<tr>
<td>Sensitive personal issues</td>
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<td>Sensitive cultural issues</td>
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<td>Grief, death or serious/traumatic loss</td>
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<td>Gambling</td>
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<td>Eating disorders</td>
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<td>Illicit drug taking</td>
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<td>Substance abuse</td>
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<td>Self-report of criminal behaviour</td>
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<td>Any psychological disorder, depression, mood states and/or anxiety</td>
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<td>Suicide</td>
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<td>Sexuality, sexual behaviour or gender identity</td>
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<td>Race or ethnic identity</td>
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<td>Any disease or health problem</td>
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<tr>
<td>Fertility</td>
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<tr>
<td>Termination of pregnancy</td>
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</tbody>
</table>

2. Are any of the following procedures to be employed?

<table>
<thead>
<tr>
<th>Procedure</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of personal data obtained from Commonwealth or State Government Department/Agency</td>
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<td>Concealing the purposes of the research</td>
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<td>Covert observation</td>
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<td>Audio or visual recording without consent</td>
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<td>Recruitment via a third party or agency</td>
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<tr>
<td>Withholding from one group specific treatments or methods of learning, from which they may 'benefit' (e.g. in medicine or teaching)</td>
<td>YES</td>
<td>NO</td>
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<tr>
<td>Psychological interventions or treatments</td>
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<td>Administration of physical stimulation</td>
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<td>Invasive physical procedures</td>
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<td>Infliction of pain</td>
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<td>Administration of drugs or placebos</td>
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<td>Administration of other substances</td>
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<tr>
<td>Use of medical records where participants can be identified or linked</td>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>
3. PARTICIPANT VULNERABILITY ASSESSMENT

Does the research specifically target participants from any of the following groups?

- Children or young people under 18 years
- People with a physical disability or vulnerability
- People whose ability to give consent is impaired
- Residents of a custodial institution
- People unable to give free informed consent because of difficulties in understanding the Plain Language Statement or Information Sheet (e.g., language difficulties)
- Members of a socially identifiable group with special cultural or religious needs or political vulnerabilities
- People in dependent or unequal relationship with the researchers (e.g., lecturer/student, doctor/patient, teacher/pupil, professional/client)
- People with existing relationships with the researcher (e.g., relative, friend, co-worker)
- People in a workplace setting with the potential for coercion or problems of confidentiality (e.g., employer/employee)
- Participants able to be identified in any final report when specific consent for this has not been given
- Persons not usually considered vulnerable but would be thought so in the context of the project

4. RESEARCH IN OVERSEAS SETTINGS ASSESSMENT

Does the research involve any of the following?

- Research being undertaken in a politically unstable area
- Research involving sensitive cultural issues
- Research in countries where criticism of government and institutions might put participants and/or researchers at risk

5. OTHER RISKS

- Are there any risks to the researcher, (e.g. research undertaken in unsafe environments or trouble spots)?
- Are there any other risks not covered in this assessment that you consider may be relevant?

6. SPECIAL CASE ASSESSMENT

If you have answered "YES" to an item in the checklist but you still believe that because of the particular nature of the project and the participants your project may still be eligible for low risk review. Please provide details below, or attach an additional sheet.

SPECIAL CASE DETAILS:

In the course of evaluation of domestic violence websites, the participants will only be asked to comment and feedback on the websites user interface designs only and will not be asked on their personal feelings, thoughts and experiences on domestic violence. Hence, the research is kept at low risk as explained further in this application.
PART C: Project

1 Aims of the project

Evaluate website user interfaces for persuasiveness in design for providing help-seeking functionality online.

2 Research design and methods

Give a concise and simple description of the proposed research design and the methods to be used. Please include all data collection procedures and all groups of participants.

The study will focus on measuring the level of persuasiveness for a selected public domain help-seeking websites. It will study how user navigate the websites to seek help, how easily and quickly the user interfaces enable the users to perform the desired tasks to seek help.

To assess the persuasiveness, a set of tasks will be given to participants to attempt via the website, and document their experience by completing a questionnaire form. The questionnaire form comprises of Likert-scale questions and open-end questions.

Data from the completed questionnaires will be analysed to derive conclusions about the persuasiveness in website’s user interface design for help-seeking.

