

Mereta Helin

**THE CYBER WORLD OF BROKEN HEARTS:  
GHOSTING AND BREADCRUMBING**



JYVÄSKYLÄN YLIOPISTO  
INFORMAATIOTEKNOLOGIAN TIEDEKUNTA  
2023

## **ABSTRACT**

Helin, Mereta

The Cyber World of Broken Hearts: Ghosting andBreadcrumbing

Jyväskylä: University of Jyväskylä, 2023, 109 pp.

Cyber Security, Master's thesis

Supervisor: Woods, Naomi

In the realm of online dating, individuals navigate a wide range of emotions, from the excitement of forging new connections to the profound despair induced by phenomena such as Ghosting and Breadcrumbing. Despite being prevalent in digital dating, these behaviors have received limited research attention, particularly regarding their emotional impact and the experience of rejection they entail. This study aims to address this research gap by examining the emotional aftermath of Ghosting and Breadcrumbing and exploring the influence of the victim's personality traits on understanding these phenomena. The research was conducted through a survey involving 32 participants to gather insights into their encounters with Ghosting and Breadcrumbing. Additionally, the study investigated how the victim's personality traits influence these experiences. The results provide an overview of the comprehension of these online dating behaviors, their emotional effects, and the impact of personality traits on these behavioral experiences significantly. Ghosting and Breadcrumbing are prevalent, however, there was no clear link between Breadcrumbing and personality traits. A negative correlation was observed between Ghosting and extroversion, suggesting the possibility of greater resilience or milder emotional impact among extroverted individuals. Furthermore, both Ghosting and Breadcrumbing elicit significant emotional reactions, as individuals often experience a wide range of emotional responses, including pain, shock, and confusion, highlighting the psychological depth of these phenomena. This research invokes reflections on online dating environments and user experiences and encourages initiatives for user education, psychological support, and platform interventions to guide and mitigate the impacts of these phenomena.

Keywords: Ghosting, Breadcrumbing, Dating Apps, Personality, Cyberlove, Cyberpsychology, Online dating

# TIIVISTELMÄ

Helin, Mereta

Sydänsurujen kybermaailma: Haamuilu ja Murustelu

Jyväskylä: Jyväskylän yliopisto, 2023, 109 s.

Kyberturvallisuus, Pro Gradu- tutkielma

Ohjaaja: Woods, Naomi

Verkkodeittailun maailmassa yksilöt käyvät läpi laajan tunneskaalan, aina uusien yhteyksien luomisen innostuksesta syvään epätoivoon, joka johtuu ilmiöistä, kuten "Haamuilusta" ja "Murustelusta". Vaikka nämä käyttäytymismallit ovat yleisiä digitaalisessa deittailussa, ne ovat saaneet rajoitetusti tutkimushuomiota, erityisesti niiden tunnevaikutusten ja hylkäämiskokemusten osalta. Tämä tutkimus pyrkii korjaamaan tätä tutkimusaukkoa tarkastelemalla Haamuilun ja Murustelun aiheuttamia tunnejälkiseurauksia ja selvittämällä uhrien persoonallisuuspiirteiden vaikutusta näiden ilmiöiden ymmärtämiseen. Tutkimus toteutettiin 32 osallistujan kyselytutkimuksena, jotta voitaisiin kerätä tietoa heidän kohtaamistaan Haamuilu- ja Murustelu-tilanteista. Lisäksi tutkimus selvitti, miten uhrien persoonallisuuspiirteet vaikuttavat näihin kokemuksiin. Tulokset tarjoavat yleiskuvan näiden verkkodeittailukäyttäytymisten ymmärtämisestä, niiden tunnevaikutuksista ja persoonallisuuspiirteiden vaikutuksesta näihin käyttäytymiskokemuksiin merkittävästi. Haamuilu ja Murustelu ovat yleisiä, mutta Murustelun ja persoonallisuuspiirteiden välillä ei ollut selkeää yhteyttä. Haamuilun ja extroversion välillä huomattiin negatiivinen korrelaatio, joka viittaa mahdollisesti parempaan vastustukseen tai lievempään tunnevaikutukseen extroverteilla yksilöillä. Lisäksi niin Haamuilun kuin Murustelun tunnevaikutukset ovat merkittäviä, koska yksilöt kokevat usein laajan valikoiman tunnereaktioita, mukaan lukien kipua, järkytystä ja hämmennystä, korostaen tämän ilmiön psykologista syvyyttä. Tämä tutkimus herättää pohdintaa verkkodeittailuympäristöistä ja käyttäjäkokemuksista ja kannustaa aloitteisiin käyttäjäkoulutuksen, psykologisen tuen ja alustainterventioiden suhteen näiden ilmiöiden vaikutusten ohjaamiseksi ja lieventämiseksi.

Avainsanat: Haamuilu, Murustelu, Deittisovellukset, Persoonallisuus, Kyberrakkaus, Kyberpsykologia, Verkkodeittailu

## FIGURES

Figure 1 The Five-Factor Model of Personality adapted from Costa & McCrae (1986) .....	28
Figure 2 How often have you experienced being "Ghosted" by a romantic partner on a dating app?.....	42
Figure 2 How often have you experienced being "Breadcrumbed" by a romantic partner on a dating app? .....	42
Figure 3 I think "Ghosting" happens frequently. ....	43
Figure 4 I think "Breadcrumbing" happens frequently.....	43
Figure 5 I think ignoring someone (Ghosting) is acceptable in certain situations. ....	44
Figure 6 I think Breadcrumbing is acceptable in certain situations. ....	44
Figure 7 . Were you shocked by being Ghosted?.....	45
Figure 8 Were you shocked by being Breadcrumbed?.....	45
Figure 9 Have you ever met a romantic partner in person who has Ghosted/Breadcrumbed you? .....	46

## TABLES

Table 1 Distribution of the survey respondents.....	32
Table 2 Questionnaire item examples for the pilot survey.....	35
Table 3 Questionnaire item personality (Rammstedt & John, 2007) .....	37
Table 4 Cronbach Alphas .....	39
Table 5 Minimum score, maximum score, mean and standard deviation of constructs per Ghosting variable.....	46
Table 6 Minimum score, maximum score, mean and standard deviation of constructs per Breadcrumbing variable. ....	47
Table 7 Pearson Correlation Ghosting and personality and Extreme painfull...	49
Table 8 Pearson Correlation Ghosting and personality and Painfull. ....	50
Table 9 Pearson Correlation Ghosting own experience and personality. ....	52
Table 10 Pearson Correlation Ghosting painful, shock, expected, discussion, intensivity.....	54
Table 11 Descriptive inferential Ghosting.....	55
Table 12 Pearson Correlation Breadcrumbing painful, shock, expected, discussion, intensivity .....	57
Table 13 Descriptive inferential Breadcrumbing .....	57

# CONTENT

ABSTRACT .....	2
TIIVISTELMÄ .....	3
FIGURES .....	4
CONTENT .....	5
1 INTRODUCTION .....	7
1.1 Research Problem .....	8
1.2 Motivation and objectives .....	9
1.3 Literature review .....	11
2 ONLINE DATING .....	13
2.1 Cyberpsychology .....	13
2.2 Dating Apps and Sites .....	14
2.3 Cyberlove .....	16
3 GHOSTING AND BREADCRUMBING .....	19
3.1 Ghosting .....	19
3.2 Breadcrumbs .....	20
3.3 Ghosting and Breadcrumbs: Research .....	22
4 PERSONALITY .....	25
4.1 Big Five .....	26
4.2 Five-Factor Theory .....	27
4.3 Big Five theory .....	28
5 RESEARCH METHODOLOGY .....	32
5.1 Participants .....	32
5.2 Measures: Survey design .....	33
5.2.1 Survey Questions .....	34
5.2.2 The Big Five personality test - BFI-10 .....	36
6 RESULTS .....	41
6.1 Descriptive statistics Ghosting .....	46
6.2 Descriptive statistics Breadcrumbs .....	47
6.2 Ghosting and Personality .....	48
6.2.1 Ghosting and other findings .....	52
6.3 Breadcrumbs and Personality .....	55
7 DISCUSSION .....	59

7.1 Prevalence and Distress of Ghosting and Breadcrumbing .....	59
7.2 Ghosting and personality traits.....	60
7.3 Breadcrumbing and personality traits .....	61
7.3 Implications of Ghosting and Breadcrumbing study .....	62
7.4 Limitations and directions for future research .....	62
8 CONCLUSIONS .....	64
REFERENCES.....	66
ATTACHMENTS.....	75
Survey questions (English) .....	75
Webropol Basic Raport Experiences of Ghosting and Breadcrumbing Online (Finnish) .....	81
Correlation table 1.....	105
Correlation table 2.....	106
Correlation table 3.....	107
Correlation table 4.....	108
Correlation table 5.....	109

# 1 Introduction

In recent years, social networks and online platforms have become more prevalent in romantic relationships (Biolcati et al., 2021). The advent of the cyberspace has brought about changes in personal, social, and moral norms (Ben-Ze'ev, 2004). A study by Wang, Chih-Chien, Chang & Ya-Ting (2010) identified nine motives for engaging in online relationships, including the opportunity to meet new people, ease of communication, curiosity, emotional support, social compensation, distance from reality, love, and sexuality. Compared to face-to-face human interaction, online communication makes it easier for individuals to take responsibility for their actions (Biolcati et al., 2021). However, with the increased use of online connections, new challenges have emerged, including the enigmatic phenomena of Ghosting andBreadcrumbing (Navarro et al., 2020a). Ghosting is when one party abruptly terminates communication with another without explanation or warning. In comparison, Breadcrumbing involves one party giving sporadic and vague hints or attention to another without genuine commitment or intention (LeFebvre et al., 2020).

Previous research has extensively explored the world of online dating, revealing its increasing prevalence as a contemporary method for seeking romantic partnerships (Bruch & Newman, 2018). The rise of online platforms and social networking has further facilitated and normalized this mode of interaction, transcending geographical boundaries (Biolcati et al., 2021).

The emergence of online dating and the digital landscape, known as cyberspace, has brought about significant shifts in interpersonal dynamics and communication norms (Ben-Ze'ev, 2004). Researchers have delved into why individuals engage in online relationships, identifying various motivators such as the opportunity to meet new people, the convenience of communication, curiosity, emotional support, compensation for social needs, escapism from reality, pursuit of love, and exploration of sexuality (Wang et al., 2010).

Online dating has introduced new opportunities and challenges in romantic relationships (Finkel et al., 2012). These challenges have given rise to intriguing phenomena like Ghosting andBreadcrumbing (Navarro et al., 2020a). Ghosting, characterized by one party's sudden and unexplained cessation of communication, has become a prevalent form of online rejection and emotional hurt (LeFebvre et al., 2020). Similarly, Breadcrumbing, where one party provides intermittent and vague attention or hints without genuine commitment, has garnered attention for impacting individuals' emotions and self-esteem.

## **1.1 Research Problem**

This study aims to address the lack of research on the relationship between personality traits and Ghosting and Breadcrumbing. Biolitica et al. (2021) investigated the association between cyber dating abuse (CDA) and ghosting behavior, finding that women were more susceptible to employing ghosting strategies than men. These strategies included abruptly terminating messages and using silence as a form of punishment towards their partners. Furthermore, they observed that gender and personality traits predicted direct aggression and control/monitoring perpetration differently and were significant predictors of direct aggression victimization. However, these factors did not significantly predict victimization related to control/monitoring behavior.

While existing studies have extensively explored the prevalence and psychological effects of Ghosting and Breadcrumbing, a gap remains in



understanding how these phenomena are associated with an individual's personality traits. This research aims to address this gap by examining the connections between Ghosting,Breadcrumbing, and personality traits, offering valuable insights into the predispositions of individuals who become victims of digital dating.

The primary objective of this study is to provide fresh insights into the psychological effects of Ghosting and Breadcrumbing and deepen our understanding of the factors underlying these phenomena. With this information, we can develop more effective strategies and support mechanisms for those who encounter these phenomena in the online dating environment. This research mainly focuses on personality traits that may make individuals more susceptible to becoming victims of Ghosting and Breadcrumbing, aiming to enhance our comprehension of how these experiences may shape an individual's long-term well-being. This was examined by collecting data through a survey, which examined experiences of Ghosting, Breadcrumbing, and personality traits.

The progression of this research is divided into several sections, including a comprehensive literature review, a detailed description of research methods, a presentation of results, and an in-depth discussion of findings. This introduction serves as the foundation for understanding the research and provides an overview of what to expect as the study unfolds. The key research questions and hypotheses are presented in more detail in subsequent sections, guiding the research and interpreting results.

## **1.2 Motivation and objectives**

The results indicated that ghosting was associated with personality traits, shallow emotional stability, and agreeableness. Furthermore, it was observed that women were more likely to engage in ghosting behavior, and their ghosting tendencies were correlated with other online control behaviors. These findings suggest that ghosting is part of the broader spectrum of online violence in

romantic relationships and is influenced by personality traits and gender roles (Bioltica et al., 2021). The phenomena of Ghosting andBreadcrumbing within online dating, particularly concerning their associations with the victim's personality traits, remain relatively underexplored.

According to Bioltica et al. (2021), identifying personality profiles as predictors of violent behavior and further exploring the role of gender for both victims and perpetrators could assist in early screening for dating violence and enhance primary prevention programs that focus on emotional education in virtual interactions. This study aims to address this knowledge gap by conducting a comprehensive investigation into these phenomena, explicitly focusing on their connections with various variables related to the victim's personality. The primary objective is to shed light on the relationships between Ghosting and Breadcrumbing and distinct personality traits in online dating from the victim's perspective.

The Big Five personality model is a foundational framework to consistent research outcomes. This model, one of the most universally acknowledged paradigms in the field, encompasses five fundamental dimensions: openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism (Rammstedt & John, 2007). Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness have been identified through self-reports, ratings, and various theoretically grounded questionnaires, as well as through adjective analysis across multiple languages in studies involving both adults and children (Costa, J. r, P. T. et al., 1991). The thesis aims to address the following research questions:

*RQ 1: How prevalent are Ghosting and Breadcrumbing phenomena in online dating among participants?*

*RQ 2: Are experiences with Ghosting and Breadcrumbing painful?*

*RQ 3: Is there a connection between personality traits and experiences with Ghosting orBreadcrumbing?*

### **1.3 Literature review**

I conducted a comprehensive literature review, considering the topics of Ghosting, Breadcrumbing, and personality traits. I utilized search engines such as Google Scholar and databases like IEEE Xplore, as well as leading journals in the fields of cyberpsychology, psychology, sociology, and Computers in Human Behavior. Previous research also clarified the concepts of Ghosting, Breadcrumbing and provided insights into personality traits and how they have been studied. The purpose of the literature review was to provide background information on the research area and to justify and refine the final research questions and settings by addressing the questions: "How has the relationship between personality traits and Ghosting and Breadcrumbing been investigated in previous studies?" This information allowed for identifying potential research gaps and better defining the research questions. The theoretical foundation of this study can be divided into four essential concepts: Online Dating, Ghosting, Breadcrumbing, and Personality, which will be defined more precisely in the following sections.

Additionally, in this introduction, a brief overview of the research structure and progression is presented. In the first section, the research problems, motivation, and objectives are examined, along with an introduction to the sources and methods utilized in the literature review. In the second section, online dating is defined, and its connection to Cyberpsychology, as well as the key concepts related to online dating such as Dating Apps and Sites and cyberlove, are discussed. Detailed insight into the research methods that facilitated the execution of this study is provided in the third section. The fourth section introduces the concepts of Ghosting and Breadcrumbing, along with prior research and findings related to the topic.

The fifth section outlines the concept of personality and its association with the Big Five and Five-Factor theories. In the sixth section, the research methodology, including participants, measures, and procedures, is detailed. The seventh section presents the research results and their interpretations. The limitations of the study and future research needs are discussed in the eighth section. Finally, conclusions are presented. This introduction serves as the foundation for understanding the research and provides an overview of what to expect as the study unfolds. More specific research questions and hypotheses will be presented in subsequent sections, guiding the research, and aiding in the interpretation of results.

