

**The Impact of Personality Traits on Participation in an Online Cancer
Community of Posters and Lurkers**

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Table of Contents

ABSTRACT.....	2
STATEMENT OF ORIGINALITY	3
ACKNOWLEDGEMENTS.....	4
CHAPTER 1: INTRODUCTION	5
1.1 RATIONALE FOR THE STUDY	5
1.2 RESEARCH AIM AND QUESTION.....	6
1.3 SIGNIFICANCE OF THE STUDY	7
1.4 ORGANISATION OF THE THESIS	8
CHAPTER 2: LITERATURE REVIEW	9
2.1 ONLINE CANCER COMMUNITIES	9
2.2 TOWARDS AN UNDERSTANDING OF POSTERS	10
2.3 TOWARDS AN UNDERSTANDING OF LURKERS	11
CHAPTER 3: RESEARCH BACKGROUND AND CONCEPTUAL FRAMEWORK	14
3.1 PERSONALITY TRAITS FACTOR	14
3.2 BACKGROUND ON THE FIVE FACTOR MODEL OF PERSONALITY TRAITS	15
<i>Figure 1. The Conceptual Framework.....</i>	<i>16</i>
3.3 THE BIG FIVE PERSONALITY TRAITS AND ONLINE POSTING	16
3.3.1 <i>Extraversion.....</i>	<i>16</i>
3.3.2 <i>Neuroticism.....</i>	<i>18</i>
3.3.3 <i>Openness.....</i>	<i>19</i>
3.3.4 <i>Conscientiousness.....</i>	<i>20</i>
3.3.5 <i>Agreeableness</i>	<i>21</i>
SUMMARY.....	22
CHAPTER 4: RESEARCH METHODOLOGY	24
4.1 QUALITATIVE APPROACH	24
4.2 COLLABORATIVE INSTITUTION.....	25
<i>Figure 2. Cancer Council Online Community Discussion Forums</i>	<i>26</i>
4.3 PARTICIPANTS AND RECRUITMENT PROCEDURE.....	26
<i>Table 1. Demographic Data of the Participants</i>	<i>28</i>
4.4 THE INTERVIEW GUIDE.....	28
4.5 DATA PROCESSING AND ANALYSIS	30
<i>Figure 3. Qualitative Data Analysis for Extraversion Trait</i>	<i>32</i>
SUMMARY.....	32
CHAPTER 5: DATA ANALYSIS AND RESULTS.....	33
5.1 POSTERS' PERSONALITY TRAITS	33
SUMMARY.....	37
5.2 LURKERS' PERSONALITY TRAITS	38
SUMMARY.....	42
<i>Figure 4. Impact of the Big Five Personality Traits on Online Behaviour</i>	<i>43</i>
CHAPTER 6: DISCUSSION.....	44
SUMMARY.....	48
CHAPTER 7: CONCLUSION, LIMITATIONS, AND FUTURE RESEARCH	49
REFERENCES.....	51
APPENDIX A: THE INTERVIEW GUIDE	58
APPENDIX B: ETHICAL APPROVAL LETTER	59
APPENDIX C: RECRUITMENT ADVERTISEMENT.....	60
APPENDIX D: QUALITATIVE DATA ANALYSIS FOR PERSONALITY TRAITS.....	61

Abstract

The aim of this study was to examine the impact of the personality traits of cancer-affected people who are members of an online cancer community on their online posting behaviour. The users in this study were defined as either posters (users that contribute regularly) or lurkers (those who visited the online community but did not contribute). Online cancer communities provide support for cancer-affected people who experience psychological and emotional challenges. Therefore, the long-term viability of the online community needs a way of minimising lurking behaviour and encouraging participation to ensure it meets the needs of all users. That is, we need to better understand why lurkers do not participate and why posters contribute.

This study examined the personality traits of both posters and lurkers to determine whether personality traits influence users' decisions to post in an online cancer community. To better understand the personality traits of online cancer community users, qualitative semi-structured interviews incorporating the Five Factor Model (FFM) of personality traits were conducted with 42 users of the Cancer Council Online Community (CCOC) in NSW, Australia. The results showed that the extraversion, emotional stability, and agreeableness traits influence posting behaviour in an online cancer community, whereas the conscientiousness trait influences lurking behaviour. The openness trait does not impact users' online behaviour as posters and lurkers exhibited similar attitudes in their openness trait. The study contributes to the literature by providing insights into the impact personality traits have on the decisions of posters and lurkers to contribute to discussions in an online cancer community.

Statement of Originality

I certify that the work in this thesis entitled “The Impact of Personality Traits on Participation in an Online Cancer Community of Posters and Lurkers” has not been previously submitted for a degree, nor has it been submitted as part of the requirements for a degree to any university or institution other than Macquarie University.

I also certify that the thesis is an original piece of research and it is written by me. Any help and assistance I have received in my research work and the preparation of this thesis are appropriately acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

The research presented in this thesis was approved by the Business and Economics Ethics Subcommittee of Macquarie Business School on 14 May 2019, reference number: 5201953958632.

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Chapter 1: Introduction

Online communities (OCs) with user-generated content have grown over the past decade (Chaffey, 2016) transforming the way individuals communicate with each other, engage in entertainment activities, socialise, share information, or make decisions (Schroeder, 2018). The online cancer community (OCC) is one type of online health community with user-generated content that facilitates connections among users with common interests seeking emotional and informational support (Zhang, O'Carroll Bantum, Owen, Bakken, & Elhadad, 2017).

The members of the online cancer community are cancer-affected people who share similar cancer-related concerns. People affected by cancer include people diagnosed with cancer who are still under treatment, those who have completed their treatments and are living with cancer as a chronic illness, cancer survivors, and carers (Hubbard, Kidd, Donaghy, McDonald, & Kearney, 2007). Cancer-affected people use online cancer communities to share their experience, receive emotional support, connect with health professionals, obtain practical tips and answers to medical questions, provide empathy and health information to others, and read the content published by others (Yli-Uotila, 2017).

The extent of users' participation in discussions in online communities may be determined by their personality traits (Bronstein et al., 2016). This study focused on examining the personality traits of a particular online community, the online cancer community, by adopting the taxonomy of the big five personality traits that include extraversion, neuroticism, openness, conscientiousness, and agreeableness (Costa & McCrae, 1992). The aim of this research was to investigate whether the personality traits of cancer-affected people influence their decisions to post in an online cancer community.

1.1 Rationale for the Study

Most online health communities (OHC) offer users free access and unrestricted participation in discussions. However, active participants (called posters) comprise only a small portion of total online community members (van Mierlo, 2014). Many community members read the content by posters but either do not contribute or interact less frequently (called lurkers) (Ridings, Gefen, & Arinze, 2006). Most of the content is generated by posters which limits the content to posters' experiences. If there are only a small number of posters, this may lead to the online community

lacking richness and usefulness (Sun, Rau, & Ma, 2014) because not all members are engaging with the community and sharing their knowledge.

Posters and lurkers fall into two distinct groups. Posters are active participants who regularly engage in discussions in the online community by either initiating a post or responding to others' posts (Walker, Redmond, & Lengyel, 2010). Lurkers are non-interactive members who rarely or never contribute to discussions in the online community and only observe others' communications and posted content (Honeychurch, Bozkurt, Singh, & Koutropoulos, 2017). The lack of participation by lurkers may mean that the knowledge shared in the online community may not represent the average knowledge of all online community members (Nielsen, 2006).

The usefulness of an online community is contingent upon incorporating up-to-date and diverse input relating to the experience of the broader community (Malinen, 2015). Therefore, lurking behaviour threatens the success of online communities that require timely interactions and up-to-date information (Malinen, 2015; van Mierlo, 2014). Members of an online cancer community are vulnerable and need timely, relevant and current information to feel supported and improve their quality of life (Qiu et al., 2011).

1.2 Research Aim and Question

Both extrinsic and intrinsic motivational factors have been widely investigated for the purpose of understanding users' behaviour in online communities. Technical settings such as anonymity and privacy are extrinsic motivational factors that may discourage users to share health information due to confidentiality and data security concerns (Frost, Vermeulen, & Beekers, 2014). Online community features may discourage a user's decision to post. For example, if an online community forum is not user-friendly (Hsu & Lin, 2008) or there is a delay in response to posted content (Küçük, 2010), users may not contribute to the online community. Any alteration in the extrinsic motivation factor may impact a user's level of engagement in an online community. For example, building a reputation by attaining valuable information and transmitting it to the community is found to increase a user's level of involvement in an online community (Lai & Chen, 2014).

Enjoyment in helping others and knowledge self-efficacy are intrinsic motivational factors that may impact knowledge sharing intentions of users online (Lai & Chen, 2014). Individual differences are regarded as strong predictors of online engagement with social networking sites and impacted users' motivations to use those sites (Orchard, Fullwood, Galbraith, & Morris,

2014). Wright and Li (2011) found that individuals high in their offline prosocial behaviour are more likely to commit time and engage online to help others in need in an online community. Prosocial behaviour is highly linked to personality and particularly to the agreeableness trait (Habashi, Graziano, & Hoover, 2016). Therefore, personality traits may help explain the decisions of posters and lurkers to post (or not to post) in an online community.

Previous studies have examined the impact of the big five personality traits on online participation in different online contexts such as online brand communities, social media, and online political communities (Gazit & Aharony, 2018; Islam, Rahman, & Hollebeek, 2017; Quintelier & Theocharis, 2013). For example, Marbach, Lages, and Nunan (2016) found that individuals with the personality traits introversion, conscientiousness, and disagreeableness are less likely to contribute to discussions in online brand communities. A study by Quintelier and Theocharis (2013) found that users with high levels of neuroticism were less likely to engage in discussions in online political communities. These studies show that using the taxonomy of the big five personality traits is a good way to better understand how users participate in online communities. Therefore, this study used the big five personality traits taxonomy to examine users' decisions to post or not to post in an online cancer community to address the overarching research question:

What are the personality traits that explain the online behaviour of posters and lurkers within an online cancer community?

1.3 Significance of the Study

Online cancer communities play a substantial role in supporting cancer-affected people by providing them with motivation and emotional assistance, advice about quality of life or lifestyle choices, and additional information about diagnosis and treatment processes (Gill & Whisnant, 2012). Previous studies found that participation in online cancer communities can improve a cancer-affected person's mental and psychological well-being (Erfani, Blount, & Abedin, 2016; Huntley, 2016). Therefore, ensuring that the online cancer community is inclusive and well-designed becomes essential so that all users that need support are encouraged to participate. A better understanding of the role of personality traits in the decisions of users to post in online cancer communities will provide insights into how to encourage more users to contribute to discussions to ensure a viable online community.

Previous studies have used the taxonomy of the big five personality traits to examine online participation, yet little is known about the impact of the big five personality traits on users' decisions to post within an online cancer community. For example, the impact of personality traits on online participation was assessed within social media platforms such as WhatsApp (Gazit & Aharony, 2018), Facebook (Bronstein et al., 2016), online consumer communities (Islam et al., 2017), online educational communities (Wang, Jackson, Wang, & Gaskin, 2015), and online political communities (Barnes, Mahar, Wong, & Rune, 2017). However, online cancer communities have features and purposes that differ from these examples because cancer topics tend to be sensitive, and the information and support provided must be timely and accurate.

The aim of this study was to examine the impact of the big five personality traits of both posters and lurkers on cancer-affected people's decisions to post in an online cancer community. This study has two key contributions. First, the study contributes to the literature by providing insights into the impact personality traits have on the decisions of cancer-affected people to post and contribute to the online cancer community. Second, the insights may inform and motivate practitioners who design and moderate the online cancer community to encourage participation from all users, posters and lurkers, who may then benefit from the increased participation.