There will 10 participants who have basic Internet surfing knowledge involve in attempting the tasks on the websites, followed by completing the questionnaire form and answering simple open-ended questions.

3 Use of existing stored data

Please list any existing stored data that you plan to use as part of the project e.g. health or employment records used for recruitment, or comparison. Please include in your answer:

- The type and number of records being accessed
- Whether the records identify individual people
- How you will obtain permission to use them (consent from individuals or permission from custodians of non-identifiable data).

(See the National Statement, Sections 3.1 and 3.2; and Section 25 of the Human Research Ethics Guidelines for more information.)

N/A

4 Risks and benefits

Give a summary of the expected benefits of this project

This may include benefits to the broader community, the participants, people with whom the participants identify or the researcher.

(See the National Statement on benefits for more information.)

The research will contribute to the knowledge in user experiences in website interface design, through the understanding of persuasiveness interface elements. This will further provide better understanding in designing website for help-seeking and support, through principles of persuasiveness and influence.

Give a summary of the expected risks of this project and how they will be managed

This should include any risks to participants, researchers, to the environment or to Deakin or other organisations.

(See the National Statement on assessment of risk for more information.)

The evaluation sessions of the websites will be conducted through 10 face-to-face sessions which will involve each of the 10 participants individually. In each session, the participant will be present with the student researcher conducting the website evaluation session. The location of the evaluations sessions will be in one of the (pre-booked) meeting rooms in the School of IT Building (Deakin University Burwood Campus) and held within normal working hours (9am to 5pm) on a working weekday (Monday to Friday).

The session will require a laptop computer with connection to the Internet, allowing the participants to browse the evaluated website freely. Although the website to be evaluated contains “Domestic Violence”
content, participants will only be asked to evaluate the website’s user interfaces designs for usability and persuasiveness issues. Participants will NOT be asked to comment on website’s subject matter that would cause them to become distressed. The participants will be told prior to start of the evaluation that they can stop the evaluation at any time should they feel uncomfortable or do not want to proceed. The evaluation will stop immediately at the request of the participant. The student researcher will carry a Deakin University identification badge on their person (and/or a Deakin University jacket) as part of the identification process to the participants.

All participants will be briefed on the National helpline (1800-RESPECT) at the start of the evaluation session, where they can turn to for assistance should they become distressed or uncomfortable at any stage during or after the evaluation session.

Participants will be required to navigate, interact and perform tasks on the “Help Pages” and the “Services Pages” of the websites being evaluated. Overall, the evaluation process is low-risk and the participants only risk being inconvenienced.

5 Monitoring
As the researcher, how will you monitor the progress of the research?

You should include details of planned communication between members of the research team (e.g. face to face meetings, email, telephone or Skype).

(See the National Statement, Section 5.5.3 for more information.)

Student researcher will conduct the evaluation sessions and report the progress to the principle investigator on a weekly basis via email reporting. The evaluation reports will be forwarded within 3 days of completion of each session (10 sessions in total). The student researcher will report any adverse events or unexpected outcomes to the principle investigator, who will then report to the Human Ethics Unit of Deakin University.

6 Resources
Please explain the amount and source of funding (sponsorship, tender, grant etc.). If there are specific resources required for the project how will they be provided?

Each participant in the evaluation sessions will be provided a $50 Coles Gift Card (Shopping Voucher). (10 participants @ $50 each = $500) This funds will be utilised from the student researcher’s HDR research funds and purchased by the student researcher directly from Coles Supermarket. Claims will be submitted in accordance with the School of IT HDR HDR Funds receipts claims process.

7 Conflict of interest
Do any of the researchers or others involved in this project have any conflict of interest in relation to it? If so, please explain how this will be managed.

(See the National Statement, on Conflict of Interest for more information.)

No researchers involved in this project have any conflict of interest.

PARTICIPANTS

8 Describe your participant group/s

Please include the following information for each participant group.

- How many participants you plan to recruit.
- A justification for the number of participants chosen for each participant group.
- The inclusion and exclusion criteria.

(See the National Statement, Section 4 for more information).

10 participants will be recruited to participate in the websites evaluation and testing.