## 2 Online Dating

*One day I'll see I let you go away.  
One day I think that everything is okay.  
One day I feel that it will hurt no more.  
One day I know that I have lost you, lost you.  
(Musixmatch.com Bad Boys Blue – Lover On the Line)*

In cyberspace, we find intense love and sexual desire, fear, and despair. The cyber-world is full of exciting and positive emotions, the price of which is also many intense, negative emotions. Especially in cyberspace, where changes and instability prevail and where there is a contradiction with reality, it is more evident that romantic dreams can be crushed. Therefore, people may be afraid to participate in this exciting cyber world because the burden of a broken heart is not easy to bear (Ben-Ze'ev, 2004). In this chapter, we will introduce the concept of cyberpsychology and provide definitions for the concepts of dating apps and sites, as well as cyber love.

### 2.1 Cyberpsychology

In contemporary society, technology permeates most aspects of human activity, leading to profound shifts in human behavior. Cyberpsychology has emerged as a crucial discipline investigating how individuals interact with and adapt to technology and digital devices (New Jersey Institute of Technology, 2023). This multidisciplinary field integrates insights from human-computer interaction, computer science, engineering, and psychology (Ancis, 2020). Cyberpsychology examines how individuals interact with each other through technological means and explores the influence of individual behavior on technological advancement. It also seeks to optimize technology to meet human needs and understand how technologies can impact individuals' psychological states (Kirwan, 2016). Fundamentally, it delves into the psychology of the virtual domain, where technology intersects with human behavior (New Jersey Institute of Technology, 2023). The transdisciplinary nature of cyberpsychology draws from a diverse

range of theoretical frameworks and continues to evolve (Ancis, 2020). Cyberpsychology researchers play a significant role in understanding behavior and designing technologies and information strategies to optimize user benefits (Kirwan, 2016).

## **2.2 Dating Apps and Sites**

Online dating has radically changed the dating landscape since its inception, i.e., 15-20 years ago (Finkel et al., Reis & Sprecher, 2012). Match.com was launched in 1995, followed by many other online dating sites (Ward, 2016). The first mobile dating apps were born in 2003, followed by the rest around 2007 (Quiroz, 2013). In a few years, dating apps have revolutionized the way to meet and interact with potential romance and sex partners (Castro & Barrada, 2020). Some of these changes have improved romantic outcomes, but many have not (Finkel et al., 2012). In addition to freedoms, opportunities, and pleasures, they bring old and new worries about risks, self-image, and love (Hobbs et al., 2017). The COVID pandemic has also changed our relationships and how we create connections (Wiederhold, 2021). Location-based mobile dating apps offer the opportunity to find love around the corner (Quiroz, 2013). Dating apps are present in the daily lives of millions of people around the world (Castro & Barrada, 2020). Today, most online dating takes place via dating apps (Narr & Luong, 2022). Young people use online dating platforms primarily for fun, developing relationships, and hooking up, while older users and women use them for relationship-related reasons (Bryant & Sheldon, 2017). Those who use apps may be disappointed when a meeting never happens because many users use the app for entertainment (Carpenter & McEwan, 2016). Most users of online dating apps have understood their value and ease of use, so experts believe that their use will continue despite -the removal of demi restrictions (Wiederhold, 2021). There are plenty of preconceived notions and stereotypes about dating apps, both at the level of research and society, which the literature supports in various nuances.

For example, women use the same amount of dating apps as men, although according to the stereotype, men use them more (Castro & Barrada, 2020).

Today, more than 1,500 dating sites or apps (Wise, 2022). Many online dating sites also offer a mobile app for their website. Dating sites differ from online dating sites in their ease. Just as it takes hours or even days to fill out a profile on online dating sites, the dating application is ready to use after adding pictures and a description (Chin et al., 2019). Indeed, most users find dating apps attractive because of their ease of use (Hobbs et al., 2017). Popular dating apps and sites in Finland are, for example, Bumble, Badoo, Eliittikumppani and E-kontakti (Treffimaisteri.com; Fiksukuluttaja.fi). Although TikTok is not an actual dating site, its users share their experiences of dating men (Woodley, 2021). Every app will eventually become a dating app (Lovine, 2020), and it is not far-fetched that TikTok is the new way to shoot your shot, as the hashtag #single has now collected 18.5 billion views (Carson, 2021). Although mobile dating apps are often marketed as free, various memberships are often offered for a fee (Quiroz, 2013). In dating apps, a profile is usually created, which includes, in addition to a picture, a short description of yourself, relationship settings, and location settings. The application user can like or dislike other people's profiles, and compatibility is created whenever both parties like each other (Chin et al., 2019). The number of opportunities guarantees more significant connections with potential partners (Quiroz, 2013). The Bruch & Newman (2018) study concluded that although those looking for a partner seek partners in the same desirability hierarchy, many of both sexes usually contact partners who are 25% more desirable than themselves. However, Ben-Ze'ev (2004) states that online relationships are based on written text, so verbal and intellectual traits such as wit, humor, and articulating skills are valued in online romance.

The biggest obstacle to happiness is the inability to be satisfied with what we already have. Even though we are already happy, we still seek happiness by wanting it more and more, and this desire may ruin our current happiness (Ben-Ze'ev, 2004). Mobile dating apps connect users to a larger group of potential

partners, increasing the probability of rejection (De Wiele and Cambell (2019). There seems to be a gender difference in the experience of rejection, as Andrighetto, Riva, and Gabbiadini (2019) state that men rejected by desired partners online experienced increased hostility, while women did not experience the same. However, online romantic rejection causes similar feelings of rejection as men who have lost a loved one.

The results suggested that rejection experienced in mobile dating may be less significant than in offline settings. Online and mobile dating sites have user interface differences, which causes different experiences and attitudes about the experience of rejection (De Wiele & Campbell, 2019). A cynical view of dating algorithms can lead to lackluster conversations that eventually end up ghosting (Narr & Luong, 2022). People in an online relationship may become frustrated and bored, so they may either change the online relationship to an offline one or start a new one that may involve more extreme fantasies (Ben-Ze'ev, 2004).

### **2.3 Cyberlove**

A social relationship occurs between two people if they are repeatedly connected through asynchronous communication (e.g., letters, notes) or synchronous interaction (e.g., phone calls, personal conversations, joint activities). Such relationships based primarily on contacts mediated by computers, where the first contact usually occurs online, are today called online relationships or cyber relationships. (Döring, 2002). Online relationships are a type of long-distance relationship with physical separation and emotional closeness desires (Ben-Ze'ev, 2004), distinguishing them from conventional relationships where the first and essential subsequent face-to-face contact occurs (Döring, 2002). Even before the advent of the Internet, long-distance relationships were maintained using different means of communication, such as letters and telephones (Sveningsson, 2002). Although online relationships involve physical distance, which may be an obstacle to emotional closeness, self-disclosure sometimes occurs online, and



long-lasting conversations generate significant emotional closeness and, thus, strong feelings (Ben-Ze'ev, 2004).

Theoretically, there is no way to oppose the idea that a love relationship is primarily or exclusively based on online contacts because, in principle, passion, closeness, and commitment can also be conveyed through the asynchronous or synchronous exchange of digital text, audio, or image messages (Döring, 2002). Online relationships involve more mental resources than offline relationships, as these relationships are emotionally very intense. Although those in an online relationship have never met, they are still close, sharing intimate information and typical desires (Ben-Ze'ev, 2004). The stages of relationship development are opposite in online and offline relationships, but both are about getting to know each other (Sveningsson, 2002). Today, technology-mediated communication has significant real-life consequences at every stage of a love life, from initiation to maintenance and finally to dissolution (Kwok & Wescott, 2020). Like other long-distance relationships, an online relationship can be very satisfying despite its shortcomings, and online relationships can become stable and continuous (Ben-Ze'ev, 2004).

Converting an online romantic relationship into an offline one presents challenges, such as the imperfection of online affairs, the difference between a virtual and a real partner, appearance, and thus external attraction, giving up a successful means of communication, and various practical difficulties that arise from such a change. It is impossible to predict whether a particular relationship will be strong enough to overcome these difficulties (Ben-Ze'ev, 2004). According to Wang, Chih-Chien, Chang & Ya-Ting (2010), in cyber relationships, physical attraction does not play a decisive role in developing a relationship as it does in an offline relationship. Even if they want to avoid risks, most people who are in love with their online partner want to meet another person, and they do not want to lose an opportunity in love and regret it for the rest of their lives (Ben-Ze'ev, 2004). The term "crushing" in this context refers to an intense and typically transient infatuation that someone experiences towards another person

(Merriam-Webster, 28.09.2023). It constitutes a profound sense of admiration or attraction towards someone, often involving butterflies in the stomach, daydreaming, and a desire to be close to that person (The Free Dictionary, 28.09.2023). The risks can include Ghosting andBreadcrumbing, which will be discussed in the next chapter.

### 3 Ghosting andBreadcrumbing

*Please, please don't call  
Don't tell me that it's over  
Why do you call  
Tears are in my eyes  
Fade away, fade away, don't fade away  
Please tell me that you stay  
That you stay with me forever  
Don't fade away  
(Musixmatch.com, Imperio – Amor Infitus, 1995)*

More recent attention has focused on the provision of Ghosting. Television series, popular press, novels, and podcasts deal with Ghosting and consider how to cope with it (LeFebvre et al., 2020). Ghosting is passive-aggressive mental cruelty that can leave psychological bruises and scars (Vilhauer, 2015). Few studies have investigated these phenomena, and there is little research on the victims of this kind of online behavior (Navarro et al., 2020a). Doing more research on Breadcrumbing is essential, as there still needs to be more material on the subject. To explore these concepts, it is worth clarifying what “crushing,” Ghosting and Breadcrumbing mean. In this chapter, we introduce the concepts of crushing, Ghosting and Breadcrumbing and familiarize ourselves with their previous research.

#### 3.1 Ghosting

Ghosting suddenly ceases all contact with a person without explanation (Merriam-Webster; Dictionary.com, 28.09.2023). For example, in a romantic relationship, Ghosting is a way to end the relationship (Freedman et al., 2019). Ghosting has control over the entire Ghosting situation (Yap et al., 2021). The Ghosting phenomenon involves avoiding and detaching from the relationship, often leaving behind questions or uncertainty (LeFebvre et al., 2019). Digitality creates new opportunities to escape from unwanted reconnections without ending the relationship. Dissolving a relationship occurs via one or more

technical means (LeFebvre et al., 2019). The Ghosting process can be either slowly withdrawing, where messages are responded to slowly or late, or suddenly, where messages are blocked or ignored. In social media, Ghosting is easy, which increases the chances of using this strategy without considering the possible consequences (Freedman et al., 2019). Individuals with a strong belief in fate found Ghosting more acceptable for breaking up relationships than those with a weaker belief in fate (Freedman et al., 2019). In particular, men with high Dark Triad traits (psychopathy, Machiavellianism, and narcissism) find Ghosting acceptable to end short-term relationships (Jonason et al., 2021). In Kay & Courtice's (2022) empirical study, the definition of Ghosting was explored, where the study participants described the characteristics of ghosts as rude, cold, mean, dependent, cowardly, and immature, which refers to the emotional consequences of Ghosting and the general perception that Ghosting can be a cruel or dysfunctional habit dissolve the relationship.

Ghosting and rejection both involve communicative language fulfillment, so it is possible that Ghosting can lead to the same negative consequences that rejection causes. According to several exclusion theories and studies, people react negatively to being ignored and excluded (Freedman et al., 2019). Although it is easy to stop communicating with another person in cyberspace, this kind of rude behavior hurts (Ben-Ze'ev, 2004). Ghosting can be considered a form of rejection, so a review of the literature on social exclusion could offer applicable considerations (Pancani et al., 2022). By understanding individuals' norms regarding Ghosting, campaigns could reduce the use of Ghosting and help develop messages for dating app users as they try to reduce the frequency of Ghosting (Powell et al., 2022).

### **3.2 Breadcrumbs**

Breadcrumbs means leaving breadcrumbs (Navarro et al., 2020a). Hansel and Gretel, in a fairy tale, the boy marks the route home with breadcrumbs, which

the birds eat, but the children cannot find again. In the dating world, however, Breadcrumbing means (Wuokko, 2022) when a person has no intention of moving things forward but likes attention. They send flirtatious messages to keep the person interested (Urban Dictionary, 2018). Nevertheless, breadcrumbers do not want to commit, manipulating people into wanting more (Muziger & Ladere, 2022). When interest weakens, the person offers more crumbs to maintain interest (Kuburic, 2022). The amount of crushing can vary from daily contacts to half-yearly contacts. However, the breadcrumbs of any crusher (or person who is crushing) never lead to the desired destination, i.e., face-to-face meetings and relationships (Wuokko, 2022). Because Breadcrumbing involves manipulation, it is a sign of emotional abuse (Muziger & Ladere, 2022) to make someone dependent on you (IANSlife, 2022). Individuals using breadcrumbs often have narcissistic traits and a superficial relationship approach (Beauchamp, 2022). Although this term is used in online dating, Breadcrumbing has always existed (Kuburic, 2022).

Clear signs of Breadcrumbing are actions that do not match words, inconsistent communication, not agreeing to meet despite requests, cancellation of plans, spur-of-the-moment plans, secretiveness about one's life, lack of interest and emotional roller coaster (Muziger & Ladere, 2022). Breadcrumbing is used when a person needs attention, is insecure or feels lonely, is already in a relationship but wants a backup plan, likes another party but does not want to commit, or is not ready to let go of another party (Kuburic, 2022). According to psychotherapist Mikael Saarinen (2022), the crusher's behavior has no justifiable reason. However, he sees people today living in an illusion where they imagine using various social media channels to replace human relationships (Wuokko, 2022). According to Saarinen (2022), there can also be efficient thinking in the crushing, which the consumer society encourages us to do - we think that maintaining normal human relationships is too time-consuming and inefficient. Breadcrumbing offers an excellent platform for the avoidant attachment model (Finland's most common attachment relationship). Human relationships are

uncertain, so it is safer not to get close to another person, but a person's basic need to be seen and loved is not met.Breadcrumbing can seem intoxicating and time-consuming for someone looking for true love. Giving up one's dreams and imagination can be challenging, even if the relationship has yet to progress beyond texting (Wuokko, 2022).

### **3.3 Ghosting and Breadcrumbing: Research**

Previous research has extensively explored the phenomena of Ghosting and Breadcrumbing, shedding light on their prevalence and psychological effects. Previous studies have found that Ghosting is somewhat normalized in online dating (Timmermans et al., 2021). Freedman, Powell, Le & Williams (2019) examined the connection between implicit relationship theories and Ghosting in two studies. Of the study participants, 23-25.3% had been ghosted, and 18.9-21.7% had ghosted their previous romantic partner. In a study by Astleitner, Bains, and Hörmann (2023), which investigated the role of personality and experiences of using social media on mental health, it was found that the victimization of Ghosting increased. According to a study by PlentyOf-Fish (a Canadian online dating service), almost 80% of singles aged 18-33 have become ghosted (MacClean, 2016). Relationships that had ended with Ghosting were, on average, six months long and had an average commitment rating of more than 4 (on a scale of 1-7), which suggests that Ghosting is not just a breakup strategy for short-term or casual relationships (Koessler et al., 2019).

There is less empirical evidence for Breadcrumbing than for Ghosting (Navarro et al., 2020a). 35.6% of Spanish adults have been victims of Breadcrumbing (Navarro et al., 2020b). As Breadcrumbing may lead to continuous waiting, it may make recovery from the separation process more difficult, as it may cause emotional tension and dissatisfaction with life (Navarro et al. (2020a). Compared to Ghosting, Breadcrumbing may be experienced as a

more robust rejection experience and, therefore, has more negative mental health effects (Navarro et al., 2020a).