1.4 Organisation of the Thesis

The remaining chapters of the thesis are as follows. Chapter two provides the background and relevant literature on the online cancer community, the active users (posters) of the online community, the non-contributors (lurkers) of the online community, and the personality traits factor and its impact on online posting. Chapter three describes the conceptual framework used for the study. Chapter four describes the research design and methodology including the participant and recruitment procedure, the interview guide, and data processing and analysis. Chapter five reports the research findings and results. Chapter six presents the analysis and the discussion of the key findings. The final chapter, chapter seven, presents the conclusion, limitations of the study, and some promising avenues for future research.

Chapter 2: Literature Review

This chapter presents the literature that provides the background to the study. The next section examines the literature relating to online cancer communities, followed by two sections describing both groups of users of the online community, posters and lurkers.

2.1 Online Cancer Communities

Online health communities are platforms that facilitate communication among people encountering similar health problems to share their medical experiences, treatment solutions, and nutritional regimes (Yan, Wang, Chen, & Zhang, 2016). Online health communities increased in popularity over the first decade of the 21st century and changed the way individuals approached and reframed their illness, adopted coping strategies (Kim, Scheufele, Han, & Shah, 2017; Yli-Uotil, Rantanen, & Suominen, 2014), and formed social bonding with other members of the online health community (Brown & de Jong, 2018). Upon interacting with others in the online health community, empathy is developed, and relationships and connections are built among members experiencing difficult times with similar concerns (Hargreaves, Bath, Duffin, & Ellis, 2018). Online health communities increase users' decision-making capacities by providing them with insights and health-related information (Johnston, Worrell, Di Gangi, & Wasko, 2013). Besides the information utility, an important benefit is the social support that is obtained from being a member of an online health community (Johnston et al., 2013).

People living with various health conditions are more likely to participate in online health communities that are relevant to their disease or illness. Specific online health communities, for example online cancer communities (OCCs), are designed to support cancer-affected people by providing informational and emotional support. Cancer-affected people are more disposed to communicate online with peers who have lived similar experiences and who are better informed about cancer diagnosis and treatments, psychological effects, and other cancer-related concerns (Rains, Peterson, & Wright, 2015; Rodgers & Chen, 2005). Cancer-affected people use the online cancer community to share emotions and obtain empathetic support (Hargreaves et al., 2018). The study by Moon, Chih, Shah, Yoo, and Gustafson (2017) showed that the emotional support from cancer survivors who contributed to the online cancer community reduced breast cancer patients' depression levels and improved their quality of life.

The users of an online cancer community are classified as either posters or lurkers. The next section discusses posters of the online community followed by a section discussing lurkers of the online community.

2.2 Towards an Understanding of Posters

Posters are active members of an online community and generate the majority of the posted content (van Mierlo, 2014). Posters participate in discussions in the online community by either initiating a post or responding to other posts (Walker et al., 2010). The reasons posters join an online community include gaining access to expertise, obtaining answers to questions, telling stories or contributing in discussions, building professional relationships, receiving support, making friends or entertaining others (Nonnecke, Andrews, & Preece, 2006). Knowledge self-efficacy and enjoyment in helping others influence knowledge sharing attitudes of posters in an online community (Hung, Lai, & Chou, 2015). In a study that examined the motivations behind posters' commitment in an online community, perceived support for members' communication was found to have strong influence on posters' commitment (Yang, Li, & Huang, 2017). In an environment that fostered social trust and shared language, posters exhibited strong relationships with other members of the online community and were more willing to actively participate and engage in knowledge exchange (Liao & Chou, 2012).

There are many online communities specific to users' interests and there are many related to health. Online cancer communities are designed to support cancer-affected people seeking informational and emotional support. Despite the support provided by health professionals and family members, cancer-affected people use online cancer communities to share their own experience and connect with individuals encountering similar challenges (Zhao et al., 2014). Cancer-affected people lacking sufficient knowledge about cancer and experiencing more depression were more likely to engage in discussions in the online cancer community to enhance their quality of life (Han, Hou, Kim, & Gustafson, 2014). Posters displayed high satisfaction with their relationship with other members of the online health community and were more likely to come up with strategies that helped them in coping better and dealing with the disease stress (Mo & Coulson, 2010). Posters were able to increase their social contacts by participating in discussions and thus reported high on enhanced social well-being as an empowering outcome from their contribution in an online health community (Cornelia F van Uden-Kraan et al., 2008). Writing posts rather than reading posts helped posters to stay focused on their health issues (Mo & Coulson, 2010) and has been found to be associated with lower levels of stress and illness intrusiveness (Chen et al., 2015).

Members of an online cancer community who post content benefitted more than non-posters from their engagement in online discussions (Kashian & Jacobson, 2018; Kim et al., 2017). Prior research has identified several therapeutic benefits from participating in discussions in an online cancer community, including alleviated depression levels, reduced burden and stress (Harvey, Sanders, Ko, Manusov, & Yi, 2018), as well as improved functional and emotional well-being (Han et al., 2014). In Kashian and Jacobson's (2018) study, highly engaged breast cancer patients reported higher levels of happiness, optimism, energy, and health. Cancer patients who engaged frequently in conversations in the online cancer community perceived higher levels of social support than non-interactive members (An, Wallner, & Kirch, 2016). Non-interactive members (called lurkers) are users of the online community who do not post or post less frequently in the online community. The literature on lurkers is discussed in the following section.

2.3 Towards an Understanding of Lurkers

Lurkers do not post or reply to others in an online community, stay silent most of the time and observe what others post (Nonnecke, 2000). The literature has used different terms to describe lurkers in an online community. For example, Nonnecke (2000) found that lurking is normal behaviour and suggested replacing the term 'lurker', which is generally used pejoratively, by 'non-public participant' to avoid depicting lurkers as disruptive members. Honeychurch et al. (2017) found that the term 'lurker' connoted a negative description for non-interactive users and used the term 'legitimate peripheral participant'. Other studies describe less active members of the online community as 'free riders' who exploit the content produced by active members and do not contribute to its maintenance (Chou, Shen, Chiu, & Chou, 2016; Kollock & Smith, 1996).

There is no agreed definition in the literature of a lurker in an online community. In one definition, Ganley, Moser, and Groenewegen (2012) defined lurkers using two criteria. The first is if a user has never posted within the previous four months and the second is if they have posted less than four times over the time of their membership. The study by Hung et al. (2015) adopted Ridings, Gefen, and Arinze's (2006) classification method that defined a lurker as someone who posts irregularly or only once per month. In this study, the definition of Mousavi, Roper, and Keeling (2017) is adopted to classify users of the online cancer community by defining a lurker as someone who posts less than once a month or has not posted during the last three months.

The reasons that users of the online community choose to lurk rather than post include feeling excluded, lacking knowledge, fearing to post something in error, lacking confidence (Lee, Chen, & Jiang, 2006), having less trust in the abilities of others, spending less time in the community, desiring social distance, and lacking the drive to take actions (Ridings et al., 2006). Other reasons that lurkers do not engage in discussions in the online community are that lurkers may not be sufficiently interested by the topic or that they are not curious to learn more (Walker et al., 2010). Lack of technical skills and knowledge may also impede lurkers from participating in online conversations (Sun et al., 2014). Lurkers feel reluctant to share information when they lack self-efficacy (Yair Amichai-Hamburger et al., 2016) or fear that they might be ridiculed by others (Lai & Chen, 2014).

Though lurkers were less satisfied than posters with the online health community, lurkers did not differ from posters in their motivations to seek information about their disease when visiting the online health community (van Uden-Kraan, Drossaert, Taal, Seydel, & van de Laar, 2008). It does not necessarily follow that users that participate more actively, stay longer and engage more in the online community have better psychological well-being than those that participate less actively (Batenburg & Das, 2015). Lurkers reported outcomes similar to posters in terms of being better informed about the disease, accepting the disease, and feeling more confident about the treatment and when dealing with their physician (van Uden-Kraan et al., 2008). In a different finding by Setoyama, Yamazaki, and Namayama (2011), posters were found to benefit more than lurkers in terms of gaining emotional support and advice, expressing their emotions, and helping others in need.

Lurkers may still benefit from their lurking behaviour. For example, lurking enables the user to learn more about others and understand in-depth posters' perspectives and views (Mazuro & Rao, 2011). Lurkers as newcomers, read others' published posts to familiarise themselves with the online community culture and decide whether they can fit in (Sun et al., 2014). Lurking may create a sense of belonging to the group (Honeychurch et al., 2017), entrench users into the community culture, and establish a sense of commitment which is positively associated with knowledge sharing intentions (Zhao, Lu, Wang, Chau, & Zhang, 2012).

Lurkers in their non-interactive role do not disturb the online community, yet their awareness about the community culture, values, and norms and their profound understanding of the discussed topics represent an opportunity to transform lurkers into active users (Schneider, Von Krogh, & Jäger, 2013). Accordingly, the process of transitioning lurkers to posters may benefit online communities

and requires further investigation to determine factors driving lurking behaviour. This study examines the personality traits of posters and lurkers of an online cancer community, to better understand the impact of the personality traits on users' decisions to post. The next section describes the personality traits factor and the link to online behaviour.

Summary

This chapter discussed the literature on online cancer communities, posters and lurkers of the online community. In the next chapter, the personality traits factor is defined and the limitations in the literature are emphasised showing the gap that requires further investigation. The conceptual framework based on the Five Factor Model (McCrae & John, 1992) is explained followed by the background on each personality trait of the Five Factor Model and the relationship to online behaviour.

Chapter 3: Research Background and Conceptual Framework

This chapter discusses the conceptual framework. In the first two sections, the personality traits factor and the Five Factor Model of personality traits are explained followed by a section outlining the background on the relationship between the big five personality traits and online behaviour.

3.1 Personality Traits Factor

Personal factors are individual differences in users' traits, predispositions (Yair Amichai-Hamburger et al., 2016), cognitions, behaviours, attitudes, and beliefs (Devaraj, Easley, & Crant, 2008). Users' intentions to share knowledge in an online community are influenced by several individual factors such as needs gratification (TAN, 2011), personalities (Cullen & Morse, 2011; Jadin, Gnambs, & Batinic, 2013), and self-efficacy (Wang et al., 2015; Yilmaz, 2016). Personality traits have been regarded as strong predictors of online behaviour. For example, Quintelier and Theocharis (2013) found that extraversion and openness-to-experience have a significant impact on engagement in online political communities; and Cullen and Morse (2011) found that users high in neuroticism are less likely to engage in online conversations. These findings reinforce the relationship between personality and participation in online communities.

However, previous research on the participation in online communities and personality traits has several limitations. The first is the selection of the dimensions of personality traits. Jadin et al. (2013) focused on certain attributes of the user's characteristics, such as opinion leadership, prosocial value orientations, and trendsetting and found that online participation is highly associated with prosocial value orientation and trendsetting. Yuan, Lin, and Zhuo (2016) tested innovativeness as a component of personality trait and found that innovativeness drives users' involvement in online conversations. On the other hand, Islam et al. (2017) analysed the big five dimensions of personality traits and found that extraversion is the strongest predictor of engagement in online brand communities. Gazit and Aharony (2018) tested narcissism and three personality traits of the big five model and found that extraversion and narcissism highly impact online participation.

The second limitation relates to the mixed views from the literature on the impact of the five dimensions of personality traits on participation in online communities. For example, Islam et al. (2017) found that neuroticism and online participation are significantly correlated, whereas

Bronstein et al. (2016) did not find any correlation between neuroticism and online behaviour. These conflicting views require further investigation to understand the impact of personality traits on users' decisions to post in an online cancer community.