Criteria for inclusion: basic Internet / website surfing knowledge
9 Explain your recruitment process

Please include the following information for each participant group.

- How will you locate the participants that you plan to recruit? If through existing records or contact lists, please explain how this will be done in a way that does not infringe privacy requirements.
- How will initial contact be made?
  If you plan to use a document or spoken statement e.g. flyer, letter, advertisement, phone call, please attach a copy of the document or script to this application.
- Will the participants be screened?
  If there is a screening tool, please attach a copy.

(See the Human Research Ethics Guidelines Section 8 for more information.)

Participants will be recruited from the general public and persons on Deakin campus by flyer posted on noticeboards. We have prepared a flyer which contains a description of the project, information about the research and contact person (via email / handphone number). Interested individuals who contact us will firstly be given a copy of the Plain Language statement for the potential participants to view either through email or hardcopy printout.

Participants will not be screened.

CONSENT

10 Describe the consent process

There are a variety of ways in which consent can be established, most commonly by giving participants a Plain Language Statement and Consent Form (PLSC) or by return of survey. You may wish to consult the Human Research Ethics Guidelines Section 9 for more information. Please include details such as:

- how and when you will provide consent materials to your potential participants
- how, when and to whom participants will indicate their consent.

(See the National Statement, Chapters 2.2 and 2.3 for more information.)

All individuals who agree to be part of the research will need to read and sign the Plain language Statement and the consent form before participating in the research. The student researcher will then followup with a suitable date / time for the evaluation sessions.

11 Will there be reimbursement of expenses or incentives to participate?

Where expenses will be reimbursed please state:

- the nature of the expenses incurred by participants
- the maximum value of any intended reimbursement.

Where incentives to participate are offered, please explain:

- Why you consider that the proposed incentive will not encourage participants to take risks they would not otherwise take. In doing so, please consider both the risks associated with participation and the value of the incentive, relative to your participant group.

(See the National Statement, Sections 2.2.10-2.2.11; and the Human Research Ethics Guidelines Section 8 for more information.)

All participants will be given $50 Gift Card (Shopping Voucher) from Coles as payment for their time. This will serve as an incentive to participate.

12 Pre-existing or unequal relationships

Do any of the proposed participants have existing relationships with the researchers, each other or with any other organisation involved in the research? Please explain the relationships, and how you will make sure that participants do not feel pressured to take part.

(See the National Statement, 4.3; and the Human Research Ethics Guidelines Section 22 for more information.)

As the participants will be recruited from the general public and unlikely chance of any of the participants will know the researchers in this project. Participants will be told in plain language statement that their
participation in this research is purely voluntary. If they do not wish to take part they are not obliged to do so. Also deciding not to participate will not affect their relationship to the researchers or the community organisation.

13 Does your project include children or young people under 18 years?
If your project involves people under the age of 18, please answer the following questions.

- What age group is involved?
- Will parental/guardian consent be obtained? If the young people will consent on their own behalf, how their capacity to do this will be judged?
- Is it necessary to involve people under 18? Could your projects be undertaken with adult participants?
- Is the methodology appropriate for children/young people?
- Is there any reason to consider that participation in the research is not in the best interests of the children/young people?

(For further information, consult the National Statement, Chapter 4.2; and the Human Research Ethics Guidelines Section 19.)

No. The project will not include children or young person under the age of 18 years.

14 Language and communication issues
Will your project involve people who cannot communicate easily in English? (e.g. people who are not confident English speakers, or who have a disability, such as a hearing impairment that requires special arrangements for participation). If so, please explain how translation/interpretation issues will be managed.

(For further information consult the Human Research Ethics Guidelines Section 24.)

No. The project will not include people who cannot communicate easily in English.

15 People in other countries
If you are planning to undertake research in other countries, please answer the following questions. What are the legal and ethical requirements for conducting research in the designated country?

- What arrangements will be in place for a local, readily accessible contact to receive responses, questions and complaints about the research? (National Statement 4.8.16)
- How will the research be monitored on site?
- Are there cultural sensitivities relating to the research? How will these be managed?

If the research is to be conducted in a language other than English, please ensure that you have covered all relevant language issues under question 14.