In mobile dating, rejection occurs in six primary ways: Ghosting, ignoring, swiping, rejection messages, unmatching, and blocking, of which the most frequent form of rejection is Ghosting (De Wiele & Campbell, 2019). Women are more likely to ghost in social networks, except for disappearances, where no difference was found between men and women (Biolcati et al., 2021). Men's offensive behavior on social media may be the reason for women's lesser fear of being Ghosted (Astleitner et al., 2023). Those with a strong belief in fate do not view Ghosting as bad as those with a weaker belief in fate (Freedman et al.). The consequences of being a victim of Ghosting andBreadcrumbing have not been studied so far. However, it can be assumed that being a victim of Ghosting and Breadcrumbing causes adverse effects on their future relationships and increases the experience of uncertainty (Navarro et al., 2020). After this study, there has also been a study of the experiences of Ghosting victims, as Thomas & Dubar's (2021) qualitative study investigated the psychological consequences of emerging adults that resulted from Ghosting. In the study, the Ghosting felt somewhat guilty about their actions. However, their feelings of guilt were caused by possible difficulties that might arise when encountering the victim of the Ghosting. In contrast, the victims of the Ghosting felt that they had been abandoned and would experience a lack of trust and a general feeling of hopelessness in future relationships.

The opinions of psychologists and sociologists have been reported in the media, warning about the harmful consequences of Ghosting and Breadcrumbing (Navarro et al., 2020a). When people feel excluded on the Internet due to the breakup or failure of a relationship, individuals can react psychologically with discomfort with various emotions, such as social pain, loneliness, and anxiety, when they feel that they have been excluded (Navarro et al., 2020a). Surprisingly, however, the Ghosting experience is not more painful even if there is sexual intimacy with the Ghosting (Timmermans et al., 2021). It is

good to deepen the understanding of Ghosting, its prevalence, and its related factors because the consequences can be destructive or hostile (Freedman et al., 2019). Ghosting experiences can lead individuals to think and believe something is fundamentally wrong with them (LeFebvre et al., 2020). Victims of Ghosting often feel guilty about what happened and reflect that they did something wrong, but they also feel unfairness and anger, especially in the absence of satisfactory explanations. Ghosting also causes sadness and loss, often accompanied by loneliness, rejection, and hurt (Pancani et al., 2021). Similarly, Timmermans, Hermans, and Oprea (2021) found that Ghosting causes sadness, hurt, feelings of anger, and disappointment.

Messaging on dating apps takes time and energy, so users get depressed after being ghosted soon after getting to know each other. Realizing their match does not respond or falters at the last minute is disappointing (Narr & Luong, 2022). It is important to remember that if someone ghosts, it does not reflect your worthiness for love, so do not let bad behavior take away your faith in a better future by internalizing your vulnerability and excluding yourself from another relationship (Vilhauer, 2015). Some coping mechanisms (such as rationalizing Ghosting as part of using dating apps) may prevent low self-esteem among dating app users (Timmermans et al., 2021). Dating apps could suggest messages that change the perceived norms of Ghosting, such as Your friends do not typically Ghost their prospective partners, and you should not either (Powell et al., 2022). Thomas & Dubar (2021) also speculated that social media applications could take advantage of the results of their study by publishing guidelines on online dating etiquette that highlight the perceived negative consequences of Ghosting.



## 4 Personality

Although Ghosting andBreadcrumbing have garnered interest, there are still significant gaps in understanding, particularly concerning individual differences such as personality traits and their effects. This research aims to address this knowledge gap, focusing specifically on the connections between the victim's personality traits and Ghosting and Breadcrumbing. The goal is to determine which personality traits may predispose individuals to these phenomena and how Ghosting and Breadcrumbing may impact an individual's overall well-being. The findings of this study can provide valuable insights into these phenomena of digital interaction and their effects on individuals.

Personality has broad individual differences in behavior, thinking, and emotions (McAdams & Pals, 2006) that distinguish individuals from each other (Roberts et al., 2008). Personality is built on past experiences but is also influenced by a person's current experiences and anticipation of the future (Metsäpelto & Feldt, 2015). Life stories have individual differences in themes and plots, changing significantly over time reflecting personality development (McAdams & Pals, 2006). Individuals have a different view of their traits than external observers (McCrae & Costa, 2008). Personality is supposed to substantially affect situations with no extraordinary social expectations about how to behave (Jule, 2017). Personality traits manifest more strongly in individualistic cultures emphasizing individuality and individual freedom than in collectivist cultures emphasizing community (Metsäpelto & Feldt, 2015).

Individual personality traits are relatively permanent (McAdams & Pals, 2006). The permanence of personality is the basis of human relationships, as children learn from an early age that human behavior is somewhat predictable (Metsäpelto & Feldt). However, it is improbable that an individual's personality remains the same from childhood to old age (Jule, 2017). Some studies have found that personality traits change somewhat during life, such as Roberts, Wood & Caspi's (2008) study, which estimated that personality traits change, e.g.,

from the individual's reaction to random events, by modeling others and based on the feedback received from other people. However, personality development studies emphasize that personality traits have been stable for several decades (Jule, 2017).

Men showed significantly higher emotional stability and lower levels of conscientiousness in the Big Five personality traits than women in Ghosting (Biolcati et al., 2021). Timmermans, Hermans, and Oprea (2021) found that several Ghostees reported Ghosting to protect themselves when the other party did not agree to accept their rejection and began to act aggressively during the date, such as stalking and constant sending of unsolicited messages. More likely, Ghosting behavior is caused by the individual's rejection sensitivity and eagerness to be attached. Since they are more likely to be active on online dating platforms, ghosting is common. Narr & Luong (2022) state that Ghosting, flaking, and boredom are related to each other and have a mutually reinforcing effect because, in dating apps, messages are often sent when you are bored, in which case boring messages are sent, and the result is Ghosting and flaking. In the study of LeFebvre, Rasner, and Allen (2020), the three most significant reasons why non-initiators felt they had become ghosts emerged: loss of interest, an alternative partner, and not being ready for a relationship. Also, in the Thomas & Dubar (2021) study, a lack of interest emerged and, in addition e.g., avoiding confrontation or conflict and avoiding emotional intimacy for fear of the relationship moving to the next level.

#### **4.1 Big Five**

The Big Five personality model is probably the best-known in personality psychology (McAdams & Pals, 2006). Several studies have shown the five-factor model as a repeated and comprehensive classification of personality traits (McCrae et al., 1987). Several researchers contributed to the discovery of the original Big Five dimensions. First, Fiske (1949) built simplified descriptions of

Cattell's variables, which was continued by Tupes and Christal (1961), finding "five relatively strong and recurring factors." Norman (1963), Borgatta (1964), and Digman and Takemoto-Chock (1981) have replicated this five-factor structure in lists derived from Cattell's 35 variables. In the mid-1980s, research on personality structure increased considerably, and factor structures resembling the Big Five were identified in many sets of variables, e.g., Goldberg (1990), McCrae & Costa (1985a; 1987) (John et al., 2008).

## 4.2 Five-Factor Theory

Nowadays, there is a reasonably broad consensus that the personality characteristics that describe the most essential individual differences are located in the factor space, which is described by five independent dimensions (Lönnqvist & Tuulio-Henriksson, 2008). The Big Five classifies the expected differences in social and emotional life into five categories: extraversion, neuroticism, conscientiousness, agreeableness, and openness to experience (McAdams & Pals, 2006) according to the program prepared by McCrae & Costa (2008) (McAdams & Olson, 2010). Figure 1 lists the factors determining these features and some of their representative features. Each factor is bipolar, and the binaries align extraversion-introversion, agreeableness-antagonism, conscientiousness-undisciplined, openness-closeness, and emotional stability – neuroticism (Antonioni, 1998). Each of the five factors also includes more specific features (McAdams & Olson, 2010).

### 4.3 Big Five theory

#### 4.3.1 The Five-Factor Model of Personality

<p><b>Neuroticism</b></p>	<ul style="list-style-type: none"> <li>• Calm - Worrying</li> <li>• Even-tempered - Temperamental</li> <li>• Self-Satisfied - Self-pitying</li> <li>• Comfortable - Self-conscious</li> <li>• Unemotional - Emotional</li> <li>• Hardy - Vulnerable</li> </ul>
<p><b>Extraversion</b></p>	<ul style="list-style-type: none"> <li>• Reserved - Affectionate</li> <li>• Loner - Joiner</li> <li>• Quiet - Talkative</li> <li>• Passive - Active</li> <li>• Sober - Fun-loving</li> <li>• Unfeeling - Passionate</li> </ul>
<p><b>Agreeableness</b></p>	<ul style="list-style-type: none"> <li>• Ruthless - Softhearted</li> <li>• Suspicious - Trusting</li> <li>• Stingy - Generous</li> <li>• Antagonistic - Acquiescent</li> <li>• Critical - Lenient</li> <li>• Irritable - Good-natured</li> </ul>
<p><b>Openness to Experience</b></p>	<ul style="list-style-type: none"> <li>• Down-to-earth - Imaginative</li> <li>• Uncreative - Creative</li> <li>• Conventional - Original</li> <li>• Prefer routine - Prefer variety</li> <li>• Uncurious - Curious</li> <li>• Conservative - Liberal</li> </ul>
<p><b>Conscientious</b></p>	<ul style="list-style-type: none"> <li>• Negligent - Conscientious</li> <li>• Lazy - Hardworking</li> <li>• Disorganized - Well-organized</li> <li>• Late - Punctual</li> <li>• Aimless - Ambitious</li> </ul>

Figure 1 The Five-Factor Model of Personality adapted from Costa & McCrae (1986)

Extraversion is related to an individual's sociability, self-confidence, and sociability (Antonioni, 1998), while introverts are reserved, thoughtful, and enjoy being alone (Blumer & Döring, 2012). Based on Antonioni (1998) it is hypothesized that:

*H1a: Extroverts may be less susceptible to becoming victims of Ghosting because they are typically sociable and favor open communication and confrontation in challenging situations.*

*H1b: Extroverts may be more prone to becoming victims ofBreadcrumbing because they are generally sociable and may be willing to wait for their partner's activity and continuous communication.*

Agreeableness is related to an individual's willingness to cooperate, warmth, understanding, and compassion, compared to antagonism, which is related to rudeness, harshness, dishonesty, and indecision (Antonioni, 1998). Based on Antonioni (1998) it is hypothesized that:

*H2a: Individuals with high levels of agreeableness may be more susceptible to becoming victims of Ghosting. They may be inclined to give their partner another chance and tolerate unclear communication for a longer period.*

*H2b: High agreeableness can also predispose individuals to becoming victims of Breadcrumbing. Those who are particularly compassionate, and cooperative may grant their partner excessive leeway in situations involving unclear communication.*

Conscientiousness is related to an individual's self-discipline, orderliness, and sense of duty (Blumer & Döring, 2012), while indiscipline is related to laziness, disorganization, unreliability, and indecisiveness (Antonioni, 1998). Based on Antonioni (1998) and Blumer & Döring (2012) it is hypothesized that:

*H3a: High conscientiousness may reduce the likelihood of becoming a victim of Ghosting. Conscientious individuals may quickly recognize unreliable behavior and establish boundaries.*

*H3b: Conscientiousness can decrease the risk of becoming a victim ofBreadcrumbing. Conscientious individuals may be more precise in detecting ongoing ambiguity and demanding clear communication.*

People who are open to experience are curious and value creativity, alternative ideas, and perspectives (Blumer & Döring, 2012), in contrast to closeness, which is conservative in its opinions, settled, and pragmatic (Antonioni, 1998). Emotionally stable individuals are calm, confident, and patient (Antonioni, 1998), while neuroticism is characterized by anxiety, anger, pain, and depression (Blumer & Döring, 2012). Neuroticism appears to have adverse effects, such as more difficulty quitting smoking due to intense anxiety, self-blame, and negative feelings that may result in emotional distress (McCrae & John, 1992). Nevertheless, fortunately, according to McAdams & Olson (2010), neuroticism has been found to decrease with age. Based on Antonioni (1998), Blumer & Döring (2012) and McCrae & John (1992) it is hypothesize that:

*H4a: Individuals with a high level of openness to new experiences and ideas are less susceptible to becoming victims of Ghosting. They may exhibit a greater willingness to comprehend intricate nuances in communication and potentially seek resolution for ambiguities within their relationships.*

*H4b: Individuals with an open personality trait may be more susceptible to becoming victims of Breadcrumbing. They might be more interested in alternative ideas and willing to give their partner the opportunity for continuous renewal, even when communication is unclear.*

*H5a: High neuroticism is associated with a greater likelihood of becoming a victim of Ghosting. Individuals who are more sensitive to anxiety and fear of rejection may take Ghosting more personally and experience it more intensely.*

*H5b: High neuroticism may increase the likelihood of becoming a victim ofBreadcrumbing. Neurotic individuals may interpret unclear communication more negatively and harbor suspicions regarding their partner's motives.*

Building upon the contributions of Antonioni (1998), Blumer & Döring (2012), and McCrae & John (1992), the fourth research question at hand is articulated as follows:

*RQ 4: In the context of online dating, is the level of neuroticism higher among those who have experienced Ghosting or Breadcrumbing compared to those who have not?*

These are the basic dimensions of personality that many personality theorists have emphasized in one way or another. The model certainly does not explain everything one wants about personality but provides a helpful starting point (McCrae & John, 1992).

## 5 Research Methodology

In this chapter, the research methods of the empirical study are presented. The study aimed to investigate the prevalence of the phenomena of Ghosting andBreadcrumbing, their impact on the victim, and whether the victim's personality influences how they perceive these phenomena. The research was conducted using a quantitative approach, as the survey collected data measured on various scales, enabling examination in numerical form. The statements are rated on a five-point scale, with 1 indicating strong disagreement and 5 indicating strong agreement.

### 5.1 Participants

Thirty-two respondents participated in the survey, but fewer participants responded to some of the questions. Students from the University of Jyväskylä participated in the study, and in addition, the survey link was shared on LinkedIn, on the Vauva.fi website, and through Mimmit Koodaa contact person to their community (see Table 1).

Table 1 Distribution of the survey respondents

<b>Gender</b>	<b>Participants</b>
Female	18
Male	12
Other	1
<b>Total</b>	<b>31</b>

<b>Aged</b>	<b>Participants</b>
18-25	4
26-33	11
34-41	6
42-49	8
50-57	1
58 or older	1
<b>Total</b>	<b>31</b>



<b>Sexual identity</b>	<b>Participants</b>
Heterosexual	28
BI- sexual	2
Other	2
<b>Total</b>	<b>32</b>

<b>Relationship status</b>	<b>Participants</b>
In a relationship	3
Cohabiting/ Married	16
Single	11
Other	1
<b>Total</b>	<b>31</b>

<b>Online dating app</b>	<b>The number of responses</b>
Tinder	22
Badoo	4
Bumble	4
OK Cupid	4
Other	8
In the realm of dating apps, I lack experience.	8
<b>Total</b>	<b>50</b>

## 5.2 Measures: Survey design

Based on examples from the literature review, it was decided to utilize a quantitative questionnaire as the chosen method in this study. In this study, data were collected through an online survey administered via the Webropol survey platform. The survey was conducted in the Finnish language. The survey was conducted online through LinkedIn and the [www.vauva.fi](http://www.vauva.fi) discussion forum and distributed to all University of Jyväskylä students. Completing the survey took approximately 10 minutes. Participation was entirely anonymous. A survey was designed to investigate the research questions, incorporating Likert scale questions related to Ghosting andBreadcrumbing online and within mobile applications. Additionally, the Big Five personality traits model assessed the respondents' personalities. The research questions were addressed through a

multiple-choice survey concerning Ghosting andBreadcrumbing within web and mobile applications.

Additionally, the respondent's personality was assessed using the Big Five personality traits model. Initially, participants were presented with a survey that solicited background information, including gender, age, and prior experiences with dating apps. Subsequently, an explanation of the concepts of Ghosting and Breadcrumbing was provided, followed by the respondent's completion of questions about these phenomena.