Ren and An (2018) examined how personality traits of users of online communities influenced the lives of cancer patients. However, we have limited understanding of how personality traits of posters and lurkers affects decisions to post or not to post in the online cancer community. Therefore, this study fills this gap by examining the influence of posters' and lurkers' personality traits on users' behaviour in an online cancer community.

3.2 Background on the Five Factor Model of Personality Traits

The Five Factor Model (FFM) is a descriptive model that has been developed and informed by research and is a generally accepted taxonomy of personality characteristics (John & Srivastava, 1999). A lexical analysis on the Five Factor Model performed by Goldberg (1981) confirmed the model's robustness. Lexical analysis of traits is the process of gathering all personality trait terms from a natural language other than dictionaries that comprise only 10% of the total stock of words (De Raad & Mlačić, 2017). This is because any model constituting human characteristics will, at some level, embrace the five dimensions of the Five Factor Model. Scholars have also tested the Five Factor Model using various assessment techniques, and results show that almost all personality traits fall within the five basic dimensions of personality in the Five Factor Model (McCrae & Costa, 1987; McCrae & John, 1992).

McCrae (2011) conducted a study of personality theories, and found that the Five Factor Model enhanced personality research due to its scope and power. Qi, Monod, Fang, and Deng (2018) argued that the Five Factor Model (FFM) of personality traits is one of the fundamental theories of personal behaviour theories that is broadly adopted to explain the behaviour of social media users. The Five Factor Model, a version of personality theory (McCrae & John, 1992), has been widely used to address the impact of the big five personality traits on users' decisions to post and contribute to discussions in online social platforms (Barnes et al., 2017; Correa, Hinsley, & De Zuniga, 2010; Huang, Cheng, Huang, & Teng, 2018).

The Five Factor Model is valid in studies that assessed the impact of the five personality traits, specifically on technology acceptance and use (Devaraj et al., 2008). Therefore, this study used the Five Factor Model (McCrae & Costa, 1987) to examine the impact of the big five personality

traits on users' decisions to post in an online cancer community. Figure 1 shows the conceptual framework using the five dimensions of personality traits.

Figure 1. The Conceptual Framework of the Big Five Personality traits and Online Posting



3.3 The Big Five Personality Traits and Online Posting

Each of the five personality traits is examined in the following sections. The first personality trait is extraversion.

3.3.1 Extraversion

The extraversion personality trait is associated with positive emotions, warmth, assertiveness, activeness, sociability, and gregariousness (McCrae & John, 1992). Individuals with the extraversion trait tend to be more energetic and talkative than introverts who are less lively, avoid discussions, are low spirited, unadventurous, and find sedentary work appealing (Costa, McCrae, & Kay, 1995). Extraverts seek to attract social attention (Tkalčič, De Carolis, de Gemmis, Odić, & Kosir, 2016) and are keen to communicate with others and build interpersonal relationships (Watson & Clark, 1997). On the other hand, introverts are reserved, less sociable, and sensitive to others' negative cues or peer rejection, and do not like to be around people (Nov, Arazy, López, & Brusilovsky, 2013, April). Introverts have a relatively high baseline of cortical arousal (the

speed and amount of the brain's activity) and therefore prefer avoiding social occasions as they find them unpleasant (Tkalčič et al., 2016).

Some studies investigating the relationship between extraversion and the level of participation in online discussions have found that extraversion is a key predictor of engagement in computer-mediated discussions (Bronstein et al., 2016; Liu & Campbell, 2017; Pentina & Zhang, 2017; Seidman, 2013). When extraverted individuals communicate online, they gain more knowledge and become more motivated to participate. Bronstein et al.'s (2016) study of the factors contributing to involvement in online discussions showed that extravert participants exhibited parallel behaviour; are active offline and contributed significantly to an increased level of participation in online social platforms. On the other hand, introverts are more reserved, communicate less online, and are more likely to become lurkers (Gazit & Aharony, 2018). Accordingly, it is possible to conclude that introverts, with their social inhibition in traditional social media, are less likely to participate in online forums (Bronstein et al., 2016; Gosling, Augustine, Vazire, Holtzman, & Gaddis, 2011).

However, not all commentators agree that introversion limits online contribution. Bodroža and Jovanović (2016) found that introverts tend to mitigate their poor social functioning offline by increasing, rather than decreasing, their online presence on Facebook to compensate for feelings of inadequacy. Anolli, Villani, and Riva (2005) argued that introverts prefer to engage in online rather than offline conversations, possibly due to their shyness, self-awareness, and lack of confidence. Anonymous environments provide users more freedom to express themselves, and therefore, individuals who are introvert in traditional social media might display extraverted online behaviour (Yair Amichai-Hamburger, Wainapel, & Fox, 2002). Due to their social anxiety, introverts may find it easier to locate their "real me" on the internet more than in traditional social networks (Yair Amichai-Hamburger et al., 2002). Contrary to prior studies that found a positive or negative relationship between extraversion and online behaviour, Morrison, Cheong, and McMillan (2013) found that lurkers and posters did not differ in their extraversion trait when comparing consumers' characteristics in the context of user-generated contents.

The literature on the extraversion trait and its relationship to online behaviour is contradictory and requires further investigation to assess its impact on users' decisions to post, specifically within online cancer communities. Therefore, the first research question is:

RQ1: *How does the extraversion trait of posters and lurkers impact their decisions to post within an online cancer community?*

3.3.2 Neuroticism

The neuroticism personality trait is characterised by impulsiveness, anxiety, hostility, vulnerability, self-consciousness, and depression (John & Srivastava, 1999). Neurotic individuals are prone to feelings of guilt, lack emotional stability, rarely feel encouraged, and find it hard to deal with stress or cope well with a crisis (Costa et al., 1995). People with a high level of neuroticism are more sensitive to ridicule, touchy, embarrassed, and unable to accept criticism. Neurotic individuals also fear confrontations and worry about relationships (McCrae & John, 1992). Due to their emotional instability, people with a high level of neuroticism prefer connecting online rather than face-to-face as the former enables more control over conversations by providing additional time to contemplate and construct messages (Butt & Phillips, 2008). Neurotic individuals are inclined to fulfil their belonging needs (Amiel & Sargent, 2004; Malone, Pillow, & Osman, 2012), and therefore, one of the reasons that they participate in online discussions is to gain a sense of belonging (Cullen & Morse, 2011).

There are conflicting findings from studies that investigated the association between online participation and neuroticism (Barnes et al., 2017; Bronstein et al., 2016; Gazit & Aharony, 2018; Seidman, 2013). In one study from Islam et al. (2017) that investigated the role of personality traits in determining consumer engagement in online brand communities, high levels of neuroticism were found to be positively correlated to online participation. Similarly, Correa et al. (2010) found a positive and strong relationship between neuroticism and interaction on the web, explaining that social media appeals for neurotics as it gives them additional time before acting.

Other studies found that neuroticism either negatively influences participation behaviour in online discussions or is not associated with online participation. For example, Amiel and Sargent (2004) found that those scoring high on neuroticism showed little interest in participating in online conversations. Bronstein et al. (2016), on the other hand, found that both neurotics and emotionally stable individuals behaved similarly in online communities and hence, neuroticism did not predict online participation. In a study that examined the relationship between multiple activities on social networks and the big five personality traits, neuroticism was not found to be associated with interaction on those sites (Liu & Campbell, 2017). These findings suggest that the impact of neuroticism on levels of participation in online discussions is still unclear and requires further

investigation. To examine whether neuroticism in cancer-affected people influences their decisions to post within online cancer communities, the second research question is:

RQ2: *How does the neuroticism trait of posters and lurkers impact their decisions to post within an online cancer community?*

3.3.3 Openness

The openness personality trait can be described in terms of how open an individual is to values, ideas, feelings, aesthetic, and fantasy (Costa et al., 1995). Individuals high in openness have a preference for imaginativeness and variety, seek varied experiences, consider creative ideas, adapt well to novelty, and apply unique tactics to solve problems (Costa & McCrae, 1992). High openness-to-experience is consistently associated with embracing new approaches and adopting novel ideas (Devaraj et al., 2008). Therefore, individuals high in openness-to-experience are more likely to utilise social media than close-minded individuals who prefer to adhere to conventional contexts (Correa et al., 2010). In particular, among the several activities performed on the social network sites, status update, social network site games, information seeking, and photo posting have been shown to be significantly associated with a high openness-to-experience personality trait (Liu & Campbell, 2017).

Ross et al. (2009) found a positive correlation between openness and some online functions such as blogging and commenting on others' posts, demonstrating that individuals with a higher level of openness trait are intellectually curious and more interested to try out alternative methods of communication. Similarly, Bronstein et al. (2016) found that individuals high in their levels of openness-to-experience are more willing to explore innovative features of Facebook and consequently engaged more in discussions on the platform. There is also support for the relationship between openness and online behaviour in research conducted into trendsetting (a trait similar to openness). Trendsetting concerns uniqueness in adopting novel ideas and has been shown to contribute significantly to knowledge sharing in Wikipedia (Jadin et al., 2013).

However, as has been found with the extraversion and neuroticism traits, there are conflicting positions as to the relationship between openness and online participation. Liu and Campbell's (2017) study did not find any association between online social interaction and the openness trait. This is consistent with the finding of Gazit and Aharony (2018) who found that openness trait did not represent a significant predictor of the level of participation in WhatsApp groups.

Openness-to-feelings is another facet of openness and represents a person's tendency to act sympathetically and adjust to their own and others' feelings (Costa et al., 1995). Hollenbaugh and Ferris (2014) found that individuals with the openness trait tend to self-disclose more on Facebook to gain attention and maintain relationships with others. In a separate finding, Pentina and Zhang (2017) found that the levels of openness did not differ in a study that measured the levels of emotional disclosure on Facebook. Therefore, it is unclear whether openness-to-feelings impacts users' decisions to post online.

To examine whether the openness personality trait influences a user's decision to post or not to post in an online cancer community, the third research question is:

RQ3: *How does the openness trait of posters and lurkers impact their decisions to post within an online cancer community?*

3.3.4 Conscientiousness

The conscientiousness personality trait is characterised by diligence, willingness to achieve, prudence, constraint, and thoroughness (McCrae & John, 1992). Individuals with a high level of conscientiousness are deliberate, have self-discipline, are high achievers, like order and are dutiful. Individuals with a high level of conscientiousness are more confident, methodical, moralistic, ambitious, productive, and cautious (Costa et al., 1995). Due to their feelings of responsibility and persistence, conscientious individuals avoid procrastination and tend to spend less time on social media and the internet in general (Butt & Phillips, 2008).

Liu and Campbell's (2017) study showed that the conscientiousness trait is highly associated with information seeking; and thus, individuals with a high level of conscientiousness are more likely to use online social groups for information seeking, rather than interacting with other users of the group. Gaining useful information that helps in advancing the individual's academic performance served as a motive for conscientious undergraduates to engage more in online social groups (Landers & Lounsbury, 2006). In a study that supported the connection between conscientiousness and information seeking, Cullen and Morse (2011) found that low quality of content represented a significant barrier for conscientious individuals to contribute to discussions in online communities, indicating that individuals with high levels of conscientiousness are more inclined to gather useful information and share their opinions within rich-content environments.

Conscientious individuals feel a sense of obligation and responsibility towards their community, so they are more willing to engage in prosocial behaviours and provide assistance to others in need (Swickert, Abushanab, Bise, & Szer, 2014). Jadin et al. (2013) argued however, that orientation to prosocial behaviour does not necessarily lead to online contribution unless this is moderated by gaining some kind of benefit. These findings suggest that individuals with a high level of conscientiousness are more willing to post within online communities that have clear purposes, valued content, and increased users' requests for help.