(For further information consult the National Statement, Chapter 4.8; and the Human Research Ethics Guidelines Section 35.)

N/A.
CONFIDENTIALITY / PRIVACY

16 Will you be collecting data in identified form?

Data are generally divided into:

- **Identifiable** (also called personal): the person to whom the data relates can be established from the data – either because they are named, or information that identifies them is included (e.g. position in an organisation at the time)
- **Re-identifiable** (also called coded): the identifiers have been removed from the information and replaced with a code.
- **Non-identifiable**: the data were collected anonymously, or all identifiers have been permanently removed.

Please explain the form in which the data will be collected. If you plan to collect it in identified form and later remove the identifiers, please explain how and when.

(See the Human Research Ethics Guidelines Section 10 for more information.)

No data will be collected in identified form.

17 Storage of data

Data storage should meet the requirements of the Authorship in the Research Conduct Policy. In most cases data should be stored securely at Deakin, for a period of at least five years after the final publication of the research outcomes. If the data will be stored in another location, please explain this, and how data security will be maintained. You should include:

- whether the data will be identified/re-identifiable/non-identifiable
- how security will be maintained (locked storage, secure server, etc.)
- how long the data will be stored
- if and when the data will be disposed of and how security will be maintained.

(See the Human Research Ethics Guidelines Section 10.8 for more information.)

All data collected throughout the investigation will be non-identifiable. Personal information on the consent forms will be immediately separated from the questionnaire and also be stored separately.

Data collected via paper based mean will be stored in locked filing cabinets and will only be accessible by the principal investigator. Data will be stored for 5 years after final publication and then destroyed through shredding of paper documents. All electronic data will be destroyed (deleted) from all storage devices and from any backup devices as well.

18 Publication of results

(See Section 4 of the Australian Code for the Responsible Conduct of Research for more information).

Whose responsibility will it be to notify participants of the outcome of the research?

Dr Atul Sajjanhar (Principle Investigator)

How will you notify participants of the outcome of the research?

Participants will be advised in the PLS to contact the researchers if they wish to obtain a summary of the research results.

How will your research be reported/published?

It will be published in peer-reviewed conferences / journals.

How will you manage participant confidentiality?

We will manage participant confidentiality through making the data non-identifiable when collected and also when publishing the data in any publication resulting from the research.
PART D: Declarations

1 I/We, the undersigned declare that the information supplied in this application is true and accurate to the best of my/our knowledge.

I / We the undersigned have read the National Statement on Ethical Conduct in Human Research and accept responsibility for the conduct of the project detailed in this application in accordance with the principles contained in the Statement and any other conditions laid down by Deakin University or the Human Ethics Advisory Group.

Where the project involves a student researcher, as the supervisor I accept responsibility for ensuring that ethics approval is obtained prior to commencing the research and for overseeing the ethical conduct of the project as detailed in the ethics application.

Signatures:

Principal Investigator/s Date: 24 Nov 2016

Associate Investigator/s

Date:

Date:

Student Investigator/s Date: 24 Nov 2016

Date:

Date:

2 ACKNOWLEDGEMENT OF HEAD OF SCHOOL*/DIRECTOR OF RESEARCH OR THEIR NOMINEE

I the undersigned acknowledge that the Faculty has considered and approved the academic worth of the project described in this application.

Name: Professor John Yearwood

Signature: Date: 28/02/2017

* Where the HoS is also a member of the research team, the ADR should provide the final sign off on the project.
Part E: Attachments

Have you attached the following?

Yes ☒ No ☐ N/A ☐ A copy of the email confirming successful completion of the online human ethics quiz (for first time applicants only)

Yes ☒ No ☐ N/A ☐ A copy of any advertisements/flyers or other recruitment materials

Yes ☒ No ☐ N/A ☐ A copy of the Plain Language Statement and Consent Form (PLSC) or other consent materials to be used in the project

Yes ☒ No ☐ N/A ☐ A copy of any survey, list of questions/topics for interviews, or other materials to be used in this project

Yes ☐ No ☐ N/A ☒ Any other documents to be supplied to the participants or used in the conduct of the project

Yes ☐ No ☐ N/A ☒ If you are proposing to recruit participants through organisation(s), a letter of support from the organisation(s) involved or an organisational PLSC

Please submit all documents via the Human Ethics application submission page.