### **5.2.1 Survey Questions**

The questionnaire was initially implemented in Finnish and subsequently translated into English. The questionnaire underwent a linguistic validation process with the assistance of a professional translator, which ensured the similarity of the questionnaires.

The survey was structured to gather insights into participants' experiences with online dating apps, specifically focusing on the phenomena of Ghosting and Breadcrumbing. Apart from demographic questions, the questionnaire used Likert scales of 1 = never to 5 = Very often, 1 = Strongly disagree ... 5 = Strongly agree, 1 = Not surprised at all, 7 = Very surprised, and Completely expected, 7 = Not at all expected, and 1 = Not surprised at all, 7 = Very surprised, and Not shocked at all, 7 = Very shocked, 1 = Not painful at all, 10 = Extremely painful and No (0) or yes (1).

The survey aimed to gather information on participants' online dating experiences, personality traits, and encounters with Ghosting and Breadcrumbing. The survey instrument underwent meticulous development and refinement to ensure clarity and alignment with research objectives. Clear and concise questions related to study variables were formulated. A pilot test with a small sample of individuals was conducted to enhance instrument reliability and validity—feedback from pilot test participants guided necessary survey adjustments.

Timmermans conducted Research on Ghosting et al. (2020) in their article *Gone with the Wind: Exploring Mobile Daters' Ghosting Experiences*. Similar questions were employed in this study, and the same questions were utilized in the inquiries related to Breadcrumbing to facilitate a comparative analysis of these two phenomena using identical queries (see Table 2).

Table 2 Questionnaire item examples for the pilot survey

<b>Factor</b>	<b>Questionnaire item</b>	<b>Sourced from</b>
Ghostee frequency self/others	How often have you experienced being "ghosted" by a romantic partner on a dating app? 1 = never to 5 = Very often.	Timmermans et al. 2020
Ghoster frequency self/others	How often are you Ghosting a romantic partner on a dating app? 1 = never to 5 = Very often.	Timmermans et al. 2020
Face-to-face contact	Have you ever met a romantic partner in person who subsequently ghosted you? No (0) or yes (1).	Timmermans et al. 2020
Duration of contact	How long were you talking or dating before the other person ghosted? (1) a couple of hours or less, (2) a day, (3) a couple of days, (4) a week, (5) a couple of weeks, (6) a month, (7) a couple of months, (8) half a year, (9) more than a year.	Timmermans et al. 2020

Intensity of the contact	How intense did you experience the contact with the person who ghosted you?	Timmermans et al. 2020
Expectency	Did you expect Ghosting? 1=completely expected...7 = not at all expected	Timmermans et al. 2020
Painfulness	How painful was your experience of being ghosted? 0 = Not painful at all, 10 = Extremely painful.	Timmermans et al. 2020

### 5.2.2 The Big Five personality test - BFI-10.

A central method employed in this study for measuring personality was the short version of the Big Five personality test, BFI-10. The Big Five personality model is among the most widely accepted and utilized personality theories, encompassing five core dimensions: openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism (see Table 3) (Rammstedt & John, 2007).

The BFI-10 was explicitly developed for situations where participants' time is limited. This 10-item version is derived from the original 44-item BFI-44 evaluate (Rammstedt & John, 2007). One of the primary reasons for using the BFI-10 in this study was to keep the survey suitably short, aiming for a higher response rate and avoiding respondent fatigue, a common concern in lengthy surveys.

Despite being substantially shorter than the BFI-44, the BFI-10 still demonstrates notable levels of reliability and validity (Rammstedt & John, 2007). In particular, the part-whole correlations of the BFI-10 with the scales of the original BFI-44 were strong, suggesting that the short version is representative and capable of measuring the exact personality dimensions as the original version. Moreover, the retest reliability, structural validity, and external validity of the BFI-10 based on peer reviews were all promising (Rammstedt & John, 2007). In conclusion, the

BFI-10 offers a reliable and efficient way to measure core personality dimensions, especially in studies where time is of the essence and a short survey is desirable.

Table 3 Questionnaire item personality (Rammstedt & John, 2007)

Questions	Measure a personality trait
I see myself as someone who...	
1. ...is cautious.	Extraversion
2. ...is generally trusting.	Agreeableness
3. ...is prone to laziness.	Conscientiousness
4. ...is laid-back and handles stress well.	Neuroticism
5. ...is not very interested in art.	Openness
6. ...is outgoing and sociable.	Extraversion
7. ...finds faults in others.	Agreeableness
8. ...does thorough work.	Conscientiousness
9. ...gets easily nervous.	Neuroticism
10. ...has a vivid imagination.	Openness

Once the survey was finalized, it was distributed across various platforms to ensure a broad age distribution and diverse experiences concerning online dating. Both vauva.fi and LinkedIn provided avenues for gathering responses from different age demographics while targeting the students at the University of Jyväskylä offered insights from a younger generation, typically more active on these platforms.

Participants were encouraged to provide honest and comprehensive responses. Thorough validation procedures ensured data accuracy, including completeness and consistency checks. Following data collection, rigorous statistical analysis was conducted using SPSS version 28.0.0.0 (190) to explore variable relationships and test study hypotheses. The combined implementation of these techniques and data collection stages facilitated a comprehensive and robust examination of research questions and hypotheses.

Webropol maintains high data security, with data storage confined within the European Union. In anonymous survey research, individual respondents cannot be identified, and users access the platform via a secure TLS connection

(Webropol.fi). Its robust privacy protections partly influenced the decision to employ the Webropol survey platform. The platform guarantees that no respondents' personal information is stored or shared, ensuring complete anonymity—this choice aimed to enhance trust among participants and encourage honest responses to the questions.

A notable challenge during the survey process was garnering adequate responses. Despite efforts to disseminate the survey across various platforms, the level of engagement and interest among potential respondents varied, with specific platforms yielding lower engagement than others. Nevertheless, efforts were made to ensure the collected data was diverse and representative.

In this study, the phenomena of Ghosting andBreadcrumbing were analyzed using a survey instrument to evaluate the internal reliability of the measurement scales. This assessment was conducted by computing Cronbach's alpha coefficients ( $\alpha$ ) for each scale.

Firstly, concerning the Ghosting measures, Cronbach's alpha value for Ghostee frequency was  $\alpha = 0.721$  (see Table 4), while Ghoster frequency obtained a value of 0.768. The intensity of the contact Ghosting, Expectancy Ghosting, and Painfulness Ghosting yielded alpha coefficients of  $\alpha = 0.591$ ,  $\alpha = 0.613$ , and  $\alpha = 0.564$  (see Table 4), respectively. The alpha coefficient for the combined measure of the intensity of contact and Painfulness Ghosting was  $\alpha = 0.724$  (see Table 4).

Secondly, concerning the Breadcrumbing measures, Breadcrumbing frequency and Breadcrumbed frequency exhibited Cronbach's alpha values of  $\alpha = 0.633$  and  $\alpha = 0.672$  (see Table 4), respectively. The intensity measures of contact Breadcrumbing, Expectancy Breadcrumbing, and Painfulness Breadcrumbing had alpha coefficients of  $\alpha = 0.719$ ,  $\alpha = 0.788$ , and  $\alpha = 0.639$  (see Table 4), respectively.

Cronbach's alpha coefficients provide insights into the internal reliability of measurement scales. Higher alpha values indicate greater consistency among the items within a scale, implying better internal consistency of the measurement.

Conversely, lower alpha values suggest measurement unreliability, warranting further scrutiny and potential scale refinement.

The results suggest that Ghoster and Breadcrumbed frequencies are measurement scales with adequate internal reliability, while others exhibit lower alpha values. This finding may be valuable for considering potential revisions or refinements to the measurement scales in future research endeavors.

Table 4 Cronbach Alphas

Measure	Cronbach's Alpha	N of Items
Ghostee frequency self/others	.721	3
Ghoster frequency self/others	.282	3
Intensity of the contact Ghosting	.591	3
Expectency Ghosting	.613	3
Painfulness Ghosting	.564	3
Breadcrumbing frequency self/others	.672	3
Breadcrumbed frequency self/others	.633	3
Intensity of the contact Breadcrumbing	.719	3
Expectency Breadcrumbing	.788	3
Painfulness Breadcrumbing	.639	3

### 5.3 Procedure

Ensuring the ethical treatment of participants was of paramount importance throughout the entire research process. Participation in the study was voluntary, and all responses were handled confidentially. Their names and answers were not linked to names or other personal information and were not shared with third parties.

Participants were provided with a clear explanation of the research's purpose, and they were recruited by distributing the survey across various online

platforms and social media channels, aiming to reach individuals actively engaged in online dating.

Data collection was conducted through a secure online survey platform. The survey consisted of questions measuring personality traits, online dating experiences, and the effects of Ghosting andBreadcrumbing. Participants were encouraged to respond to the questions honestly and thoughtfully. No personally identifiable information was collected during the survey to protect participants' anonymity.



## 6 Results

Thirty-two individuals participated in the survey, and its data was utilized to measure ten constructs. Information related to Ghosting andBreadcrumbing was assessed by comparing it with personality traits. The SPSS software was employed to evaluate the normal distribution of each studied construct and Pearson`s correlation analyses as required. The results were reported in a manner that ensured participants' anonymity and the confidentiality of their responses.

Among the survey respondents, 42% had experience with more than one online dating application, while 32% of participants had experience with a single application. The most common experience was with Tinder, reported by 69% of participants, followed by Badoo, Bumble, and OKCupid at 13%. Other dating app experiences included Happen, City.fi, HappyPancake, Hot or Not, Muzz, Taimi, Suomi24 Treffit, Hinge, and Facebook Dating.

A significant portion of the participants had experienced Ghosting, with only 22.6% of respondents having never experienced it (see Figure 2). The incidence of Breadcrumbing was relatively infrequent, as even though most participants had encountered such behavior, 36.7 % of the participants had never experienced Breadcrumbing (see Figure 3 ). Respondents strongly believed that Ghosting occurs relatively frequently (Figure 4), and none of the respondents believed that it never happens or that someone has never experienced it. Participants experienced less Breadcrumbing compared to Ghosting (see Figure 5). The majority considered Ghosting acceptable in certain situations, with only 18.7% firmly stating it was unacceptable (see Figure 6). Conversely, the majority (53.3%) regarded Breadcrumbing as unequivocally inappropriate in any situation (see Figure 7). The majority were shocked by Ghosting (see Figure 8), as well as Breadcrumbing (see Figure 9), although the degree of shock varied widely. Most, 63.3% of the participants, had not met their Ghoster in faced (see Figure 10), or their Breadcrumber, 59% (see Figure 10).

Figure 2. How often have you experienced being "Ghosted" by a romantic partner on a dating app? On a scale of 1 = never to 5 = Very often.

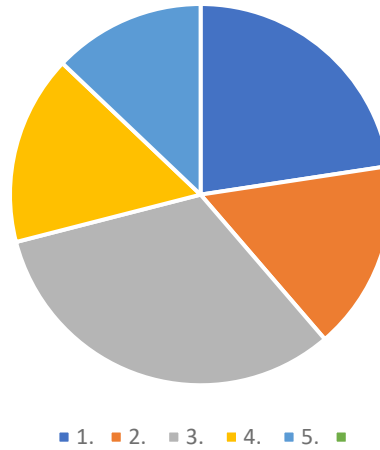


Figure 2 How often have you experienced being "Ghosted" by a romantic partner on a dating app?

Figure 3. How often have you experienced being "Breadcrumb" by a romantic partner on a dating app? On a scale of 1 = never to 5 = Very often.

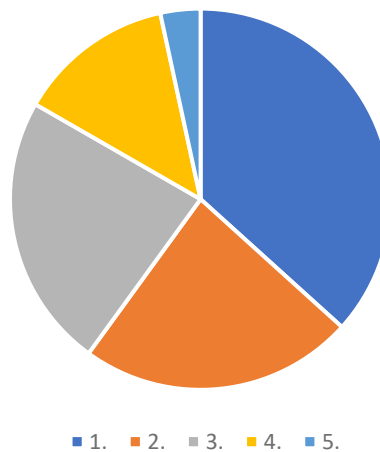


Figure 3 How often have you experienced being "Breadcrumb" by a romantic partner on a dating app?

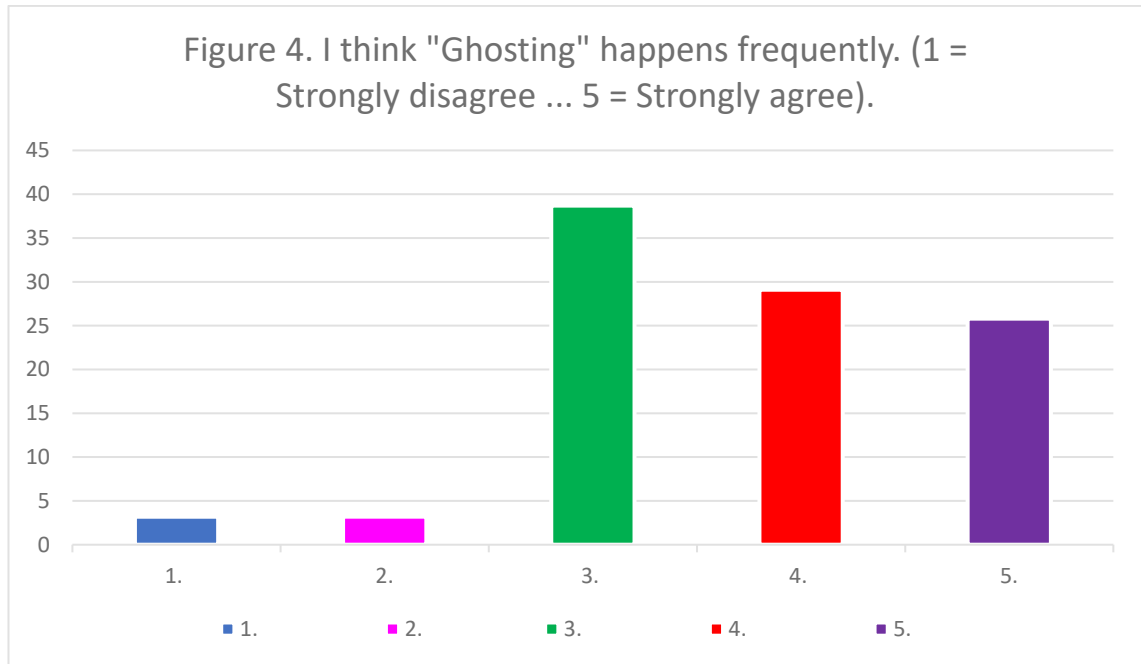


Figure 4 I think "Ghosting" happens frequently.

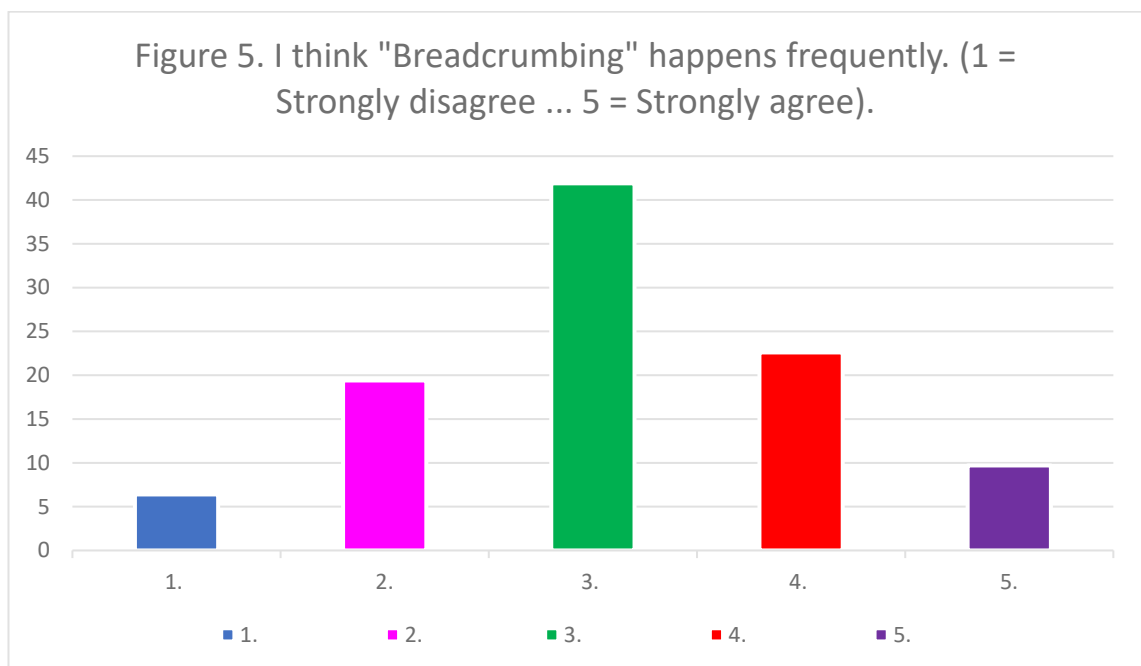


Figure 5 I think "Breadcrumbing" happens frequently.