Existing research relating to the online behaviour of conscientious individuals is still limited and inconsistent (Barnes et al., 2017). Seidman (2013) found that because individuals with a high level of conscientiousness are more cautious, they are less likely to use online social groups for information-seeking, communication, attention-seeking, and emotional disclosure. This finding is consistent with the study by Hollenbaugh and Ferris (2014), which indicated that low conscientiousness is associated with using online social groups for relationship maintenance, attention-seeking, and exhibitionism.

The literature shows that on the one hand, conscientious individuals strive for excellence (Costa et al., 1995) and value prosocial behaviour (Swickert et al., 2014); this is the reason they are more willing to share knowledge in online communities to seek useful information (Cullen & Morse, 2011) or give their opinion to educate others (Barnes et al., 2017). On the other hand, individuals high in conscientiousness tend to make careful plans and lack spontaneity (Costa et al., 1995) and are less likely to participate in online discussions to seek information (Seidman, 2013) or build relationships (Hollenbaugh & Ferris, 2014). These disparate views require further investigation to examine whether the conscientiousness trait influences cancer-affected people's decisions to post within an online cancer community, and therefore, the fourth research question is:

RQ4: *How does the conscientiousness trait of posters and lurkers impact their decisions to post within an online cancer community?*

3.3.5 Agreeableness

Individuals high in the agreeableness personality trait are cooperative, straightforward, trusting, modest, altruistic, and tender-minded (Costa et al., 1995). Agreeable people are unwilling to express disagreements and tend to seek cooperation and collaboration when dealing with conflicts

(Digman, 1990). Agreeable people are not prone to put their interests first, and they are characterised as being humanitarian, sympathetic, and soft-hearted (Costa et al., 1995). Habashi et al. (2016) reported that agreeableness is closely tied to prosocial behaviour as agreeable people are swayed by human feelings and react emotionally to individuals in need of help.

Although previous studies have shown that high agreeableness is negatively associated with general internet use (Landers & Lounsbury, 2006; Wyatt & Phillips, 2005, November), agreeable people tend to accept new technology and perceive its usefulness more than individuals low in agreeableness (Devaraj et al., 2008). Agreeable people are more likely to help others by sharing their information and thoughts, and therefore, agreeableness correlates positively with online exchange behaviour (Huang et al., 2018). Similarly, agreeableness constituted a significant predictor of consumer engagement in online brand communities (Islam et al., 2017). To fulfil their belongingness needs, agreeable individuals use Facebook to maintain relationships and seek acceptance from others (Seidman, 2013). Agreeable individuals are more willing to participate in discussions on online forums because they are less self-focused and appreciate others' experiences and comments (Marbach et al., 2016).

Other studies found that the agreeableness trait either does not impact online interaction behaviours or is conversely associated with users' decisions to post online. For example, Liu and Campbell (2017) found that the agreeableness trait does not predict individuals' interaction behaviour in an online social group. Ha, Kim, and Jo (2013) found that agreeable people are unwilling to raise objections in an online political community and are less likely to participate in online political discussions to avoid potential conflicts. However, the environments of the online cancer communities are different than online political communities that are characterised by their strong conflicts and dispute environments. The impact of agreeableness on user's decisions to post within an online cancer community is still unknown and requires further investigation. Therefore, the fifth research question is:

RQ5: *How does the agreeableness trait of posters and lurkers impact their decisions to post within an online cancer community?*

Summary

This chapter explained the conceptual framework based on the Five Factor Model used to examine the impact of the personality traits on users' decisions to post or not to post in an online cancer community. Each of the five personality traits and how these traits are linked to online behaviour

such as posting and sharing knowledge online was outlined. The next chapter describes the research methodology. The sections of the next chapter discuss the qualitative approach adopted, the collaborative institution, participant and recruitment procedure, the interview guide, and data processing and analysis.

Chapter 4: Research Methodology

This chapter explains the research methodology including the qualitative approach used, followed by a section describing the collaborative institution, Cancer Council NSW, Australia. The chapter concludes with sections explaining the participant and recruitment procedure, the interview guide, and data processing and analysis.

4.1 Qualitative Approach

This study examines the personality traits of posters and lurkers by using a qualitative technique. Qualitative research is an essential method for identifying the feelings, insights, and behaviour of individuals encountering health problems (Holloway, 2005). Qualitative research employs non-quantitative data to interpret and analyse an individual's perceptions, experiences, and actions (Taylor, Bogdan, & DeVault, 2015). This study offered flexibility for participants to interact in an unconstrained and naturalistic manner and express their beliefs and thoughts freely (Holloway, 2005).

This study used semi-structured interviews to collect data. While the structured interview adheres to a predetermined set of questions and follows an organised order, the semi-structured interview applies some degree of pre-arranged order and provides flexibility for participants to express their feelings and opinions freely (Longhurst, 2003). The aim of the interviews was to gain insights into the personality traits of cancer-affected people using the online cancer community and how they used the online cancer community. Accordingly, interviewees explained in their own words their attitudes toward posting within the online community and aspects of their personality traits and whether they believed their personality traits drive their online posting decisions. To examine the reliability and appropriateness of the proposed questions, a pilot test was administered with two volunteer users of the Cancer Council Online Community. The results obtained from the pilot test were integrated into the final interview guide.

The data collection method used in this study is similar to the method used in a study that assessed the link between online customer engagement and the five dimensions of personality traits by interviewing 28 participants who were asked about their personality traits and the reason they engaged online (Marbach et al., 2016). The semi-structured interviews for this study were conducted either via telephone or face-to-face and took between 30 and 40 minutes. All interviews

were conducted in English, audio-taped with the permission of the participant, and transcribed in a verbatim manner for data analysis.

4.2 Collaborative Institution

This research was conducted in collaboration with Cancer Council NSW (CCNSW) who moderates an online cancer community. Cancer Council NSW is a charitable organisation operating in Australia and is one of the eight members of Cancer Council Australia – formerly called the Australian Cancer Society. Cancer Council NSW objectives are to “promote the prevention and control of cancer, reduce the incidence of preventable cancers, reduce deaths from cancer, foster and support high-quality cancer research in Australia; and improve survival from cancer” (Cancer Council Australia, 2016, p. 5). Cancer Council NSW collaborates with government and non-government agencies, cancer-affected people, health service providers and health professionals to better control cancer. To support cancer-affected people, Cancer Council NSW established an online community that provides a forum for cancer-affected people from different locations to communicate and share their knowledge and emotions.

The Cancer Council Online Community (CCOC) is an asynchronous platform which offers anonymity and free membership to all users. The online community is a moderated peer-support website designed to help cancer-affected people communicate with others in a similar situation, find and provide support, learn about treatment options and other concerns. The forum is divided into three sections – ‘I have cancer’, ‘I had cancer’ and ‘Family, friends and carers’ – where individuals can post under the category that best identifies them. The design of the online community includes sections with several boards covering different subject areas, such as diagnosis, treatment, returning to work or coping with a loved one’s cancer where users can choose the board that best fits what they want to post. Below is a figure demonstrating the different boards and sections provided by the Cancer Council Online Community for its users.



Figure 2. Cancer Council Online Community Discussion Forums

4.3 Participants and Recruitment Procedure

This study received ethics approval from the Faculty of Business and Economics Ethics Sub-Committee at Macquarie University (see Appendix B). Cancer-affected people were the participants in this study. The participants included those who were diagnosed with cancer, those caring for a cancer patient, and cancer survivors. Participants were eligible for the study if they regularly visited or contributed to discussions in the online community, understood English, and were over 18 years old. Participants were recruited via an invitation email that was sent by Cancer Council NSW, on behalf of the researcher, to all users who registered their emails upon signing up an account with the online community. An advertisement (see Appendix C) was also published on the Cancer Council Online Community forum to ensure that the study canvassed as many users as possible. Details of the qualitative study and the contact details of the researcher were included in the advertisement. Participants were asked to contact the researcher to agree on a date, time, and location of the interview.

This study used the purposive sampling technique when selecting the participants of the study (Teddlie & Yu, 2007). This technique selects individuals based on specific purposes to facilitate answering the research questions. This study included both posters and lurkers of the online cancer community and disregarded responses provided by ineligible participants to avoid impairing the study results. Users who classified themselves as active members of the online community, but on investigation (using data from CCNSW on the specific interviewee's actual participation) found to be inactive or infrequent users were removed from the study. Users were classified as posters if they had posted at least once a month within the last three months. The total number of posters recruited for this study was 19; 10 cancer patients, 6 survivors, and 3 carers. The posters had published content on the Cancer Council Online Community forum by either initiating a new post or replying to other members' posts. The number of published posts per user ranged between 6 and 43 posts during the previous three months from the interview date. A total of 9 posters stated that they are also active posters in other cancer-related online communities such as Thyroid Cancer Community, Prostate Cancer Foundation, Ovarian Cancer Community, and Macmillan GBM.

The lurkers identified for this study were non-interactive members of the Cancer Council Online Community who only read contents of the online community, never posted, or posted less than three times within the previous three months from the interview date. The total number of lurkers recruited for this study was 23; 12 cancer patients, 8 survivors, and 3 carers. While 11 lurkers had either posted once or twice within the last three months, 12 lurkers had never published any post or replied to other posts. Data from users who declared that they rarely used the online community and read what others posted were not included in the data analysis. Lurkers who stated that they are willing to post but refrain from posting due to individual, disease-related, or psychosocial factors were removed from the study. Data from lurkers of the online community who stated that their decisions for not posting in the online community were not related to their personality traits but related to other reasons such as the quality of the posted content or any other community feature was also excluded from the data analysis. Notes were taken while conducting the interviews to recognise patterns, trends, and commonalities in responses, and interviews were stopped when the additional information became redundant of already collected data. Hence, the data collected from 42 participants was sufficient to achieve theoretical saturation and answer the research questions (Francis et al., 2010).

Table 1. Demographic Data of the Participants

Demographic Variable	Posters	Lurkers
Total Participants	19	23
Sex		
Women	11	13
Men	8	10
Type of cancer-affected people		
Cancer Patient	10	12
Cancer Survivor	6	8
Carer	3	3
Cancer types	Stomach cancer, thyroid cancer, breast cancer, leukaemia, carcinoma, non-hodgkin lymphoma, ovarian cancer, prostate cancer, neck cancer, laryngeal cancer, brain cancer	Prostate cancer, GBM, nasal cancer, ovarian cancer, breast cancer, Hodgkin lymphoma, pancreatic cancer, Anal cancer, liver cancer, melanoma, bowel cancer, kidney cancer, bladder cancer, bone cancer, oesophageal cancer
Number of posts	Posts ranged between 6-43 posts per poster within the last 3 months	11 lurkers posted 1-2 times within the last 3 months 12 lurkers never posted

4.4 The Interview Guide

The literature on assessing the five dimensions of personality traits informed the design of the interview guide (Costa & McCrae, 1995, 1992; McCrae & Costa, 1987). McCrae and Costa (1987) validated the Five Factor Model and identified elements that are central to each personality trait. The interview questions in this study incorporated these elements in the interview guide (See Appendix A). The following sections describe the main factors for each dimension of the personality traits and explain how the interview questions were derived.

■ Extraversion

McCrae and Costa's (1987) study showed that the main factors of extraversion are talkative, friendly, sociable, fun-loving, and affectionate. This was consistent with Costa & McCrae's (1992) study which identified warmth, gregariousness, assertiveness, positive emotions, excitement-seeking, and activity as main factors of extraversion. To understand whether the interviewees were high or low in their extraversion trait, a question relating to warmth asked if interviewees see themselves as talkative and enjoy communicating with others in the online community.