HEAG and inquiry contacts are available on the Human Ethics Contacts page or on your faculty website.
PLAIN LANGUAGE STATEMENT AND CONSENT FORM

TO: Participant

Plain Language Statement

Evaluating Persuasive User Interface Design for Online Help-Seeking

It is our pleasure to invite you to participate in this research project. We would like to give you some background information on why we think this project is important and what we like you to do if you decide to participate.

Participating in this research project is voluntary. If you do not wish to take part you are not obliged to. Deciding not to take part will not affect any relationship you may have with the researchers or Deakin University.

Purpose of this research study

The purpose of this research is to study website user interface design and its effects on influencing user behaviour; especially to persuade an individual to seek help online. When a website design is intended to influence or modify a user’s behaviour, we can refer to such an interface as a persuasive user interface.

We are particularly interested in evaluating the persuasive nature of various help-seeking website user interface designs. If you agree to take part in this research project, you will be asked to complete a set of tasks on various Domestic Violence (DV) support websites in Australia which contain help-seeking features.

Benefits of this study

The research will contribute to designing user interfaces which are both usable and persuasive, particularly for individuals to seek help for themselves or others in need. The benefits of the study include understanding of a help-seeking website design, user behaviour influences and experiences while interacting with the website’s content to seek help. Giving us a better understanding to website designs for help-seeking related content as well. The study will also capture information on ease of finding information, presentation of interface text/messages and the ability to quickly learn content navigation on the website interfaces.

What you will be asked to do

The evaluation sessions of the websites will be conducted through a face-to-face session with a male student researcher conducting the sessions. The location of the sessions will be in a meeting room at the School of Information Technology (IT) Building (Deakin University Burwood Campus) and held within normal working hours (9am to 5pm) on a working weekday (Monday to Friday). You will be given an option of dates & times for you to participate at the session at Deakin University.

Each session will have a laptop with connection to the Internet, allowing you to browse the websites freely. You will be asked to complete a set of tasks on various Domestic Violence (DV) websites in Australia related to help-seeking, followed by answering a questionnaire on your interaction with the
websites. There are some general questions about you, to help interpret the information that you give. The questionnaire and tasks will take about 1 hour to complete.

A sample task given during the evaluation is as follows:

"Use the website to locate any nearest support organisation in Victoria and get the contact details (phone or email) to assist someone you know who is in immediate danger of physical abuse by her/his partner and needs urgent help to keep that person safe and get support."

You will be given a $50 Coles Gift Card (Shopping Voucher) for your participation at the end of the session. You can withdraw at any time up to and during the session. Participants who withdraw will not be eligible for the Coles Gift Card. Your responses will be anonymous and cannot be withdrawn after the completion of the session.

Agreeing to Participate
You may keep this copy of the Plain Language Statement. The consent form will be immediately separated from the questionnaire, to protect your privacy, and stored separately.

Approval to undertake this research project has been given by the Human Ethics Advisory Group (HEAG), Faculty of Science, Engineering and Built Environment, Deakin University.

Receiving Feedback
The student researcher will conduct the evaluation sessions and report the progress to the principle investigator. A brief summary of the findings will be available to you on completion of the research thesis from the researchers. It is also possible that the views of participants will be published in peer-reviewed conference/journal articles.

Get Further information
If you require further information, need to be notified of the findings of this research or if you have any problems concerning this project, you can contact:

<table>
<thead>
<tr>
<th>Principal Researcher</th>
<th>Student Researcher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Atul Sajjanhar</td>
<td>Mr Manjeet Singh</td>
</tr>
<tr>
<td>Lecturer</td>
<td>Student Researcher</td>
</tr>
<tr>
<td>School of Information Technology, Deakin University, Email: <a href="mailto:atul.sajjanhar@deakin.edu.au">atul.sajjanhar@deakin.edu.au</a></td>
<td>School of Information Technology, Deakin University, Email: <a href="mailto:manjeets@deakin.edu.au">manjeets@deakin.edu.au</a></td>
</tr>
<tr>
<td>Phone: 92517441 Fax: 925 17604</td>
<td>Phone: 0429111102</td>
</tr>
</tbody>
</table>

Services on offer if adversely affected
In case you experience the need to seek support for feelings that arise after you complete the evaluation and questionnaire, please call: The National counselling helpline, information and support 24/7 (1800RESPECT): at 1-800-737 732.