Figure 6. I think ignoring someone (Ghosting) is acceptable in certain situations. (1 = Strongly disagree ... 5 = Strongly agree).



Figure 6 I think ignoring someone (Ghosting) is acceptable in certain situations.

Figure 7. I thinkBreadcrumbing is acceptable in certain situations. (1 = Strongly disagree ... 5 = Strongly agree).

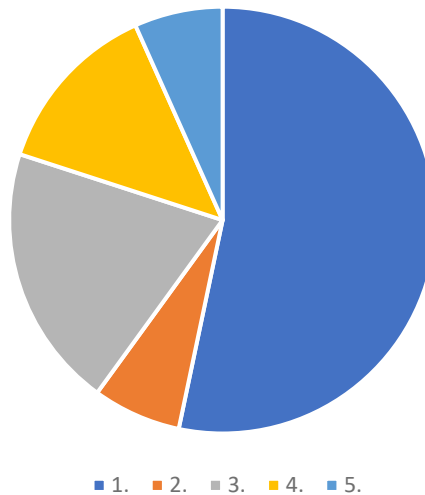


Figure 7 I think Breadcrumbing is acceptable in certain situations.

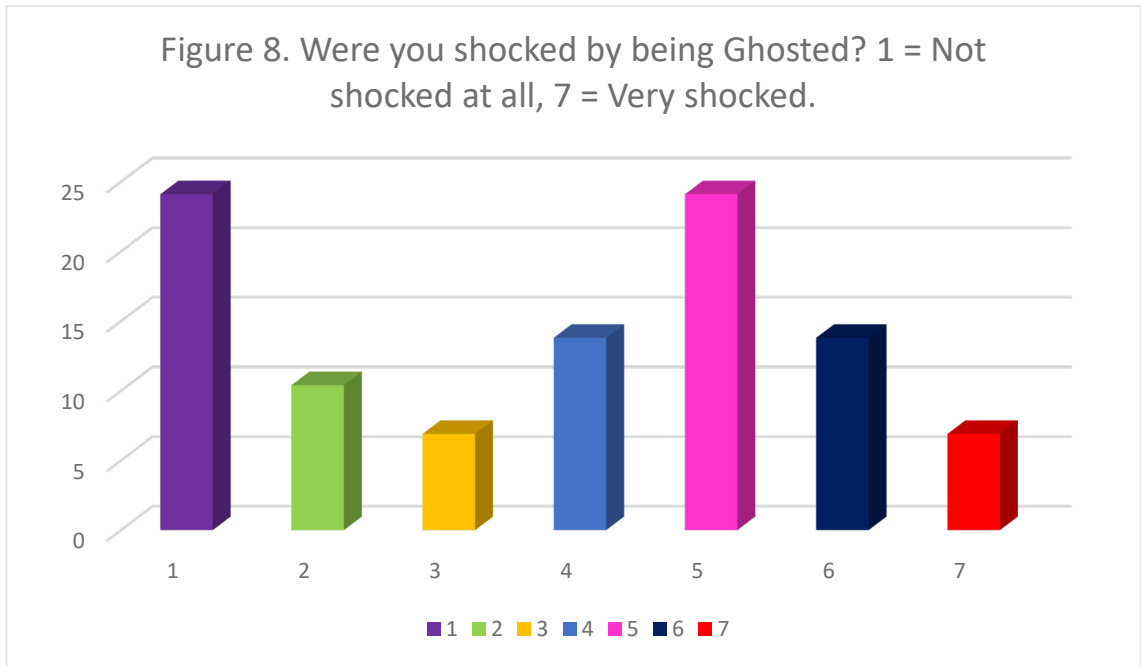


Figure 8 Were you shocked by being Ghosted?

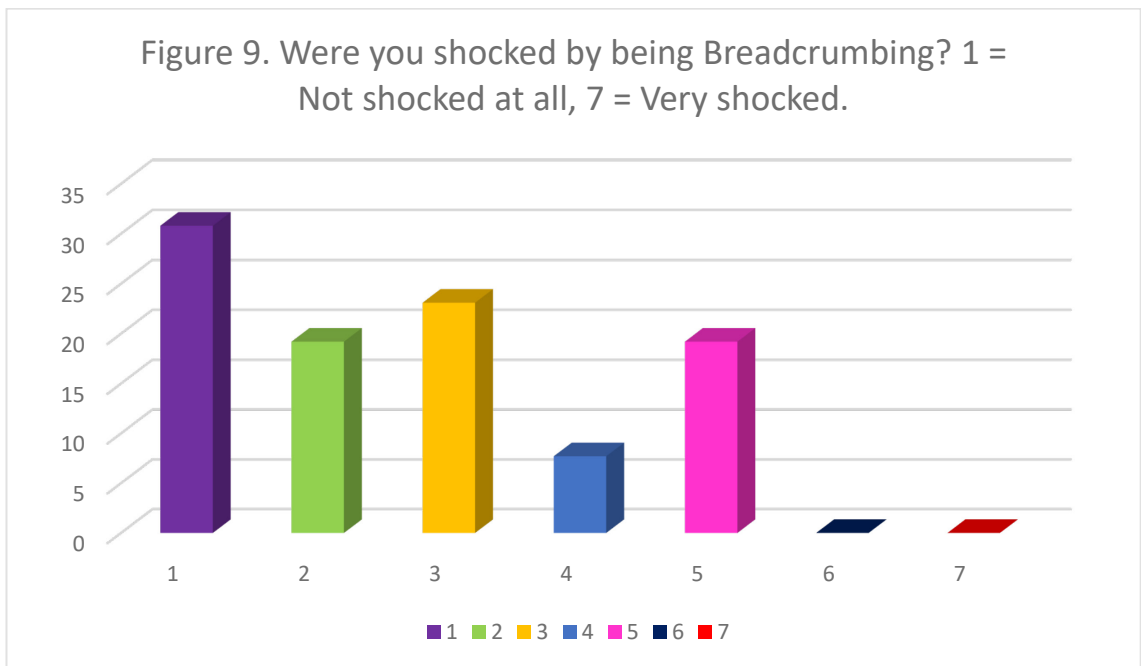


Figure 9 Were you shocked by being Breadcrumbed?

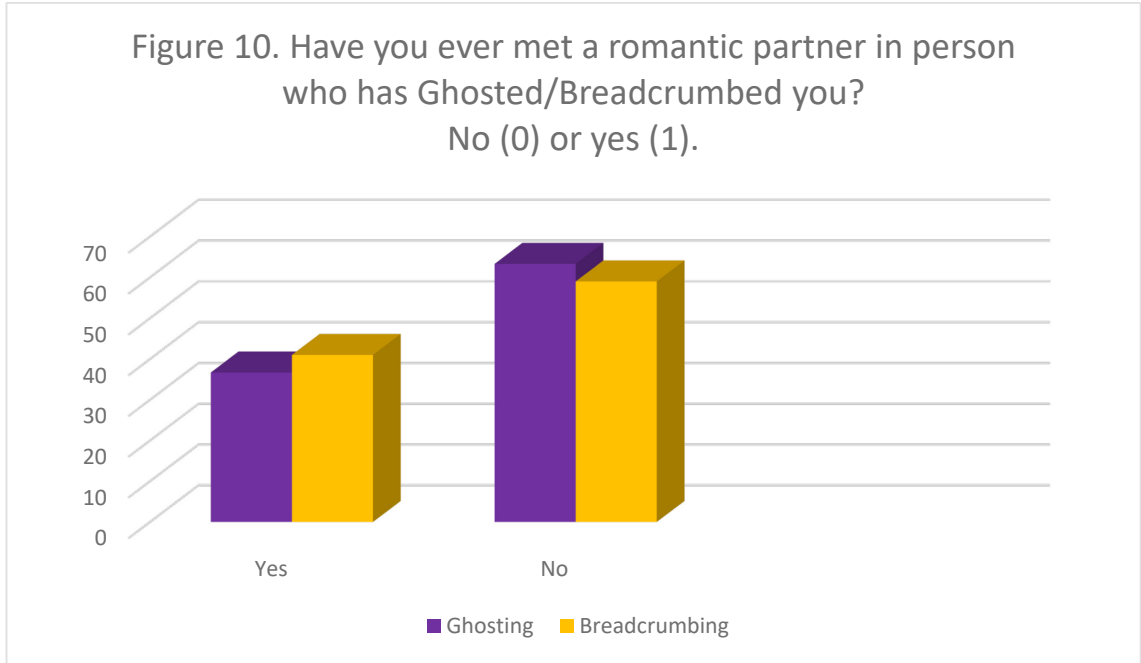


Figure 10 Have you ever met a romantic partner in person who has Ghosted/Breadcrumbed you?

By adhering to these ethical procedures and methodological steps, this research aimed to provide valuable insights into the phenomena of Ghosting and Breadcrumbing and the influence of personality on the victim while safeguarding the well-being and privacy of research participants.

### 6.1 Descriptive statistics Ghosting

Means and standard deviations, minimum values, and maximum values each construct is presented in Table 5. All constructs were consisting of a total of 29 - 32 respondents' answers. All standard deviations were high (>1), indicating that individual scores were far from averages.

Table 5 Minimum score, maximum score, mean and standard deviation of constructs per Ghosting variable.

Construct	Mean, standard deviation and range
-----------	------------------------------------

Ghostee frequency self/others (N = 30)	Mean: 3,35 Standard deviation: 2,63 Range: .933 (2,76 - 3,70)
Ghoster frequency self/others (N = 32)	Mean: 2,68 Standard deviation: 2.03 Range: 1.78 (1,78 - 3,56)
Intensity of the contact (N = 29)	Mean: 2,53 Standard deviation: 3,38 Range: .692 (2,15-2,84)
Expectency (N = 29)	Mean: 4,09 Standard deviation: 4,30 Range: .690 (3,72-4,41)
Painfulness (N = 29)	Mean: 3,52 Standard deviation: 4,18 Range: 2.06 (2,41-4,48)

## 6.2 Descriptive statistics Breadcrumbs

Means and standard deviations, minimum values, and maximum values each construct is presented in Table 6. All constructs were consisting of a total of 26 - 30 respondents' answers. All standard deviations were high (>1), indicating that individual scores were far from averages.

Table 6 Minimum score, maximum score, mean and standard deviation of constructs per Breadcrumbs variable.

<b>Variable</b>	<b>Mean, standard deviation and range</b>
Breadcrumbs frequency self/others (N = 30)	Mean: 2,87 Standard deviation: 2,55 Range: 1.06 (2,23 - 3,30)
Breadcrumber frequency self/others (N = 30)	Mean: 2,40 Standard deviation: 2,63 Range: 1.60 (1,73 - 3,33)
Intensity of the contact (N = 26)	Mean: 3,72 Standard deviation: 1.33 Range: 2,26 - 3,18
Expectency (N = 26)	Mean: 3,09 Standard deviation: 4.35 Range: .731 (2,65 - 3,38)
Painfulness (N = 26)	Mean: 2,39 Standard deviation: 3.39 Range: 1.30 (1,88 - 3,19)

## 6.2 Ghosting and Personality

Most respondents perceived their experiences with Ghosting as moderate, although most described their experiences as intense. A significant proportion of respondents, comprising 43%, had engaged in conversations or dated for a few weeks before experiencing Ghosting. Ghosting can occur after just a few hours of communication or after several months of interaction. Only 7% reported having experienced over a year of communication before Ghosting happened, suggesting that Ghosting can occur after both short-term and more prolonged interactions. More than half of the respondents had met a romantic partner in person before becoming victims of Ghosting.

The pain associated with Ghosting is undeniable. On a scale from 1 (not painful at all) to 10 (extremely painful), respondents reported varied experiences. However, a considerable portion found the experience extremely painful, emphasizing the emotional impact of such behavior. The majority of respondents were surprised and shocked by Ghosting, and most had not expected such an event to occur, and most had not expected such an event to occur.

A Pearson correlation matrix is provided by Tables 7, 8, 9, 10, and 12, which was used for examining the linear relationships between different variables. The Pearson correlation coefficient was calculated to determine the correlations between the extremely painful experience of Ghosting and personality traits. The correlation between Ghosting Extreme Painful and Extrovert (I see myself as outgoing and sociable) is statistically significant correlation coefficient of ( $r = -.381$ ,  $n = 30$ ,  $p = 0.05$ , two-tailed) (see Table 7), indicating a negative correlation between the two variables, so this supports hypothesis H1a (see Table 11), which suggests that extroverts may be less susceptible to Ghosting, as open communication and confrontation in challenging situations are favored by them.

Regarding personality, many respondents identified as trusting and thorough in their work. There is a potential correlation between certain



personality traits, like trustworthiness, and the perceived pain from Ghosting orBreadcrumbing.

Table 7 Pearson Correlation Ghosting and personality and Extreme painfull

Questions	Measure a personality trait	Pearson Correlation	Sig. (2-tailed)	Significance
I see myself as someone who...				
1. ...is cautious.	Extraversion	.235	.212	Not significant
2. ...is generally trusting.	Agreeableness	.171	.367	Not significant
3. ...is prone to laziness.	Conscientiousness	.109	.566	Not significant
4. ...is laid-back and handles stress well.	Neuroticism	.079	.678	Not significant
5. ...is not very interested in art.	Openness	.181	.339	Not significant
6. ...is outgoing and sociable.	Extraversion	-.381	.038	The correlation is statistically significant
7. ...finds faults in others.	Agreeableness	-.181	.339	Not significant
8. ...does thorough work.	Conscientiousness	.048	.800	Not significant
9. ...gets easily nervous.	Neuroticism	.097	.608	Not significant
10. ...has a vivid imagination.	Openness	.003	.986	Not significant

The Pearson correlation coefficient was calculated to determine the correlations between the painful experience of Ghosting and personality traits. According to the research findings, there is a statistically significant negative correlation ( $r = -.412$ ,  $n = 30$ ,  $p = .026$ , two-tailed.) (see Table 8) observed between Ghosting pain and the extrovert (“I see myself as someone cautious”) variable. This finding supports hypothesis H1a (see Table 11), suggesting that extroverted individuals may be less susceptible to Ghosting, as they tend to favor open communication

and confrontation in challenging situations. A Pearson correlation coefficient was computed to determine the relationship negative correlation between Ghosting distress and Openness ( $r = -.406$ ,  $n = 29$ ,  $p = .029$ , 2-tailed) (see Table 8) Pearson Correlation Ghosting and personality and Painfull.) suggests that those are openness, may be less susceptible to Ghosting, supporting hypothesis H4a (see Table 11), so this is related to the trait of openness, as openness to new experiences and ideas may indicate a greater readiness to navigate complex communication situations and strive to resolve ambiguities in their relationships.

Table 8 Pearson Correlation Ghosting and personality and Painfull.