Gregariousness was tested by asking interviewees whether they enjoy being surrounded by people and find it hard to be or work alone, or whether they find themselves quiet and more reserved (Costa et al., 1995). One of the interview questions examined assertiveness by asking interviewees whether they are self-confident or prefer to avoid social activities (McCrae & Costa Jr, 1997). For excitement seeking and positive emotions, interviewees were asked if they are adventurous and like experiencing new challenges, cheerful and high-spirited, respectively (McCrae & Costa, 1987). To test their activeness, interviewees were asked if they are lively and energetic. The interview questions asked interviewees whether this has changed since being diagnosed with cancer or started caring for someone with cancer. The reason for asking this question is to ensure that the responses are directly related to interviewees' personality traits because cancer might have impacted their behaviour.

■ Neuroticism

McCrae and Costa (1987) defined neuroticism in terms of worrying, insecure, self-conscious, and temperamental. Similarly, Costa & McCrae (1992) reported that vulnerability, impulsiveness, self-consciousness, depression, hostility, and anxiety represent significant factors of neuroticism. In this study, interviewees were asked whether they are usually relaxed and unconcerned, or they feel anxious about potential problems and difficulties (Costa & McCrae, 1995). Interviewees were asked if they are quick to anger or calm and easy going (McCrae & Costa, 1987). The self-consciousness question asked interviewees about their levels of confidence in social groups (McCrae & Costa, 1997). Interviewees were asked whether they are satisfied and rarely feel discouraged (Costa & McCrae, 1995). The vulnerability question asked how much the interviewee can deal with stress and cope with crisis (McCrae & Costa, 1987) such as cancer.

■ Openness

McCrae and Costa (1987) identified the following factors as aspects of openness; imaginative, daring, original and broad interest. Costa & McCrae (1992) defined openness in terms of openness to value, ideas, actions, feelings, aesthetic, and fantasy. The openness to ideas question asked interviewees whether they are curious and questioning (McCrae & Costa, 1987). The openness to actions question asked interviewees whether they can adapt well to novelty and demand variety (McCrae & John, 1992). The openness to feelings question asked interviewees if they are attuned to their own and others' feelings, empathetic and emotionally sensitive (Costa & McCrae, 1995). Interviewees were asked whether they are sensitive to beauty and art to assess their openness to

aesthetic (McCrae, 1990). To test for openness to fantasy, the level of imaginativeness and creativeness of the interviewees was questioned (McCrae & Costa, 1987).

- Conscientiousness

McCrae and Costa (1987) found that persevering, energetic, ambitious, hardworking, conscientious and scrupulous best characterise conscientiousness. Costa & McCrae (1992) defined conscientiousness in terms of deliberation, self-discipline, achievement-striving, dutifulness, order, and competence. To test for order, interviewees were asked whether they see themselves as tidy and organised (McCrae & Costa, 1987). Interviewees were asked whether they believe in sticking to the rules to test for their dutifulness (Costa et al., 1995). To test for achievement striving, interviewees were asked whether they see themselves ambitious and strive for excellence (McCrae & Costa, 1987). To test for self-discipline, interviewees were asked whether they push themselves and tend not to procrastinate (Costa et al., 1995). They were asked whether they like to have plans or prefer making spontaneous decisions to examine their deliberation (McCrae & Costa, 1987).

- Agreeableness

McCrae and Costa (1987) study identified forgiving, lenient, acquiescent, trusting, sympathetic, selfless, soft-hearted, and good-natured as factors of agreeableness. Consistently, Costa & McCrae (1992) described agreeable individuals as trustful, straightforward, altruistic, compliant, modest, and tender-minded. In this study, trust was tested by asking interviewees whether they are trusting and take others at their word without criticism (Costa & McCrae, 1995). To test for straightforwardness, interviewees were asked if they are frank and open or prefer to keep things to themselves (Costa et al., 1995). The altruism question asked interviewees if they believe they are generous and giving most of the time (McCrae & Costa, 1987). To test for compliance, interviewees were asked if they are cooperative and get along with others or they prefer to raise objections when disagreeing with someone's viewpoint (Costa Jr & McCrae, 1995). Finally, interviewees were asked whether other people's feelings impact the way they assess things or whether they are more prone to rational judgement to examine their tender-mindedness (McCrae & Costa, 1987).

4.5 Data Processing and Analysis

Interviews were transcribed and uploaded into NVivo 12, which is a computer-mediated software for analysing qualitative data. The NVivo tool can undertake a large set of qualitative data and

enables storing big files, sorting and managing data, and linking between nodes and documents. To gain insights from the themes, the interview transcriptions were read several times by the researcher. To transform the qualitative data into meaningful information, similar content that focuses on a core idea was coded and clustered together under the same node/subnode for further analysis. Data was reorganised and reduced by sharpening and disregarding unnecessary ideas to enable maintaining only substantial information that is relevant for drawing conclusions (Miles & Huberman, 1994). To confirm that the created parent and child nodes adequately reflect the dimensions of the broader concept, another researcher cross-checked the data and conducted a final review of the created nodes.

The top-level categories were the five dimensions of personality traits. Five nodes were created in NVivo12 for those top-level categories; extraversion, neuroticism, openness, conscientiousness, and agreeableness. Within each node, subnodes were constructed based on the facets or specific traits for each personality trait as defined in the literature. To categorise the interview text, related material and content were gathered under the same subnode. To compare the personality traits for posters and lurkers, case classification was used to record descriptive information for users of the online cancer community by assigning an attribute value for each case (poster or lurker). Figure 3 is an example of the qualitative data analysis for the extraversion personality trait of posters and lurkers in an online cancer community. This analysis was replicated for all five personality traits and details of the analysis can be found in Appendix D.

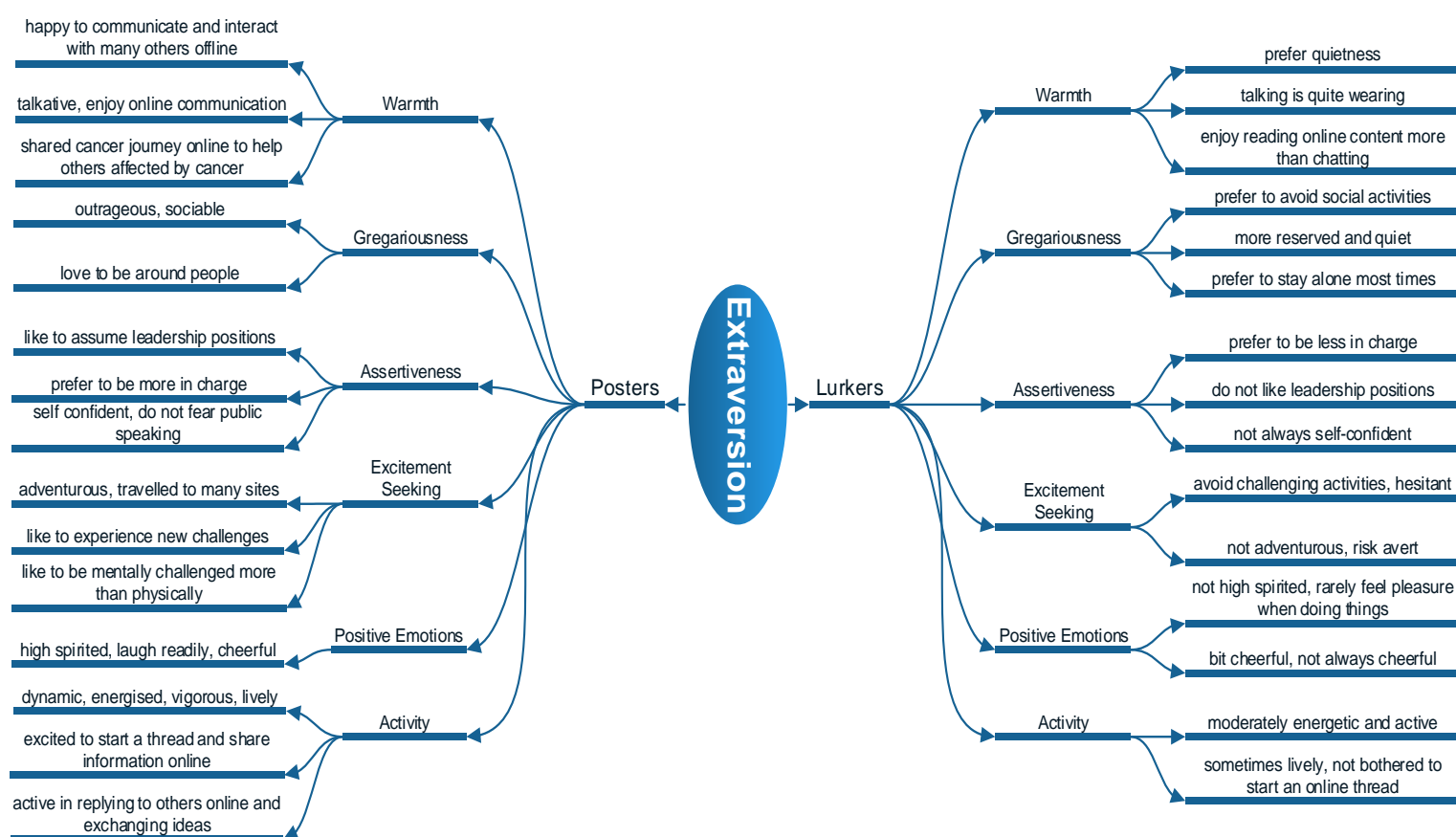


Figure 3. Qualitative Data Analysis for Extraversion Trait of Posters and Lurkers in an Online Cancer Community

Summary

This chapter explained the research design and methodology used in this study. The study used the qualitative approach and collected data from cancer-affected people who were users of the Cancer Council Online Community by conducting semi-structured interviews. Data was analysed using NVivo12 by coding meaningful and relevant content of the interview texts and gathering codes under nodes and subnodes. An example of a qualitative data analysis for the extraversion trait was presented to illustrate how the replies of lurkers and posters of the online cancer community were coded and how nodes and subnodes were created. The next chapter presents the data analysis and findings.

Chapter 5: Data Analysis and Results

This chapter shows the data analysis and the results. The next section explains the posters' personality traits by presenting an analysis of respondents' answers relating to each dimension of the big five personality traits. This is followed by a section presenting the findings relating to lurkers' personality traits.