Complaints
If you have any complaints about any aspect of the project, the way it is being conducted or any questions about your rights as a research participant, then you may contact: Please quote project number: STEC-38-2016-SINGH

The Manager, Ethics and Biosafety
Deakin University,
221 Burwood Highway,
Burwood Victoria 3125,
Telephone: 9251 7129,
Email: research-ethics@deakin.edu.au

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Invitation Flyer for Participating in the Evaluation
PLAIN LANGUAGE STATEMENT AND CONSENT FORM

TO: Participant

Date: ________________

Full Project Title: Evaluating Persuasive User Interfaces for Online Help-Seeking for Domestic Violence

Reference Number: STEC-38-2016-SINGH

I have read and I understand the attached Plain Language Statement.

I freely agree to participate in this project according to the conditions in the Plain Language Statement.

I have been given a copy of the Plain Language Statement and Consent Form to keep.

The researcher has agreed not to reveal my identity and personal details, including where information about this project is published, or presented in any public form.

I understand that my personal information will be immediately separated from the consent form and the completed questionnaire which will also be stored separately.

Participant’s Name (printed) ..............................................................

Signature .............................................................. Date .........................

Please mail or email this form to:

Mr Manjeet Singh
School of Information Technology
Deakin University, Burwood, VIC 3125.
Phone: 0429 1111 02
Email: manjeets@deakin.edu.au
PLAIN LANGUAGE STATEMENT AND CONSENT FORM

TO: Participant

<table>
<thead>
<tr>
<th>Withdrawal of Consent Form</th>
</tr>
</thead>
</table>

Date:

Full Project Title: Evaluating Persuasive User Interfaces for Online Help-Seeking for Domestic Violence

Reference Number: STEC-38-2016-SINGH

I hereby wish to WITHDRAW my consent to participate in the above research project and understand that such withdrawal WILL NOT jeopardise my relationship with Deakin University.

Participant’s Name (printed) ………………………………………………………………

Signature ……………………………………………………………… Date …………………

Please mail or email this form to:

Mr Manjeet Singh
School of Information Technology
Deakin University, Burwood, VIC 3125.
Phone: 0429 1111 02
Email: manjeets@deakin.edu.au
Evaluating Persuasive User Interface Design for Online Help-Seeking for Domestic Violence

DEAKIN UNIVERSITY HUMAN ETHICS ADVISORY GROUP
LOW-RISK APPLICATION FORM

The National Statement on Ethical Conduct in Human Research (2007) defines low risk research as:
‘Research in which the only foreseeable risk is one of discomfort. Research in which the risk for participants is more serious than discomfort is not low risk’.

Project Title: Evaluating Persuasive User Interfaces for Online Help-Seeking for Domestic Violence.
Projected Start Date: 5 Dec 2016
Projected end date: 20 Jan 2017
Principal Investigator/s: Dr Atul Sajjanhar
Student Investigator/s (if applicable): Manjeet Singh
Degree/s for which student/s enrolled: MSc (Research)
School: Information Technology
Faculty: SEBE
Contact Telephone No: 92517441
Email: atul.sajjanhar@deakin.edu.au

Contact details of all researchers involved in the project:

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Atul Sajjanhar</td>
<td>Principle Investigator</td>
<td><a href="mailto:atul.sajjanhar@deakin.edu.au">atul.sajjanhar@deakin.edu.au</a></td>
<td>92517441</td>
</tr>
<tr>
<td>Manjeet Singh</td>
<td>Student Investigator</td>
<td><a href="mailto:manjeets@deakin.edu.au">manjeets@deakin.edu.au</a></td>
<td>04291111102</td>
</tr>
</tbody>
</table>

Please note: if the hyperlinks to sections of the Deakin Human Ethics Guidelines do not work:
1. right click on the hyperlink
2. click on Edit Hyperlink
3. copy the URL to your browser.
Full Project Title:
Evaluating Persuasive User Interfaces for Online Help-Seeking for Domestic Violence