Questions	Measure a personality trait	Pearson Correlation	Sig. (2-tailed)	Significance
I see myself as someone who...				
1. ...is cautious.	Extraversion	-.412	.026	The correlation is statistically significant
2. ...is generally trusting.	Agreeableness	.289	.129	Not significant
3. ...is prone to laziness.	Conscientiousness	.181	.347	Not significant
4. ...is laid-back and handles stress well.	Neuroticism	-.060	.025	Not significant
5. ...is not very interested in art.	Openness	-.406	.029	The correlation is statistically significant
6. ...is outgoing and sociable.	Extraversion	-.102	.600	Not significant
7. ...finds faults in others.	Agreeableness	-.106	.586	Not significant
8. ...does thorough work.	Conscientiousness	-.099	.610	Not significant

9. ...gets easily nervous.	Neuroticism	-.025	.899	Not significant
10. ...has a vivid imagination.	Openness	.154	.424	Not significant

The Pearson correlation coefficient was calculated to determine the correlations between own experience of Ghosting and personality traits. A statistically significant positive correlation of ( $r = .602$ ,  $n = 31$ ,  $p = <.001$ , 2-tailed) (see Table 9) between Ghosting Own Experience and Openness variables is observed, so this signifies that individuals who report having more experiences with Ghosting also often indicate stronger Openness. Similarly, a statistically significant positive correlation of ( $r = .444$ ,  $n = 31$ ,  $p = .012$ , 2-tailed) (see Table 9) between Ghosting Own Experience and Neuroticism is found, so this suggests that individuals with more experiences of Ghosting are also more likely to report that they are Neuroticism. These findings provide insights into the relationships between personal experiences of Ghosting and psychological traits associated with imagination and susceptibility to nervousness.

The positive correlations indicate a connection between Ghosting experiences and certain personality traits, such as a more robust imagination and a tendency to become easily nervous. Further examination and interpretation of these relationships can contribute to a deeper understanding of the psychological effects of ghosting experiences. H4a: The results partially support the hypothesis that openness (as indicated by "I see myself as someone who has a vivid imagination") (see Table 11) to new experiences and ideas is associated with a lower risk of Ghosting. H5a: The results support the hypothesis that high neuroticism (as indicated by "I see myself as someone who easily gets nervous") (see Table 11) is associated with a greater risk of Ghosting, as individuals who are more sensitive to anxiety and fear of rejection may perceive Ghosting as a more personal and intense experience.

Table 9 Pearson Correlation Ghosting own experience and personality.

Questions	Measure a personality trait	Pearson Correlation	Sig. (2-tailed)	Significance
I see myself as someone who...				
1. ...is cautious.	Extraversion	.127	.495	Not significant
2. ...is generally trusting.	Agreeableness	.105	.578	Not significant
3. ...is prone to laziness.	Conscientiousness	-.183	.325	Not significant
4. ...is laid-back and handles stress well.	Neuroticism	.128	.491	Not significant
5. ...is not very interested in art.	Openness	.252	.171	Not significant
6. ...is outgoing and sociable.	Extraversion	.174	.351	Not significant
7. ...finds faults in others.	Agreeableness	-.102	.585	Not significant
8. ...does thorough work.	Conscientiousness	.205	.585	Not significant
9. ...gets easily nervous.	Neuroticism	.444	.012	The correlation is statistically significant
10. ...has a vivid imagination.	Openness	.602	<.001	The correlation is statistically significant

### 6.2.1 Ghosting and other findings

During our research, several intriguing discoveries emerged, which were not initially within the scope of our objectives but have yielded valuable insights and deserve attention. In this section, we illuminate these unexpected findings, providing a multifaceted perspective on the Ghosting phenomenon.

In the context of Ghosting, a strong positive correlation exists of ( $r = .632$ ,  $n = 30$ ,  $p = <.001$ , 2-tailed) (see Table 10) between intensity and experiencing

extreme pain, which implies that individuals who perceive Ghosting as more intense also tend to describe it as highly painful. Conversely, there is a negative correlation of ( $r = -.381, n = 29, p = .041, 2\text{-tailed}$ ) (see Table 10) between intensity and facing the situation in person, which suggests that greater intensity is associated with individuals not confronting the phenomenon as strongly. Furthermore, there is a positive correlation of ( $r = .685, n = 28, p = <.001, 2\text{-tailed}$ ) (see Table 10) between discussion and shock, which indicates that a more discussion experience of Ghosting is linked to a higher degree of shock.

Additionally, a positive correlation of ( $r = .772, n = 29, p = <.001, 2\text{-tailed}$ ) (see Table 10) exists between shock and the extent of how painful, which implies that as the level of shock experienced increases, the extent of painful, tends to increase as well. The relatively high correlation coefficient denotes a substantial linear association between these two variables, indicating a notable concordance in their behavioral patterns. This relationship may reflect an underlying psychological or physiological mechanism, wherein shock could heighten sensitivity to pain or intensify emotional responses, thereby amplifying the reported or experienced level of pain. This association might be of particular interest in understanding the psychological or emotional dynamics in situations involving unexpected or distressing events. Further exploration and research may be warranted to better understand the intricacies of this relationship and to examine the potential moderating or mediating factors that might influence the observed correlation between shock and the perceived or actual extent of pain.

Intensity and how painful also demonstrates a positive correlation of ( $r = .511, n = 29, p = 0.05, 2\text{-tailed}$ ) and also how intense and how painful ( $r = .611, n = 29, p = <.001, 2\text{-tailed}$ ) (see Table 10) with the perception of how painful Ghosting was, which signifies that a more intense Ghosting experience is associated with a more painful emotional response.

These observations underscore the complexity of Ghosting experiences and reveal multifaceted connections between intensity and various emotional responses, such as pain, surprise, the extent of discussion, and shock. These

results extend beyond the scope of our original research questions and call for further investigation to deepen our understanding of this contemporary interactive phenomenon.

Table 10 Pearson Correlation Ghosting painful, shock, expected, discussion, intensivity

Measure Ghosting Variable	Intensivy	Extreme painful	Faced	Supraised	Discussion	How Intensivy	How painful	Shock
Intensivy	1	$r = .632, p = <.001$	$r = -.381, p = .041$	$r = .330, p = .081$	$r = .206, p = .293$	$r = .423, p = .022$	$r = .511, p = 0.05$	$r = .358, p = .056$
Extreme painful	$r = .632, p = <.001$	1	$r = .352, p = .061$	$r = .359, p = .056$	$r = .390, p = .040$	$r = .312, p = .099$	$r = .654, p = <.001$	$r = .429, p = .020$
Faced	$r = -.381, p = .041$	$r = -.352, p = .061$	1	$r = -.124, p = .523$	$r = -.434, p = .024$	$r = -.165, p = .401$	$r = -.129, p = .513$	$r = .088, p = .657$
Supraised	$r = .330, p = .081$	$r = .359, p = .056$	$r = -.124, p = .523$	1	$r = .406, p = .032$	$r = .473, p = .010$	$r = .453, p = .013$	$r = .675, p = <.001$
Discussion	$r = .206, p = .293$	$r = .390, p = .040$	$r = .434, p = .024$	$r = .406, p = .032$	1	$r = .444, p = .018$	$r = .563, p = .002$	$r = .685, p = <.001$
How intensivy	$r = .423, p = .022$	$r = .312, p = .099$	$r = .165, p = .401$	$r = .473, p = .010$	$r = .444, p = .018$	1	$r = .611, p = 0.05$	$r = .601, p = <.001$
How painful	$r = .511, p = 0.05$	$r = .654, p = <.001$	$r = .129, p = .513$	$r = .453, p = .013$	$r = .563, p = .002$	$r = .611, p = <.001$	1	$r = .772, p = <.001$
Shock	$r = .358, p = .056$	$r = .429, p = .020$	$r = -.088, p = .657$	$r = .675, p = <.001$	$r = .685, p = <.001$	$r = .601, p = <.001$	$r = .772, p = <.001$	1

Table 11 Descriptive inferential Ghosting

<b>Hypotheses</b>	<b>Supported</b>
H1a: Extroverts may be less susceptible to becoming victims of Ghosting because they are typically sociable and favor open communication and confrontation in challenging situations.	Supported
H2a: Individuals with high levels of agreeableness may be more susceptible to becoming victims of Ghosting. They may be inclined to give their partner another chance and tolerate unclear communication for a longer period.	Not supported
H3a: High conscientiousness may reduce the likelihood of becoming a victim of Ghosting. Conscientious individuals may quickly recognize unreliable behavior and establish boundaries.	Not supported
H4a: Individuals with a high level of openness to new experiences and ideas are less susceptible to becoming victims of Ghosting. They may exhibit a greater willingness to comprehend intricate nuances in communication and potentially seek resolution for ambiguities within their relationships.	Supported
H5a: High neuroticism is associated with a greater likelihood of becoming a victim of Ghosting. Individuals who are more sensitive to anxiety and fear of rejection may take Ghosting more personally and experience it more intensely.	Supported

### 6.3 Breadcrumbing and Personality

Most respondents had experience with Breadcrumbing, but only 39% had engaged in Breadcrumbing themselves. However, most respondents believed that many people experience and engage in Breadcrumbing. More than half of the respondents did not approve of Breadcrumbing, and the majority perceived the relationship as moderate and not particularly intense. Most respondents had engaged in conversations or dated for up to a few weeks before Breadcrumbing occurred. Only 4% reported an experience, of over a year of communication before Breadcrumbing. Of the respondents, 59% had met their Breadcrumbing partner in person.

Most respondents were surprised and shocked by Breadcrumbing, and most had not expected such an event to occur. The pain associated with Breadcrumbing is undeniable. On a scale of 1 (not painful at all) to 10 (extremely painful), respondents reported varied experiences. Some respondents did not find the experience very painful, while others found it extremely painful, emphasizing the emotional impact of such behavior. Breadcrumbing shock experiences and their perceived expectancies were found to have a statistically significant positive correlation ( $r = .546$ ,  $n = 26$ ,  $p = .004$ , 2-tailed) (see Table 12). Which suggests that individuals who experienced Breadcrumbing shock more intensely tended to have higher expectations of it. Breadcrumbing shock experiences and the perceived level of pain they caused exhibited a statistically highly significant positive correlation ( $r = .698$ ,  $n = 26$ ,  $p = <.001$ , 2-tailed) (see Table 12). The results indicate that the more shocking Breadcrumbing was perceived, the more painful it was generally experienced. Breadcrumbing did not exhibit correlations with personality traits. Thus, none of the hypotheses were supported (see Table 13).

A statistically significant positive correlation ( $r = .432$ ,  $n = 26$ ,  $p = .027$ , 2-tailed) (see Table 12) was observed between Breadcrumbing how painful and the extent of the conversation, which implies that experiences of Breadcrumbing are generally associated with tremendous shock when the conversation is more extensive. A statistically significant positive correlation of ( $r = .742$ ,  $n = 26$ ,  $p = <.001$ , 2-tailed) (see Table 12) was found between Breadcrumbing shock and the extreme pain it caused, which indicates that the more intense It experienced, the greater the pain it typically inflicted.

Based on these results, Breadcrumbing experiences are generally associated with expectations, pain, the extent of conversations, and intensity. These correlations were statistically significant, highlighting that the more intense Breadcrumbing experiences are, the more profoundly they impact these variables. Respondents had fewer experiences with Breadcrumbing than Ghosting, which may partly be reflected in the results.



Table 12 Pearson Correlation Breadcrumbing painful, shock, expected, discussion, intensivy

Measure	Expected	How Painful	Discussion	Intensivy	Hurt	Extreme painful
Shock	$r = .546$ $p = .004$	$r = .698$ $p < .001$	$r = .432$ $p = .027$	$r = .400$	$r = .283$	$r = .742$ $p < .001$

Table 13 Descriptive inferential Breadcrumbing

Hypotheses	Supported
H1b: Extroverts may be more prone to becoming victims of Breadcrumbing because they are generally sociable and may be willing to wait for their partner's activity and continuous communication.	Not supported
H2b: High agreeableness can also predispose individuals to becoming victims of Breadcrumbing. Those who are particularly compassionate, and cooperative may grant their partner excessive leeway in situations involving unclear communication.	Not supported
H3b: Conscientiousness can decrease the risk of becoming a victim of Breadcrumbing. Conscientious individuals may be more precise in detecting ongoing ambiguity and demanding clear communication.	Not supported
H4b: Individuals with an open personality trait may be more susceptible to becoming victims of Breadcrumbing. They might be more interested in alternative ideas and willing to give their partner the opportunity for continuous renewal, even when communication is unclear.	Not supported
H5b: High neuroticism may increase the likelihood of becoming a victim of Breadcrumbing. Neurotic individuals may interpret unclear communication more negatively and harbor suspicions regarding their partner's motives.	Not supported

Respondents hold relatively neutral views on the personality traits described in the survey statements. Some traits, such as trustworthiness and thoroughness, received a majority of affirmative responses, while others, like irritability and fault-finding, garnered a majority of negative responses.

The study revealed that Ghosting and Breadcrumbing are common in online dating applications. They induce emotional pain, and experiences vary

widely. Personality traits may influence how these phenomena are perceived. Most respondents were surprised and shocked by both Ghosting andBreadcrumbing. By better understanding these phenomena, we can promote healthier interactions in online dating applications. The findings indicate that Ghosting and Breadcrumbing constitute significant phenomena within online dating, exerting a considerable impact on individuals. Notably, the intensity of these phenomena and their pain demonstrate a correlation, with Ghosting additionally being associated with elements of surprise and shock.

In terms of Ghosting, a negative correlation was observed between extroversion and the pain experienced, while in the case of Breadcrumbing, no notable connection was discerned with personality traits (see Table 13). Significant positive correlations were identified between the experiences of Ghosting and resultant pain, as well as between intensity and the feelings of surprise/shock. For Breadcrumbing, positive correlations were also found between the shock of the phenomenon and expectations, pain, extent of discussion, and intensity. The study affirms that Ghosting are intricate phenomena whose effects on individuals can be diverse and potent and that certain personality traits can influence experiences of these phenomena and the pain they induce. This information can enhance our comprehension of the online dating world and provide support and resources for those grappling with the negative consequences of these phenomena.

Both the intensity of Breadcrumbing and its associated pain level revealed a significant correlation (see Table 12), pointing to a relationship between the intensity of Breadcrumbing and the pain it induces. These correlations suggest that the phenomena of Ghosting have significant impacts on individuals, and these impacts may be associated with individual personality traits.

## **7 Discussion**

Previous literature indicates that the use of online platforms is increasingly common in romantic relationships and can be used as a tool for perpetrating violence and controlling a partner (Biollica et al., 2021). The primary objective of this study was to examine the relationship between personality traits and experiences of Ghosting andBreadcrumbing, as well as the prevalence and distress associated with these behaviors in online dating participants.

### **7.1 Prevalence and Distress of Ghosting and Breadcrumbing**

Previous studies have also shown that Ghosting has become normalized in online dating (Timmermans et al., 2021). In the current study, the prevalence of Ghosting on online dating platforms was a consistent observation, affirming its widespread occurrence in digital dating, and both behaviors were found to cause emotional distress. Astleitner, Bains, and Hörmann's study (2023) found that being a victim of Ghosting increased psychological distress. The current study found that 63.3% of participants perceived Ghosting experiences as extremely painful, and 59.2% perceived Breadcrumbing experiences as extremely painful. Thus, a significant portion of participants experienced psychological distress due to extreme pain caused by either Ghosting or Breadcrumbing. The emotional impact of Ghosting and Breadcrumbing is evident, with reported levels of distress varying on a scale, but a substantial portion indicating significant distress due to these experiences. Most participants were surprised and shocked by these behaviors, as the majority reported being shocked by Ghosting (on a scale of 1-7, with a median of 4). Breadcrumbing did not cause the same level of shock, as these findings highlight the importance of understanding and addressing Ghosting and Breadcrumbing to promote healthier interactions on online dating platforms.