5.1 Posters' Personality Traits

5.1.1 Extraversion

The study found that 79% (15 out of 19) of posters exhibited extraverted personalities by stating that they enjoy being surrounded by people and communicating with others. These posters believed that they are self-confident, lively and energetic and described themselves as talkative, sociable, and prefer to be more in charge. They believed that they are cheerful, high spirited, and like experiencing new challenges. To illustrate this point, one poster explained that:

"I'm a shockingly talkative person. I love to talk to people and I love to share experiences and after being diagnosed with cancer, I certainly came out of my shell a lot more. I have a very firm belief in sharing common experiences to alleviate the fears and the worries of other people...it really does comfort you to know that other people have been in your situation and can get through it. I am self-confident, lively and energetic, and after cancer it's increased...I know it's very weird and I'm very unusual, but it's definitely increased. I'm not adventurous as in physical adventure but I certainly do...like challenge myself mentally and emotionally and to grow." (poster#11)

Another poster said:

"I'm able to interact with others to assist them, and they can also assist me by advising me what they've found with their past cancer experience. I don't mind being around with other people, and I've got large groups of friends. I'm probably self-confident, I think. I don't normally avoid

social activities, so if I'm normally invited out for something, I'd normally go to it, and mix in with people. I'm an active sort of person. I'm a handyman, I'm retired and do all my own work around the gardens and house and repairing things. So yeah, got to be active, lively and energetic. I think I don't mind a challenge, and I'd have a go at pretty well anything, if I think it's worthwhile. But I wouldn't go and climb mountains anymore.” (poster#16)

5.1.2 Neuroticism

The study found that 74% (14 out of 19) of posters were characterised by their emotional stability. They believed that they are more relaxed and unconcerned about problems, slow to anger and easy-going, rarely feel discouraged, confident in social groups, and have coped well with cancer. To support this finding, as an example, one poster said:

“I think I'm fairly unconcerned about what the future holds. Once you've been diagnosed with a cancer that usually can mean the end of your life is approaching you – I think you are forced to stop and think about things. And yeah, so the difficulties facing in the future don't seem to worry me too much, I'm just taking it from day to day. I'm normally calm and easy going. So that's been my personality all my life. I'm fairly content...certainly like most people, you get discouraged over some things that might happen, but my normal personality is one of contentment. I'm fairly peaceful. I'm pretty confident and enjoy going out, particularly with friends. I think overall I'm coping pretty well with the disease.” (poster#16)

Another poster believed that they were coping well and felt emotionally stable:

“Well here is the interesting part with me, I am definitely relaxed. I actually suffer from anxiety as well but that I think comes very commonly with cancer so normally before cancer I was pretty relaxed. I wouldn't say quick to anger no. I pay very close attention to that. I would say that I'm content as I have a lot of faith and I had a lot of belief in spiritual things. I feel confident in social groups. Lots of people

believe I do cope well with the disease, I guess I don't think anyone ever copes really well but I definitely cope better than most people, yes."
(poster#11)

5.1.3 Openness

The results showed that 84% (16 out of 19) of posters exhibited openness attitudes. These posters displayed disposition to most facets of the openness traits such as openness to fantasy, aesthetics, feelings, actions, ideas, and values. They stated that they are keen to explore new ideas and novelty and tend to be imaginative, curious, and empathetic. These posters demonstrated that they regularly search for medical information and are willing to learn more about cancer. One poster explained that:

"I believe in creation, and so everything I see around me is art and beauty, particularly in flowers, and anything that I believe God has made that we can see around us. So yes, art and beauty to me are very important in my life. I have concern for other people and what they're going through. My wife particularly, and what she's had to go through with her cancer, not just her, but in people in general. I do like to explore new things, and I am curious...particularly with online Googling type things, and Dr Google and Wikipedia's and all those sorts of things. That was all part of this curious questioning..."
(poster#11)

Another poster said:

"As I'm a software engineer, I believe that am imaginative and creative...and I enjoy that. I think that I am emotionally sensitive and now, after cancer, am much more and I do tear up at simple things. I do like to explore new things and now I'm learning a new programming language. I enjoy having some things that are routine but if the routine is broken by some new event, I'm quite happy to go along with the new plan. I am definitely curious and questioning and consider information as power, the more information I had about my condition, the more control and power I had over the treatment." (poster#14)

5.1.4 Conscientiousness

The study showed that conscientiousness attitudes were displayed by only 32% (6 out of 19) of posters whereas 47% (9 out of 19) of posters described themselves as unorganised, untidy, and noncomplying sometimes with the rules. Less conscientious posters explained that they tend to procrastinate when accomplishing a job. They believe that they are not very ambitious and perseverant and that they prefer spontaneity over being organised and making careful plans. To illustrate this point, one poster noted that:

“Well, just look at my web browser now. I have about 40 pages open. There's about a million things here and it might take me five minutes to find any one thing. So, no, I'm not well organised and I wouldn't say I'm tidy, no. I don't always believe the rules are correct. So, I would challenge a rule if I didn't think it was correct. I tend to do well but I'm not ambitious in as much as, I'm not going to push anyone else out the way to get my own way. In fact, I probably was never really ambitious. I retired as soon as I was diagnosed with cancer. I do like to have plans, but I'd enjoy spontaneous decisions way more.” (poster#14)

Posters displaying conscientiousness attitudes found themselves tidy and organised, sticking to the rules, productive and ambitious as commented by one of the posters below:

“Normally yes, that's part of my personality, definitely I am organised and tidy. I do believe in sticking to the rules. At the moment I'm probably wavering from the rules, but I do believe in it. Absolutely yes, I am ambitious. That's part of the problem now that I'm unhealthy and I'm unable to do that. It's messing with me that I can't do that anymore. I never give up on anything, I always finish what I start. Even after I was diagnosed with cancer, I pushed myself to help others with cancer within the profession I was doing, which is financial coaching and planning. So, yeah it hasn't changed since I was diagnosed with cancer. I definitely like having plans.” (poster#4)

5.1.5 Agreeableness

The study found that 79% (15 out of 19) of posters exhibited agreeableness attitudes. Therefore, the majority of posters believed that they are trusting and rarely place doubt with what others say. They are very frank and open, generous and giving most of the time. They feel that they are cooperative and unwilling to raise conflicts and that people's feelings impact the way they assess things. For example, one poster said:

"Ooh, I'm definitely trusting sometimes on the borderline of gullible. But yes trusting, that's my nature. I'm frank and open, and I'm definitely generous. For example, I donate to charities and I volunteer for three organisations at the moment...if anyone needs help, I'll do whatever I can to help them. If I'm asked to help with surveys and stuff like that, I'll always do that. My problem is I don't say no. I don't like conflict, I'm not... I'm definitely anti-conflict so I'm probably unwilling to express disagreement. Other peoples' feelings definitely impact the way I assess things. I do worry too much about what other people think." (poster#4)

Another poster said:

"I see myself as being very open and frank. I think I am generous, certainly, there are times when you find that difficult to do, but where possible that would be my attitude. I would be very careful if I wanted to raise objections with someone. I think you've got to be very careful in the way you express your disappointment, disagreements or raising objections from someone else's viewpoint. I'm very much aware that other people's feelings would be affected by the way I say things, or make comments, so I would try and take that into consideration rather than just coming out with my judgement." (poster#16)

Summary

The results on the personality traits of posters of the online cancer community showed that the majority of posters are emotionally stable and exhibited extraversion, openness, and agreeableness attitudes. However, posters did not display prominent conscientiousness attitudes. The next section presents the findings on the personality traits of lurkers of the online cancer community.

5.2 Lurkers' Personality Traits

5.2.1 Extraversion

The study showed that less than 50% (10 out of 23) of lurkers exhibited extraverted attitudes. There were 13 lurkers who stated that they prefer to avoid social activities and are quiet and more reserved. These lurkers displayed introverted attitudes and believe that they are less lively and energetic, and do not feel confident at all times. For example, one lurker said:

"I think I would classify myself as an introvert, but I do enjoy talking to other people from time to time, but I don't have a need to talk to people all the time. In fact, I find that quite wearing. I sometimes avoid social activities, but not all the time. Yeah, I like a balance that suits me...I need a lot of personal space. In new situations, I don't feel – yeah, I don't feel so confident. I don't laugh a lot, I'd say ...I'm generally cheerful, I wouldn't say high spirited though. You know, I'm not the sort of person who is sort of trying to make everyone feel good all the time. I don't know if that's making sense, but yeah." (lurker#1)

Another lurker said:

"No, I'm not talkative. I am more of a listener than a talker. I enjoy reading but normally I do not post. I like people but I'm also reserved and quiet. A lot depends on how I am feeling, there are certain times when I just like to be on my own. I wouldn't say I'm adventurous like I wouldn't want to go bungee jumping or something like that, I'm more a quiet person. I see myself more as an introvert as I'm not outrageous and try not to cause conflict. I try to keep harmony and peace." (lurker#20)

5.2.2 Neuroticism

The study found that just over 50% (12 out of 23) of lurkers displayed emotional instability. These lurkers stated that they feel worried and anxious about potential problems and do not take things at ease. They feel highly concerned and unrelaxed upon facing some difficulties. Some of these

lurkers believed that they usually feel discouraged, less confident in social groups, or not coping well with a crisis such as cancer. For example, one lurker said:

“No, not relaxed but hypersensitive...overemotional, I think. I don't know if that's a word, but I'm not as laid back and I'm concerned that I might say the wrong thing and start a disagreement with someone. So, I'm always rethinking what I'm going to do or say. I'm quick to anger and I just get pissed off, especially when reading irrelevant cancer stuff. People are bloody stupid...they're wasting their life away and I think they say and do stupid things. I am not confident; I sit back or behind and find it very hard to even go and meet people. I haven't coped well with the cancer at all, I was pissed off, I was just nearly off my head. I'd try and kill myself. That's how bad it was.” (lurker#15)

Another lurker said:

“Yeah, I am an anxious person, the reason I avoid discussing my cancer online with others... I'm quick to anger I would say. Basically, I guess if someone talks bullshit to me, I call bullshit. It's quite simple. If they don't want to take that, well, if they want to get angry, I'll double their anger. No, I don't see myself content. Well, the little battles in life discourage me. So, given there are lots of little battles in life, I tend to feel discouraged. I haven't coped well with the disease.” (Lurker#16)

5.2.3 Openness

The results showed that 74% (17 out of 23) of lurkers exhibited openness attitudes. They believed that they are creative and imaginative, and that they are curious to know more about cancer diagnosis, treatment, and coping strategies. They use the internet to read stories and articles published online and search for knowledge that is relevant to their cancer cases. For example, one lurker said:

“Well if you've built five motorhomes and built two homes and built extensions...I think I'm pretty creative. I enjoy beautiful things yeah. I can get emotional about things and I like to explore new things. I like

to try different things and go different places and stuff like that. I am curious...I also take an interest in clinical trials and look at what's going on in bladder cancer treatment and stuff like that." (lurker#6)

Another lurker said:

"With help I can be very creative. I love music, I love art, and I love beauty, so yeah...I can be emotional, I mean I do get sort of down and the tears do arrive, but that's when I find I haven't got anyone to talk to. I think I am open to ideas as I am very curious and would like to know more about cancer. Since my specialist did not help me a lot, I've learned a lot more since then by joining groups in Sydney, being part of the Cancer Council and I've opened a lot more."

However, the study found that openness-to-feelings, which is one facet of the openness trait, was different between posters and lurkers. There were six lurkers compared to one poster who commented that they are not emotionally sensitive or attuned to other people's feelings. They stated that they are not empathetic and less considerate of the impact of other people. The following comments from interviewees support this finding:

"I wasn't that empathetic and emotionally sensitive. I find that I am far more now emotional than I used to be. Before cancer, I used to be less considerate of the impact of other people..." (poster#15)

"No, not at all. I actually don't really understand to be sensitive because I feel it's people who have just been spoiled that they are emotionally sensitive." (lurker#11)

5.2.4 Conscientiousness

The results showed that 61% (14 out of 23) of lurkers are characterised by their high conscientiousness attitude. These lurkers believed that they are well-organised, tidy, and punctual. Due to their conscientiousness attitude, these lurkers explained that they tend to behave in an ethically consistent manner and avoid deceiving others, particularly users of the online cancer community. They prefer not to post and talk about sad stories because they care about other users'

feelings and they are unwilling to change facts about their cancer experience. Moreover, one lurker mentioned that the online community moderator asked users to be careful of what is posted online and to take away some negative details that the lurker believed were truthfully disclosed. This lurker was hesitant to post again in the online cancer community believing that his personality is more into being upright, moralistic, and exacting. Lurkers exhibiting conscientiousness traits believed that they are dutiful, ambitious, productive, and prefer to make careful plans. For example, one of the lurkers said:

“I used to be fanatic. A place for everything and everything in its place but when the cancer came, I stayed focused on just trying to keep food down and keep the weight off. Before cancer, I used to be very ambitious...I was trying to climb the corporate ladder or get a better job, yeah. Some of the things that I do are spontaneous but usually I stick to my plans and I look at the diary and I’ve got everything written down. As for the online community, I tend not to post about my cancer experience as I don’t see myself manipulating some details... I prefer not to disclose things that might depress others.” (lurker#15)