Reference Number: STEC-38-2016-SINGH

Questionnaire

<table>
<thead>
<tr>
<th>Select your gender</th>
<th>☐ Male</th>
<th>☐ Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is your age?</td>
<td></td>
<td>________ Years ________ Months</td>
</tr>
<tr>
<td>How would you rate your Internet surfing experience and skills</td>
<td>☐ Beginner</td>
<td>☐ Intermediate</td>
</tr>
<tr>
<td>Website evaluated in this session</td>
<td>☐ W1</td>
<td>☐ W2</td>
</tr>
</tbody>
</table>

A. Primary Task Support (For Users Only)

<table>
<thead>
<tr>
<th>Answer the following questions in respect to the help-seeking tasks from the website (Tick ☐ only one for each of the questions.)</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1. I find it easy to complete the tasks on the websites.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>A2. I am guided to complete the tasks step by step.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>A3. I can easily understand the terms for me to complete my task.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>A4. The tasks can be easily completed by anyone with little or no internet web surfing knowledge.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>A5. I can easily locate the links needed to complete the tasks.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>A6. I could have completed the tasks quicker if there was more guidance provided.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>A7. I can easily complete the tasks after a few tries.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
### B. Dialogue Support (For Users Only)

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>B1.</strong></td>
<td>The information and images on the website are able to guide me to complete the tasks.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B2.</strong></td>
<td>The website encourages me to complete my tasks by providing me ‘rewards’ such as user points, badges etc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B3.</strong></td>
<td>The website content constantly reminds me that help is available.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B4.</strong></td>
<td>There is advice and suggestions for me to complete my tasks.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B5.</strong></td>
<td>The help features are similar to offline help support.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B6.</strong></td>
<td>The website design is appealing and nice.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B7.</strong></td>
<td>There are supporting features to help me complete the task.</td>
<td></td>
<td></td>
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</tbody>
</table>

### C. System Credibility Support (For Users Only)

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>C1.</strong></td>
<td>I trust the information on the website.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>C2.</strong></td>
<td>The information provided is accurate and very focused to help me complete the tasks.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>C3.</strong></td>
<td>The overall website designs give a very trustworthy feel.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>C4.</strong></td>
<td>The help features are similar to offline help support.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>C5.</strong></td>
<td>The website promotes the government services and encourages users to seek help.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>C6.</strong></td>
<td>Any information entered on the websites is safe and secure.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>C7.</strong></td>
<td>Any information entered on the websites can be verified and tracked.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
D. Social Support (For Users Only)

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1. I would have been able to complete the tasks better if someone had shown me first.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>D2. I will be able to complete the tasks more confidently if I am informed that someone else has completed it successfully before me.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>D3. I found all help-seeking related information and content on a single page.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>D4. I can tell how many people have sought help from the website before me.</td>
<td>☐</td>
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<tr>
<td>D5. The website guided me to complete the tasks easily.</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>D6. The website is able to guide me to seek help from other outside sources.</td>
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</tr>
<tr>
<td>D7. The website provided information about other help seekers like me.</td>
<td>☐</td>
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</tr>
</tbody>
</table>
### H. Help-seeking Expert Evaluation (Experts Only)

<table>
<thead>
<tr>
<th>H1. Content is easily available for DV survivors and their support group to assess the safety and risks.</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>H2. Website provides easy to use and navigational visual elements.</td>
<td></td>
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<tr>
<td>H3. The ability keep personal information private, users can control what, when, to whom, how, and how much information is made public or to the webmasters. The ability to quickly and easily navigate / jump out of the website with a single click; safety aspect. e.g. Quick Exit button</td>
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<tr>
<td>H4. Provide a list of services which can be selected for quick and easy referrals. e.g. Links to direct services</td>
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<tr>
<td>H5. The website guided me to complete the tasks easily.</td>
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</tr>
<tr>
<td>H6. Easily view the contact details for quick contact purpose. e.g. Hotline Contact Number</td>
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</tr>
<tr>
<td>H7. Provides content for various persons wanting to assist and help people in distress etc. e.g. Information for friends, family and support networks</td>
<td></td>
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</tr>
</tbody>
</table>