According to Freedman, Powell, Le & Williams (2019), 23-25.3% of participants in their study had experienced Ghosting, and 18.9-21.7% had themselves engaged in Ghosting in past romantic relationships. MacClean (2016) cited a study by PlentyOf-Fish, which reported that nearly 80% of singles aged 18-33 had experienced Ghosting. In the current study, 77.4% had experienced Ghosting, and 53.1% had engaged in Ghosting themselves. These figures align with the findings from the PlentyOf-Fish study. Navarro et al. (2020a) mentioned that there is less empirical evidence regardingBreadcrumbing compared to Ghosting. In their study, 35.6% of Spanish adult participants had been victims of Breadcrumbing. In the current study, 63.3% had experienced Breadcrumbing, and 38.7% had engaged in Breadcrumbing. Given the different nationalities, these figures may not be directly comparable, as these phenomena may manifest differently in various cultures. Therefore, further research is needed to understand the prevalence of Ghosting and Breadcrumbing in Finland.

Koessler et al. (2019) reported that relationships ending with Ghosting were, on average, six months long and received an average commitment rating of over 4 (on a scale of 1-7), suggesting that Ghosting is not only a method of ending short-term or casual relationships. In the current study, most relationships had lasted only a few weeks before Ghosting, but there were also experiences ranging from a few hours to over a year, indicating that this phenomenon occurs in both short and long-term relationships. Breadcrumbing experiences showed similarly varied relationship durations, ranging from a few hours to over a year, highlighting the presence of these behaviors in relationships of different lengths.

## **7.2 Ghosting and personality traits**

Bioltica et al. (2021) noted that personality traits did not predict the experience of victimization in online interactions or monitoring. However, emotional neuroticism and openness were associated with immediate

experiences of victimization due to aggression. Additionally, the current research suggested potential links between personality traits and the emotional impact of these phenomena.

When examining the relationship between personality traits and Ghosting, extroversion emerged as a significant variable. The observed negative correlation between extroversion and the emotional distress caused by Ghosting contributes to our understanding of the influence of personality traits, in line with previous literature. It highlights the possibility of resistance or mild emotional impact on extroverted individuals. Furthermore, the emotional consequences of Ghosting are notably substantial, as individuals often experience a range of emotional reactions, including pain, shock, and confusion, underscoring the psychological depth of this phenomenon. As stated by Navarro et al. (2020a), individuals may react psychologically with discomfort, experiencing various emotions such as social pain, loneliness, and anxiety when they feel excluded on the Internet due to the termination or failure of a relationship. Similarly, Timmermans, Hermans, and Oprea (2021) found that Ghosting elicits feelings of sadness, hurt, anger, and disappointment, further complementing previous research on the experience of social pain caused by Ghosting.

### **7.3 Breadcrumbing and personality traits**

Previous literature did not yield studies examining the relationship between personality traits and Breadcrumbing. Unlike Ghosting, Breadcrumbing does not appear to exhibit noticeable correlations with personality traits, creating opportunities for deeper research into alternative variables that may affect susceptibility to and engagement in Breadcrumbing. The absence of clear personality traits presents an intriguing contrast between these two phenomena, necessitating further investigation into the psychological and behavioral underpinnings of Breadcrumbing in online dating contexts.

### **7.3 Implications of Ghosting andBreadcrumbing study**

While numerous studies have delved into the dynamics of online dating, the specific phenomena of Ghosting and Breadcrumbing have yet to be explored. Past research has primarily concentrated on the broader aspects of online interactions, often overlooking these specific behaviors' unique emotional challenges. The findings of this study not only corroborate the prevalence of Ghosting in online dating environments but also bring to light the significant emotional strain it induces. By focusing on the emotional aftermath of these behaviors and investigating the influence of the victim's personality traits, this research provides a comprehensive understanding that bridges the existing research gap. Furthermore, the emphasis on promoting positive online interactions underscores the urgency of addressing the adverse effects of such behaviors. By building on the foundational knowledge of previous studies, this research offers fresh insights and a more nuanced perspective on the emotional landscape of online dating. Thomas and Dubar (2021) have also speculated that social media applications could capitalize on the results of their study by publishing online dating etiquette guidelines highlighting the perceived negative consequences of Ghosting.

### **7.4 Limitations and directions for future research**

Although this study provides valuable insights into the links between personality traits, Ghosting, and Breadcrumbing experiences, several limitations must be acknowledged. First, the relatively small sample size of 32 participants may limit the generalizability of the results. In addition, most of the participants were students, which may cause age and lifestyle bias. Future research should include more diverse and representative samples to improve the external validity of the results.

Second, this study relied on self-reported data, which may be subject to response bias and may need to capture the nuances of participants' experiences fully. The standard deviations for each construct were high ( $> 1$ ), indicating that the individual scores were far from the mean, which may indicate that the constructs are diverse, and respondents' opinions vary widely about them. Future studies could include more objective measures or qualitative interviews to understand better the psychological and emotional effects of these online dating phenomena. Furthermore, this study focused exclusively on the victim's experiences of Ghosting andBreadcrumbing combined with the participants' personality traits.

Examining the perspectives and motivations of individuals engaging in these behaviors (i.e., "Ghosts" and "Breadcrumbers") could provide a more comprehensive picture of the dynamics involved. In addition, there is very little research data on Breadcrumbing, so it should be studied more.

## 8 Conclusions

Digital dating has ushered in numerous opportunities as well as challenges. The findings of this thesis unequivocally indicate that Ghosting andBreadcrumbing are significant phenomena in contemporary dating culture. The underlying reasons for these behaviors and their impacts on individuals are intricate and seemingly linked to individual personality traits.

Notably, a substantial portion of the participants in this study reported experiencing these phenomena at least once, and the associated emotional repercussions can be profoundly traumatic. The pain associated with these phenomena underscores the need to heighten awareness and comprehension regarding their effects and potential consequences.

Furthermore, the results of this thesis underscore the role of personality in digital dating. It is crucial to recognize that specific personality traits may render individuals more susceptible to experiencing Ghosting, Breadcrumbing, or reacting more strongly to these phenomena.

This research represents just one step towards a deeper understanding of the complexity of digital dating. In future studies, it would be beneficial to delve more extensively into the underlying causes of these phenomena and their effects on various personality types. Additionally, it is crucial to investigate further the impacts of Breadcrumbing on individuals, as there needs to be more research on this topic. Furthermore, exploring how digital dating platforms could be developed to foster a more positive and secure user experience would be valuable.

Ghosting and Breadcrumbing are phenomena significantly present in online dating, capable of inducing substantial emotional distress in their targets. While most participants in the study have experienced at least one of these phenomena, the intensity and impacts of the experiences varied widely. Personality traits, such as extroversion and neuroticism, appeared to be linked with experiencing pain and surprise in these situations, although the connections



were inconsistent across both phenomena. The findings of this study underscore the necessity for further research into these phenomena and their effects, intending to foster healthier and more positive encounters on online dating platforms. Furthermore, the results may assist in developing strategies and resources for those who have encountered the negative impacts of Ghosting andBreadcrumbing.

## References

- Ancis, J. R. (2020). The age of cyberpsychology: An overview.
- Andrighetto, L., Riva, P., & Gabbiadini, A. (2019). Lonely hearts and angry minds: Online dating rejection increases male (but not female) hostility. *Aggressive behavior*, 45(5), 571–581. <https://doi.org/10.1002/ab.21852>
- Antonioni, D. (1998). Relationship between the Big Five personality factors and conflict management styles. *International journal of conflict management*.
- Astleitner, H., Bains, A., & Hörmann, S. (2023). The effects of personality and social media experiences on mental health: Examining the mediating role of fear of missing out, Ghosting, and vaguebooking. *Computers in Human Behavior*, 138, 107436.
- Beauchamp, M. What IsBreadcrumbing? A Relationship Expert Explains. <https://www.brides.com/what-is-breadcrumbing-5105353>
- Ben-Ze'ev, A. (2004). *Love Online : Emotions on the Internet*. Cambridge University Press.
- Biolcati, R., Pupi, V., & Mancini, G. (2021). Cyberdating abuse and ghosting behaviors: personality and gender roles in romantic relationships. *Current Issues in Personality Psychology*, 9(1).
- Blumer, T., & Döring, N. (2012). Are we the same online? The expression of the five-factor personality traits on the computer and the Internet. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 6(3), 5.
- Bruch, E. E., & Newman, M. E. J. (2018). Aspirational pursuit of mates in online dating markets. *Science Advances*, 4(8), eaap9815.

- Bryant, K., & Sheldon, P. (2017). Cyberdating in the age of mobile apps: Understanding users' motives, attitudes, and characteristics. *American Communication Journal*, 19(2).
- Carpenter, C. J., & McEwan, B. (2016). The players of micro-dating: Individual and gender differences in goal orientations toward micro-dating apps. *First Monday*.
- Carson, E. (2021). Meet the people using TikTok to find dates. <https://www.cnet.com/culture/internet/meet-the-people-using-tiktok-to-find-dates/>
- Castro, Á., & Barrada, J. R. (2020). Dating apps and their sociodemographic and psychosocial correlates: A systematic review. *International Journal of Environmental Research and Public Health*, 17(18), 6500.
- Chin, K., Edelstein, R. S., & Vernon, P. A. (2019). Attached to dating apps: Attachment orientations and preferences for dating apps. *Mobile Media & Communication*, 7(1), 41-59.
- Costa Jr, P. T., & McCrae, R. R. (1986). Personality stability and its implications for clinical psychology. *Clinical psychology review*, 6(5), 407-423.
- Costa Jr, P. T., McCrae, R. R., & Dye, D. A. (1991). Facet scales for agreeableness and conscientiousness: A revision of the NEO Personality Inventory. *Personality and individual Differences*, 12(9), 887-898.
- Costa Jr, P. T., & McCrae, R. R. (1986). Personality stability and its implications for clinical psychology. *Clinical psychology review*, 6(5), 407-423.
- DE WIELE, C. V., & CAMPBELL, J. F. (2019). 11: From swiping to ghosting: conceptualizing rejection in mobile dating. *IT HAPPENED*, pp. 13, 158.
- Dictionary.com <https://www.dictionary.com/browse/ghosting>

- Döring, N. (2002). Studying online love and cyber romance. In B. Batinić, U.-D. Reips & M. Bosnjak (Eds.), *Online social sciences*, pp. 333–356. Seattle, Toronto, Switzerland, Germany: Hogrefe & Huber Publishers. ISBN: 0-88937-257-8.
- Fiksukuluttaja.fi. Deittisivut ja deittipalvelut vertailussa 2022.  
<https://fiksukuluttaja.fi/vertaa/deittisivut-ja-deittipalvelut/>
- Finkel, E. J., Eastwick, P. W., Karney, B. R., Reis, H. T., & Sprecher, S. (2012). Online Dating: A Critical Analysis From the Perspective of Psychological Science. *Psychological Science in the Public Interest*, 13(1), 3–66.  
<https://doi.org/10.1177/1529100612436522>
- Freedman, G., Powell, D. N., Le, B., & Williams, K. D. (2019). Ghosting and destiny: Implicit theories of relationships predict beliefs about Ghosting. *Journal of Social and Personal Relationships*, 36(3), 905–924.
- Hobbs, M., Owen, S., & Gerber, L. (2017). Liquid love? Dating apps, sex, relationships, and the digital transformation of intimacy. *Journal of Sociology*, 53(2), 271–284.
- IANSlife. (2022, Aug 25). From Roaching toBreadcrumbing, here are some horrifying dating trends. *IANS English*  
<https://www.proquest.com/newspapers/roaching-breadcrumbing-here-are-some-horrifying/docview/2706066552/se-2>
- John, O. P., Naumann, L. P., & Soto, C. J. (2008). Paradigm shift to the integrative Big Five trait taxonomy: History, measurement, and conceptual issues. John, O. P., Robins, R. W., & Pervin, L. A. (Eds.). (2008). *Handbook of personality: Theory and research*. Guilford Publications.
- Jonason, P. K., Kaźmierczak, I., Campos, A. C., & Davis, M. D. (2021). Leaving without a word: Ghosting and the Dark Triad traits. *Acta Psychologica*, 220, 103425.

- Jule Specht. (2017). *Personality Development Across the Lifespan*. Academic Press.
- Kay, C., & Courtice, E. L. (2022). An empirical, accessible definition of “ghosting” as a relationship dissolution method. *Personal Relationships*.
- Kirwan, G. Introduction. (Edit.) Connolly, I., Palmer, M., Barton, H., & Kirwan, G. (Eds.). (2016). *An introduction to cyberpsychology*. Routledge.
- Koessler, R. B., Kohut, T., & Campbell, L. (2019). When your boo becomes a ghost: The association between breakup strategy and breakup role in experiences of relationship dissolution. *Collabra: Psychology*, 5(1).
- Kuburic, S. (2022, Mar 10). Don't settle for daters who are 'breadcrumbing.' *USA Today* <https://www.proquest.com/newspapers/dont-settle-daters-who-are-breadcrumbing/docview/2637518575/se-2>
- Kwok, I., & Wescott, A. B. (2020). Cyberintimacy: A scoping review of technology-mediated romance in the digital age. *Cyberpsychology, Behavior, and Social Networking*, 23(10), 657-666.
- LeFebvre, L. E., Allen, M., Rasner, R. D., Garstad, S., Wilms, A., & Parrish, C. (2019). Ghosting in emerging adults' romantic relationships: The digital dissolution disappearance strategy. *Imagination, Cognition and Personality*, 39(2), 125-150.
- LeFebvre, L. E., Rasner, R. D., & Allen, M. (2020). “I guess I'll never know...”: Non-initiators account-making after being ghosted. *Journal of Loss and Trauma*, 25(5), 395-415.
- Lovine, A. (2020). TikTok is proof that people can make any social media network into a dating app. <https://mashable.com/article/tiktok-meeting-people-dating-app>

- Lönnqvist, J. E., & Tuulio-Henriksson, A. (2008). NEO-PI-R-personoonallisuusmittarin suomenkielisen käännöksen validointi.
- In Merriam-Webster.com dictionary. Retrieved October 24, 2022, from <https://www.merriam-webster.com/dictionary/ghosting>
- MacClean. (2016). POF Survey Reveals 80% of Millennials Have Been Ghosted! <https://blog.pof.com/2016/03/pof-survey-reveals-80-millennials-ghosted/>
- McAdams, D. P., & Olson, B. D. (2010). Personality development: Continuity and change over the life course. *Annual Review of Psychology*, pp. 61, 517-542
- McAdams, D. P., & Pals, J. L. (2006). A new Big Five: Fundamental principles for an integrative science of personality. *American psychologist*, 61(3), 204.
- McCrae, R. R., & Costa Jr, P. T. (2008). The five-factor theory of personality. John, O. P., Robins, R. W., & Pervin, L. A. (Eds.). (2008). *Handbook of personality: Theory and research*. Guilford Publications.
- McCrae, R. R., & Costa, P. T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of personality and social psychology*, 52(1), 81.
- McCrae, R. R., & John, O. P. (1992). An introduction to the five - factor model and its applications. *Journal of Personality*, 60(2), 175 - 215.
- Merriam-webster.com <https://www.merriam-webster.com/dictionary/crush>  
28.09.2023
- Metsäpelto & Feldt. (2015). *Persoonallisuuden käsite psykologiassa*. Metsäpelto, R., Feldt, T., Vierikko, E., Keltikangas-Järvinen, L., Rantanen, J., Mäkikangas, A., . . . Pulkkinen, L. (2015). *Meitä on moneksi: Persoonallisuuden psykologiset perusteet*. PS-kustannus.

Musixmatch.com. Writer: Norbert Reichart. Imperio – Amor Infinitus.

Musixmatch.com. Writers: David Brandes, Jane Tempest, John O'Flynn. Bad Boys Blue – Lover On the Line, 2003.

<https://www.musixmatch.com/lyrics/Bad-Boys-Blue/Lover-on-the-Line>

Mutziger, J., & Laderer, A. (2022). *If someone keeps giving you hope that they'll commit but never does, you might be getting breadcrumbing*. Retrieved October 25, 2022, from US edition

Narr, G., & Luong, A. (2022). Bored ghosts in the dating app assemblage: How dating app algorithms couple ghosting behaviors with a mood of boredom. *The Communication Review*, 1-23.