On the other hand, six lurkers see themselves as unorganised and less ambitious. They prefer to make spontaneous decisions more than careful plans. For example, one lurker said:

“Definitely no, I’m not organised and tidy. It’s one of my chief problems. Yeah, I do stick to rules, but that doesn’t mean that I think the rules are good, and I always question them. I don’t think I’ve been ambitious enough. I like to think that I’m organised, and I do things and then I don’t... in terms of tidying up and getting it all organised, that takes me a long time. I usually make spontaneous decisions, so I would like to be organised by having plans, but I am flexible in nature. In truth, I’m not organised.” (lurker#21)

5.2.5 Agreeableness

The results showed that just over 50% (12 out of 23) of lurkers displayed low agreeableness attitudes. These lurkers tend to place more doubt with what others say and keep things more to themselves. They believed that they are not very generous and are more willing to raise objections

when disagreeing with someone's viewpoint. These lurkers believed that they are less swayed by human feelings and tend to be more prone to rational judgement. For example, one lurker said:

"I think about what people say. And I would say that's one of the reasons that I don't like online communities. I like to talk to people in the flesh or listen to people that are experts...I believe that people are basically good, but on the other hand, I'm not gullible and dumb. Probably I prefer to keep things to myself, I guess there are some things that I never talk about with anyone. I'm not somebody who goes and talks to strangers and tells them my whole life story or what I'm thinking and feeling. I have a generous outlook and I hope that my behaviour revolves around that. If it was somebody who was saying something that was, I found socially, morally, or whatever, objectionable, then I would disagree with them. I'm more prone to rational judgement and it's another reason why I'm not keen on social media." (Lurker#21)

Another lurker said:

"I don't criticise people because usually it's a reflective thing on people, but I don't take anybody at face value. Sometimes I am frank and open, sometimes I am very silent. I think that I am generous, hopefully... Normally, when I disagree with someone's viewpoint, I just tell them I disagree right away...I say things right away. People's feelings don't impact me at all on how I see things, except if it's feelings of children." (lurker#11)

Summary

The results on the personality traits of lurkers of the online cancer community showed that lurkers tend to be emotionally unstable and exhibited introversion and disagreeableness attitudes. The findings also showed that lurkers displayed openness and conscientiousness attitudes.

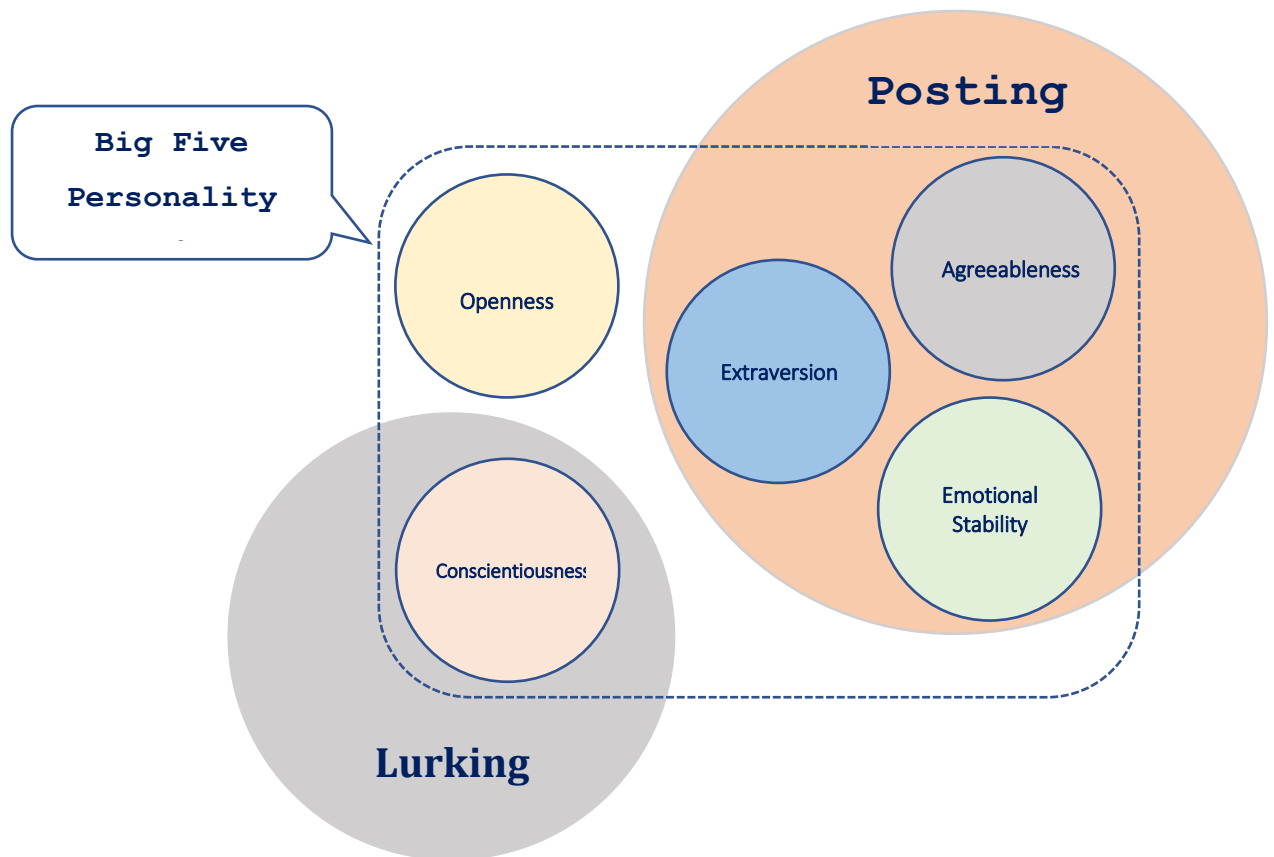


Figure 4. Impact of the Big Five Personality Traits on Online Behaviour

The diagram in figure 4 shows each of the personality traits that may impact posting and lurking behaviours in an online cancer community. While the majority of posters exhibited extraversion, emotional stability and agreeableness traits, lurkers exhibited introversion, emotional instability and low agreeableness traits. This suggests that extraversion, emotional stability, and agreeableness have an impact on posting behaviour in an online cancer community. The openness trait for posters and lurkers was similar indicating that the openness trait does not impact the decision to post in an online cancer community. Lurkers exhibited higher levels of conscientiousness traits than posters, which may explain why lurkers are reluctant to post in an online cancer community. The next chapter presents the discussion followed by the conclusion.

Chapter 6: Discussion

Previous research showed that the personality traits of online community users influence their levels of engagement within online communities (Barnes et al., 2017; Cullen & Morse, 2011; Jadin et al., 2013). However, variances in the environments and the purposes of online communities elicit different levels of online engagement. For example, because individuals in a WhatsApp group or Facebook usually know each other offline, their behaviour in these groups might vary from how they behave in other social media platforms (Gazit & Aharony, 2018). Cancer is a stressful psychological experience (Rey, Extremera, & Trillo, 2013), therefore the reasons for posting in an online cancer community may be different than other online communities or social networks.

This study examined the personality traits of cancer-affected people, using participants from the online cancer community, to determine whether the five dimensions of personality traits impact their decisions to post in an online cancer community. The five dimensions of personality traits provided insights into the decisions of posters and lurkers to post in the online cancer community.

The results showed that users exhibiting extraverted traits were more likely to be posters. These posters used the online cancer community to either share their cancer experience or to ask for help and support from others. On the other hand, users displaying introverted traits, being a significant proportion of lurkers, engaged less online and did not enjoy communicating with others in the online cancer community. These lurkers were less inclined to talk openly, less self-confident, and do not like to assume leadership positions. They prefer to read published content rather than posting or sharing their cancer stories with other users of the online cancer community. This result is consistent with previous research which found that while introverts find it difficult to socially interact with others, extraverts prefer to engage in social activities, communicate online, and share their experiences with many others (Amiel & Sargent, 2004; Bronstein et al., 2016). This suggests that extraverts are more comfortable engaging in posting in the online cancer community in contrast to introverts who are less likely to post, possibly due to lack of self-confidence.

Barnes et al. (2017) found that negative feedback impedes introverts from contributing to online conversations and suggest that moderating the site to reduce tension and limit the transmission of undesirable messages may facilitate the process of transitioning introverts into active contributors. Barnes et al. (2017) also suggest that introverts are more likely to interact in the online community if they use pseudonyms to remain anonymous when communicating with others online. As cancer-

affected people with introverted personalities reported higher depression and emotional distress (Perry, Hoerger, Silberstein, Sartor, & Duberstein, 2018), engaging in discussions in the online cancer community would help them reduce their levels of anxiety and depression (Setoyama et al., 2011). Therefore, the need for increasing introverts' involvement in online conversations and transitioning them to posters becomes beneficial to their well-being.

Users displaying neuroticism traits chose not to post and contribute to discussions in the online cancer community, possibly due to their lower self-confidence and higher sensitivity to potential problems. This is consistent with the findings of Amiel and Sargent (2004) who found that neurotics are not interested in communicating with others in the online community to avoid engaging in a setting beyond their control. As cancer is a debilitating experience, cancer-affected people who are emotionally unstable may become more sensitised and less inclined to interact online to avoid criticism. This may explain why 12 lurkers exhibiting neuroticism attitudes preferred not to discuss their cancer journey with other users in the online cancer community. One explanation may be that lurkers want to avoid potentially intensifying their worry and anxiety levels if the feedback about their cancer stories or shared content is negative.

The study found that 75% of posters in the online cancer community had emotionally stable traits. Posters were less concerned about potential problems and coped well with living with cancer. This may explain their predisposition to post and contribute to discussions in the online cancer community as they are less sensitised to problems and rarely feel discouraged. Therefore, emotional stability strongly influences the posting behaviour of cancer-affected people in an online cancer community.

Neuroticism is unrelated to prosocial (intent to benefit others) behaviour (Habashi et al., 2016), yet it is highly correlated with information-seeking and communication (Seidman, 2013). Taken together, we can infer that neurotic individuals seek help from others but are unable to provide help to others. Neurotics are more likely to participate actively online and ask for help upon receiving positive feedback and reassurance of unique contributions (Barnes et al., 2017). As neurotic individuals reported lower levels of well-being and higher personal distress (Habashi et al., 2016), a perceived level of anonymity and encouragement from others might promote active engagement in online discussions (Barnes et al., 2017). Cullen and Morse (2011) also suggest that providing neurotics with a reassurance of their distinctive contribution may encourage them to involve more in online discussions.

The openness trait was similar in both posters and lurkers. This finding is in contrast to Bronstein et al. (2016) who found that individuals with higher levels of openness trait tend to engage more in online discussions. This study showed that both groups described themselves similarly in terms of being imaginative, creative, and keen to explore new ideas and learn more about cancer.

A difference was found in one component of the openness trait, openness-to-feelings. This study found a difference in the openness-to-feelings trait between posters and lurkers. Posters were more emotional and attuned to people's feelings than lurkers. Therefore, the openness-to-feelings trait influences cancer-affected peoples' decisions to post in an online cancer community. The context of the online cancer community may explain the attitudes of those users. Because cancer is a painful experience, cancer-affected people who are open-to-feelings tend to interact more online to emotionally support others who may need to know more about cancer diagnosis, treatment, coping strategies, and other concerns. On the other hand, lurkers who are less emotional may not empathise much with cancer-affected people in need of help and thus they are less likely to interact and provide support for users in the online cancer community.

The results showed that posters displayed lower conscientiousness traits than lurkers. This is consistent with the findings of Hollenbaugh and Ferris (2014) who found that less conscientious users tend to engage more online to seek attention and maintain relationships. Nearly 60% of lurkers exhibited conscientiousness attitudes and were unwilling to post facts about their cancer journey, particularly negative experiences, to avoid raising the concerns of other users of the online cancer community. Due to their conscientiousness attitudes in terms of being scrupulous and cautious, these lurkers were unwilling to reveal the specifics relating to their cancer experience and preferred to stay silent. This indicates that the conscientiousness trait impacts cancer-affected peoples' online lurking behaviour as users exhibiting high conscientiousness were less likely to interact and contribute to discussions in an online cancer community.

Conscientious individuals may engage more in online conversations when the online community provides rich and valued content (Cullen & Morse, 2011). Cancer is a serious topic which means that unless the exchanged cancer knowledge is of high quality, conscientious individuals are less willing to participate in discussions and share their opinions with other users in the online cancer community. Therefore, publishing rich and useful information in the online cancer community may elicit more participation from lurkers exhibiting conscientiousness attitudes. Conscientiousness also relates to prosocial behaviour (Swickert et al., 2014) which means that if lurkers with conscientious traits were able to express their opinions freely, they are more likely to

transition into posters to assist cancer-affected people in need of help in the online cancer community.

The results showed that users exhibiting agreeableness traits were predominantly posters who contributed to discussions in the online cancer community. Unlike online political communities that are characterised by their strong dispute and conflict environments (Barnes et al., 2017), online cancer communities provide more conservative and caring environments with the majority of users sharing their cancer experience and learning from each other. This explains why agreeable individuals tend to avoid discussions and engagement in online political communities (Barnes et al., 2017) and engaged more in online cancer communities. Posters were found to be more swayed by human feelings over rational judgement, tend to avoid conflicts, and sacrifice their time to help others in need in the online cancer community. All of which aligns with the findings by Habashi et al. (2016) that agreeable individuals are inclined to react emotionally and assist those in need of help. This indicates that the agreeableness trait is linked to posting behaviour in an online cancer community and is consistent with the results by Huang et al. (2018) who found a positive correlation between agreeableness and online exchange frequency within social network sites.

On the other hand, the results showed that lurkers are less agreeable and tend to place more doubt with what others say in the online cancer community. These lurkers were less trusting individuals who do not take what is discussed in the online cancer community at face value. Generally, lurkers were more prone to rational judgement and are more willing to raise conflicts if they disagreed with someone's viewpoint. Therefore, in the online community lurkers who were less agreeable chose not to engage to avoid raising objections if they believed the information about cancer was irrelevant or inaccurate. Therefore, the process of transitioning less agreeable lurkers into active posters requires monitoring the flow of messages and placing controls on the published content in the online cancer community to ensure that trustworthy and reliable information is posted. This should decrease lurkers' doubt in the accuracy of the published content, reduce potential disagreements, and eventually encourage them to engage in the online cancer community.

An interesting finding from this study relates to the higher level of conscientiousness that was exhibited by lurkers compared to posters and how the conscientiousness trait impacted their behaviour in the online cancer community. Previous research has shown that the conscientiousness trait is associated with prosocial behaviour (Swickert et al., 2014), and therefore it is expected that users in the online cancer community exhibiting conscientiousness attitudes will more likely provide emotional and informational support for others in need. However, a different theme

emerged from this study showing that due to their conscientiousness trait, users were reluctant to share their cancer experience. The main reason relates to the context of the online cancer community with users preferring not to post to avoid increasing the worry of others when disclosing negative cancer stories. On the other hand, due to their conscientiousness trait, users were honest and were unwilling to manipulate specific details relating to their cancer story which led them to read rather than post in the online cancer community.

This study contributes to the literature by examining to what extent personality traits explain the posting behaviour of cancer-affected people in an online community. Using the taxonomy of the big five personality traits provides insights that can be utilised to better understand how cancer-affected people, whether they are posters or lurkers, interact with the online community and make decisions about posting content. Personality traits of posters were markedly different to those of lurkers and these differences can help explain why a user decides to become a poster or a lurker.

The study has a practical contribution for designers and moderators of the online community. The insights from this study may inform the design of the online cancer community by understanding how the big five personality traits influence a poster's or lurker's decision to post.

Summary

This chapter presented the discussion of the findings and explained new insights that emerged as a result of the study. The extraversion, emotional stability, and agreeableness traits were found to influence online posting behaviour in an online cancer community, whereas the conscientiousness trait influences online lurking behaviour. The openness trait did not have any impact on online behaviour in an online cancer community. Finally, this chapter summarises the theoretical and practical contributions of the study.

Chapter 7: Conclusion, Limitations, and Future Research

The success of the online community relies on the participation of as many users as possible to share knowledge and support each other (Malinen, 2015). Previous studies showed that online participation ameliorates the well-being and quality of life of online community users (Digiovanni, 2018; Shim, Cappella, & Han, 2011) and provides social and informational benefits (Johnston et al., 2013). Therefore, understanding why users post (posters) or do not post (lurkers) assists in identifying strategies that reinforce or encourage participation and thereby maintain the vibrancy of the online community. A review of previous literature showed that personality traits can be used to explain the online behaviour of users in contexts such as social media (Blackwell, Leaman, Trampusch, Osborne, & Liss, 2017; Gazit & Aharony, 2018). This study provides new insights by examining the impact of personality traits on online behaviour within the online cancer community context. In the same way as previous research validated the use of the big five personality dimensions when examining the effect of users' beliefs and attitudes on system use (Devaraj et al., 2008), this study used the five factor model to examine the impact of extraversion, neuroticism, openness, conscientiousness, and agreeableness traits on cancer-affected people's behaviour in an online cancer community.

The study found that the personality traits, extraversion, emotional stability, and agreeableness were the most influential in understanding a user's decision to post in an online cancer community. While posters showed more interest in communicating with users in the online cancer community and providing help for those in need, lurkers were more reserved, avoided social interaction, and were less willing to provide support to others in the online cancer community. Further, posters rarely felt discouraged and were more emotionally stable than lurkers who were more anxious and concerned about the illness.

This study is not without limitations. This study has classified users as posters based on the number of posts published in the online cancer community. However, some of the published content might not add value to the online cancer community or might be irrelevant to its context. Hence, including these posters in the data analysis might affect the results of the study. The aim of this study was to investigate the personality traits of cancer-affected people as concerns their decisions to post in an online cancer community, and the study's findings may provide future guidance in the transition of lurkers to posters. However, the goal is transition only to those type of active

posters who can add value to the online cancer community and increase its vivacity. Therefore, future studies should take into consideration both the quality and the quantity of the posted content when classifying users of the online cancer community.

Participants of the study were asked to describe their personality traits based on a set of questions underlying each trait, which may indicate that the potential for social exhibition may have biased the results of this study. Therefore, a mixed method research (MMR) design which combines probability and purposive sampling techniques might be more convenient for this type of study. The process of merging the two orientations will facilitate producing complementary data to cover deeply and widely all aspects of the study (Teddlie & Yu, 2007).

Posters may begin as lurkers for some time before deciding to contribute. Also, personality traits are not binary but continua. Therefore, it is possible that some users in the middle of the scale for extraversion, emotional stability, conscientiousness, and agreeableness might lurk for some period before beginning to post. This may be a topic for future research to explore if strategies to convert lurkers to posters might not be equally effective for all.

Moreover, this study assumes that personality traits are stable overtime, however Gul, Ede, Ardahanli, and Daar (2015) found that alterations in health may change personality traits. The study argues that the personality traits are the cause of lurking or posting behaviour. It is plausible that causality runs in both directions: that people are more inclined to post or to lurk due to their personality, but also that personality is influenced in response to users' online behaviour. Therefore, future research should consider this relationship when examining the impact of personality traits on cancer-affected people's behaviour in an online cancer community.

Lastly, this study focused on identifying the personality traits that are influential in the online cancer community. However, transitioning lurkers with introverted, emotionally unstable, and disagreeableness traits into posters does not necessarily mean that these lurkers will benefit by posting and contributing to discussions in the online cancer community. Therefore, future studies should focus on discovering what personality traits benefit from online participation in an online cancer community to transition only lurkers who may benefit from posting.

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Appendix A: The Interview Guide

1. Do you see yourself as someone who is talkative and enjoys communicating with others in the online community?
2. Do you enjoy being surrounded by people and find it hard to be or work alone? Or do you find yourself quiet and more reserved?
3. Do you feel that you are self-confident, or do you prefer to be less in charge and avoid social activities?
4. Are you lively and energetic? Has this changed since you've been diagnosed with cancer/or started caring for someone with cancer?
5. Are you adventurous and like experiencing new challenges?
6. Are you cheerful and high-spirited? Has this changed since you've been diagnosed with cancer/or started caring for someone with cancer?
7. Are you usually relaxed and unconcerned? Or do you feel anxious about potential problems and difficulties?
8. Are you quick to anger or are you calm and easy going?
9. Do you see yourself as someone who is content and rarely feels discouraged?
10. Do you feel confident in social groups or not?
11. Based on your cancer experience, do you find yourself coping well with the disease?
12. Do you see yourself as an imaginative and creative person?
13. Are you sensitive to art and beauty?
14. Are you emotionally sensitive and empathetic?
15. Do you like to explore new things, or do you prefer to have a routine?
16. Are you curious and questioning?
17. Do you see yourself as a well-organised and tidy person?
18. Do you believe in sticking to the rules?
19. Do you see yourself as an ambitious person who strives for excellence?
20. Are you the type of person who pushes themselves? Has this changed since you've been diagnosed with cancer/or started caring for someone with cancer?
21. Are you the type of person who likes to be organised by having plans or do you prefer to make spontaneous decisions?
22. Are you trusting and take others at their word without criticism? Or are you more prone to place some doubt with what others say?
23. Do you normally conceal information and prefer to keep things to yourself? Or do you see yourself more frank and open?
24. Do you see yourself as a person who is generous and giving most of the time?
25. Are you cooperative and unwilling to express disagreements? Or do you prefer to raise objections when you disagree with someone's viewpoint?
26. Do you think that other people's feelings impact the way you assess things or are you more prone to rational judgement?

Appendix B of this thesis has been removed as it may contain sensitive/confidential content

Appendix C: Recruitment Advertisement



In partnership with



Invitation to Participate in a Research Study Interview



Macquarie University and Cancer Council NSW are conducting a study on personality and the impacts of your decisions to participate (or not) in discussions in the Cancer Council Online Community.



The purpose of the interviews is to understand what impacts your decision to post or not to post on the online community forum.



The study is being conducted to meet the requirements for the degree of Master of Research under the supervision of Dr. Yvette Blount, Department of Accounting and Corporate Governance, Faculty of Business and Economics.



If you decide to participate, you will be asked to answer questions related to your personality. The interview is anticipated to take between 30-45 minutes. If you agree, we will audio record the interview.



In order to participate members must meet the following criteria:

- Been a user of the cancer council online community
- Have been diagnosed with cancer, have survived your cancer experience or are a carer, family member or friend of someone with cancer.
- Above 18 years old
- Willing to volunteer approximately 30-45 minutes of your time to answer various questions



Any information or personal details gathered in the course of the study are confidential, except as required by law. No individual will be identified in any publication of the results. All data collected will be held on Macquarie University's secured servers. Codes and identifiers will be used when reporting findings and results to protect the confidentiality of participants. The data will be only accessed by the supervisor and the student. A summary of the results of the data can be made available to you on request, this can be shared via email or hard copies sent via postal mail.



Participation in this study is entirely voluntary: you are not obliged to participate and if you decide to participate, you are free to withdraw at any time without having to give a reason and without consequence.



To participate please contact

Basma Badreddine at

Or email

Appendix D: Qualitative Data Analysis for Personality Traits of Posters and Lurkers in an Online Cancer Community