Navarro, R., Yubero, S., Larrañaga, E., & VÍllora, B. (2020b). Ghosting and breadcrumbing: Prevalence and relationships with online dating behaviors among young adults. *Cyberpsychol. J. Psychol. Res. Cybers.*

Navarro, R., Larrañaga, E., Yubero, S., & VÍllora, B. (2020a). Psychological correlates of Ghosting and breadcrumbing experiences: A preliminary study among adults. *International journal of environmental research and public health*, 17(3), 1116.

New Jersey Institute of Technology. 2023. What is cyberpsychology, and Why is it Important? [What is cyberpsychology, and Why is it Important? | New Jersey Institute of Technology \(njit.edu\)](#)

Pancani, L., Aureli, N., & Riva, P. (2022). Relationship dissolution strategies: Comparing the psychological consequences of Ghosting, orbiting, and rejection. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 16(2).

- Pancani, L., Mazzoni, D., Aureli, N., & Riva, P. (2021). Ghosting and orbiting: An analysis of victims' experiences. *Journal of Social and Personal Relationships*, 38(7), 1987-2007.
- Powell, D. N., Freedman, G., Le, B., & Williams, K. D. (2022). Exploring individuals' descriptive and injunctive norms of Ghosting. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 16(3).
- Quiroz, P. A. (2013). From Finding the Perfect Love Online to Satellite Dating and 'Loving-the-One-You're Near' A Look at Grindr, Skout, Plenty of Fish, Meet Moi, Zoosk, and Assisted Serendipity. *Humanity & Society*, 37(2), 181-185.
- Rammstedt, B., & John, O. P. (2007). Measuring personality in one minute or less: A 10-item short version of the Big Five Inventory in English and German. *Journal of Research in Personality*, 41(1), 203-212.
- Rodríguez-García, M. C., Márquez-Hernández, V. V., Granados-Gámez, G., Aguilera-Manrique, G., Martínez-Puertas, H., & Gutiérrez-Puertas, L. (2020). Development and validation of Breadcrumbs in Affective-Sexual Relationships (BREAD-ASR) questionnaire: introducing a new online dating perpetration. *International journal of environmental research and public health*, 17(24), 9548.
- Roberts, B. W., Wood, D., & Caspi, A. (2008). The development of personality traits in adulthood. John, O. P., Robins, R. W., & Pervin, L. A. (Eds.). (2008). *Handbook of personality: Theory and research*. Guilford Publications.
- Salaric, P., Cain, R., Zitkus, E., & Visch, V. (2022). Tinder and heartbeats: Well-being in the use of dating applications. *DRS2022: Bilbao*, 25.
- Sveningsson, M. (2002). Cyberlove: Creating romantic relationships on the net. *Digital borderlands: Cultural studies of identity and interactivity on the Internet*, 79-111.



The Free Dictionary [Crushing - definition of crushing by The Free Dictionary](#)  
28.09.2023

Thomas, J. O., & Dubar, R. T. (2021). Disappearing in the age of hypervisibility: Definition, context, and perceived psychological consequences of social media ghosting. *Psychology of Popular Media*, 10(3), 291.

Timmermans, E., Hermans, A. M., & Oprea, S. J. (2021). Gone with the wind: Exploring mobile daters' ghosting experiences. *Journal of Social and Personal Relationships*, 38(2),s.179.

Treffimaisteri.com. Deittisivustot haltuun! Tässä Top-10 parhaat deittisivut vuodelle 2022. <https://treffimaisteri.com/deittisivustot/>

Urban Dictionary (2018).

<https://www.urbandictionary.com/define.php?term=Breadcrumbing>

Vilhauer, J. (2015). Why Ghosting Hurts So Much. Ghosting says nothing about your worthiness for love.

<https://www.psychologytoday.com/intl/blog/livingforward/201511/why-ghosting-hurts-so-much>

Wang, C. C., & Chang, Y. T. (2010). Cyber relationship motives: Scale development and validation. *Social Behavior and Personality: An international journal*, 38(3), 289-300.

Ward, J. (2016). Swiping, matching, chatting: Self-presentation and self-disclosure on mobile dating apps. *Human IT: Journal for Information Technology Studies as a Human Science*, 13(2), 81-95.

Wiederhold, B. K. (2021). How COVID has changed online dating – and what lies ahead. *Cyberpsychology, Behavior, and Social Networking*, 24(7), 435-436.

Wise, J. (2022). How many people use dating apps in 2022?

<https://earthweb.com/how-many-people-use-dating-apps/>

Woodley, P. (2021). Women On TikTok Are Sharing Their Online Dating Horror Stories And Finding Community In The Process. 23.4.2021.

<https://www.buzzfeednews.com/article/paulinewoodley/tiktok-online-dating>

Wuokko, H. (2022) Breadcrumbs eli murustelu on huumaava mutta mihinkään johtamaton deittitrendi – syyllistytkö samaan tajuamattasi?

<https://anna.fi/ihmiset-ja-suhteet/ihmissuhteet/breadcrumbs-eli-murustelu-on-huumaava-mutta-mihinkaan-johtamaton-deittitrendi-syyllistytko-samaan-tajuamattasi>

Yap, M. A., Francisco, A. M., & Gopez, C. (2021). From Best Friends to Silent Ends: Exploring the Concepts of Ghosting in Non-Romantic Relationships. International Journal of Multidisciplinary: Applied Business and Education Research, 2(10), 943-950.

## Attachments

### Survey questions (English)

Welcome to participate in my study!

The purpose of this study is to investigate whether a person's personality has an impact on how they experience Ghosting andBreadcrumbing.

#### Ghosting

"One way that people can end a relationship is by ghosting. Ghosting is when one person suddenly ignores or stops communicating with another person without telling them why." (Kay & Courtice, 2022)

#### Breadcrumbing

"When the "crush" has no intentions of taking things further, but they like the attention. So, they flirt here or there, send direct messages/texts just to keep the person interested, knowing really well they're staying single." (Urban Dictionary, 2018).

Choose the option from the scales that best represents you. Please answer the questions as honestly as possible.

Participation in the study is voluntary, and all responses will be treated confidentially. This means that your answers will not be linked to your name or other personal information, and they will not be shared with third parties.

Thank you very much for agreeing to participate in my survey. If you have any questions, please do not hesitate to contact me: Mereta Helin, email: mehelin(at)student.jyu.fi

## Background Survey

Please select the option that best describes you. The purpose of this section is to help me understand your background information.

Age: 18-25, 26-33, 34-41, 42-49, 50-57, 58 or above

1. Gender: Female, Male, Other: please describe
2. Sexual identity: Heterosexual, Bisexual, Homosexual, Other: please describe.
3. Relationship status: In a relationship, Open/married, Single, Other: please describe.
4. I have experience using online dating apps such as Tinder, Badoo, Chat & Date, Bumble, etc. Yes, from multiple apps; Yes, from one app; No experience at all.
5. Which dating apps have you used? Select all that apply. Tinder, Badoo, Chat & Date, Bumble, Valo, OKCupid, Other (please specify)

## Ghosting

"One way that people can end a relationship is by ghosting. Ghosting is when one person suddenly ignores or stops communicating with another person without telling them why." (Kay & Courtice, 2022)

Please choose the option from the scale that best represents your behavior/experiences in those situations. Please answer the questions as honestly as possible.

1. How often have you experienced being "ghosted" by a romantic partner on a dating app? On a scale of 1 = never to 5 = Very often.
2. How often do you believe others experience "ghosting"? On a scale of 1 = never to 5 = Very often.

3. I think "ghosting" happens frequently. (1 = Strongly disagree ... 5 = Strongly agree).
4. How often do you "ghost" a romantic partner on a dating app? On a scale of 1 = never to 5 = Very often.
5. How often do you believe others ignore messages (ghost) on dating apps? On a scale of 1 = never to 5 = Very often.
6. I think ignoring someone (Ghosting) is acceptable in certain situations. (1 = Strongly disagree ... 5 = Strongly agree).
7. Have you ever met a romantic partner in person who subsequently ghosted you? No (0) or yes (1).
8. How long did you converse or date before the person ghosted you? (1) a few hours or less, (2) a day, (3) a few days, (4) a week, (5) a few weeks, (6) a month, (7) a few months, (8) six months, (9) over a year.
9. How intensively were you in contact with the person who ghosted you? Contact intensity ranges from 1 = very low to 7 = very high.
10. Your experience with the person who ghosted you was intense. (1 = Strongly disagree ... 5 = Strongly agree).
11. Your experience with the person who ghosted you was subtle. (1 = Strongly disagree ... 5 = Strongly agree).
12. Could you anticipate being ghosted? 1 = Completely expected, 7 = Not at all expected.
13. How surprised were you by the experience of being ghosted? 1 = Not surprised at all, 7 = Very surprised.
14. Were you shocked by being ghosted? 1 = Not shocked at all, 7 = Very shocked.
15. How painful was your experience of being ghosted? 0 = Not painful at all, 10 = Extremely painful.
16. The experience of being ghosted was extremely painful. (1 = Strongly disagree ... 5 = Strongly agree).
17. The experience of being ghosted did not hurt me. (1 = Strongly disagree ... 5 = Strongly agree).

## Breadcrumbing

"When the "crush" has no intentions of taking things further, but they like the attention. So, they flirt here or there, send direct messages/texts just to keep the person interested, knowing really well they're staying single." (Urban Dictionary, 2018).

Please choose the option from the scale that best represents your behavior/experiences in those situations. Please answer the questions as honestly as possible.

1. How often have you experienced a romantic partner engaging in "Breadcrumbing" on a dating app? On a scale of 1 = never to 5 = Very often.
2. How often do you believe others experience "breadcrumbing"? On a scale of 1 = never to 5 = Very often.
3. I think "Breadcrumbing" happens frequently. (1 = Strongly disagree ... 5 = Strongly agree).
4. How often have you engaged in "Breadcrumbing" with a romantic partner on a dating app? On a scale of 1 = never to 5 = Very often.
5. How often do you believe others engage in "Breadcrumbing" on dating apps? On a scale of 1 = never to 5 = Very often.
6. I think "Breadcrumbing" is acceptable in certain situations. (1 = Strongly disagree ... 5 = Strongly agree).
7. Have you ever met a romantic partner in person who has "Breadcrumbed" you? No (0) or yes (1).
8. How long did you converse or date before the person started "Breadcrumbing" you? (1) a few hours or less, (2) a day, (3) a few days, (4) a week, (5) a few weeks, (6) a month, (7) a few months, (8) six months, (9) over a year.

9. How intensively were you in contact with the person who "Breadcrumb" you? Contact intensity ranges from 1 = very low to 7 = very high.
10. Your experience with the person who "Breadcrumb" you was intense. (1 = Strongly disagree ... 5 = Strongly agree).
11. Your experience with the person who "Breadcrumb" you was subtle. (1 = Strongly disagree ... 5 = Strongly agree).
12. Could you anticipate "breadcrumbing"? 1 = Completely expected, 7 = Not at all expected.
13. How surprised were you by the experience of "Breadcrumbing"? 1 = Not surprised at all, 7 = Very surprised.
14. Were you shocked by being "Breadcrumb"? 1 = Not shocked at all, 7 = Very shocked.
15. How painful was your experience of "breadcrumbing"? 1 = Not painful at all, 10 = Extremely painful.
16. The experience of "Breadcrumbing" was extremely painful. (1 = Strongly disagree ... 5 = Strongly agree).
17. The experience of "Breadcrumbing" did not hurt me. (1 = Strongly disagree ... 5 = Strongly agree).

### Personality

Please respond honestly and openly by indicating which answer best describes you.

1. Strongly disagree
2. Somewhat disagree
3. Neither agree nor disagree
4. Somewhat agree
5. Strongly agree"

I see myself as someone who...

1. ...is cautious.

2. ...is generally trusting.
3. ...is prone to laziness.
4. ...is laid-back and handles stress well.
5. ...is not very interested in art.
6. ...is outgoing and sociable.
7. ...finds faults in others.
8. ...does thorough work.
9. ...gets easily nervous.
10. ...has a vivid imagination.

Thank you very much for consenting to participate in my survey. If you have any questions, please do not hesitate to contact me: [mehelin\(at\)student.jyu.fi](mailto:mehelin(at)student.jyu.fi)

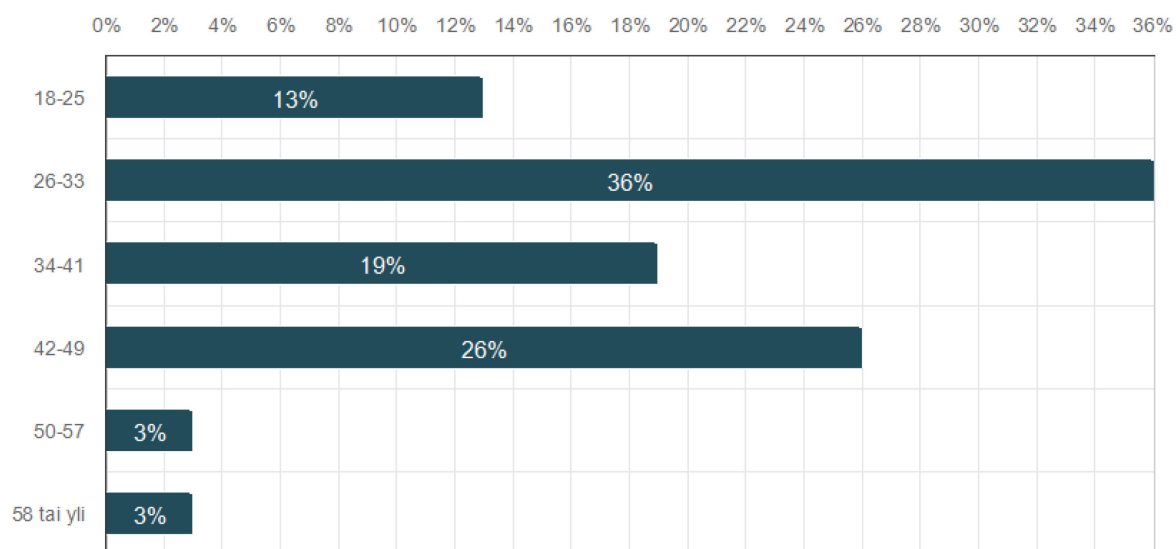


## Webropol Basic Raport Experiences of Ghosting and Breadcrumbing Online (Finnish)

Vastaajien kokonaismäärä: 32

### Ikä

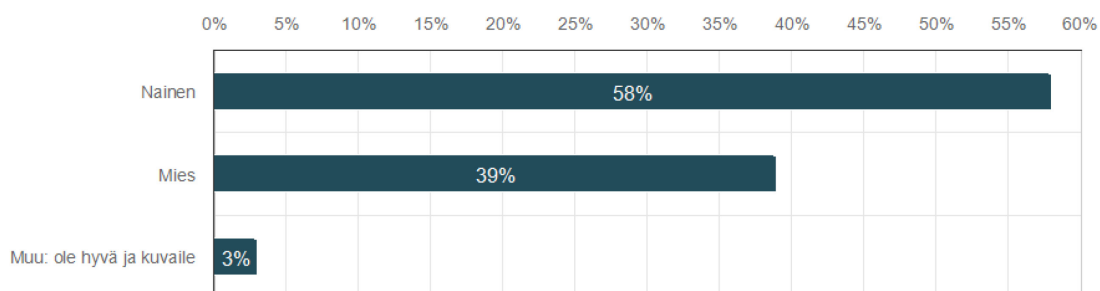
Vastaajien määrä: 31



	n	Prosentti
18-25	4	12,9%
26-33	11	35,5%
34-41	6	19,4%
42-49	8	25,8%
50-57	1	3,2%
58 tai yli	1	3,2%

### Sukupuoli

Vastaajien määrä: 31



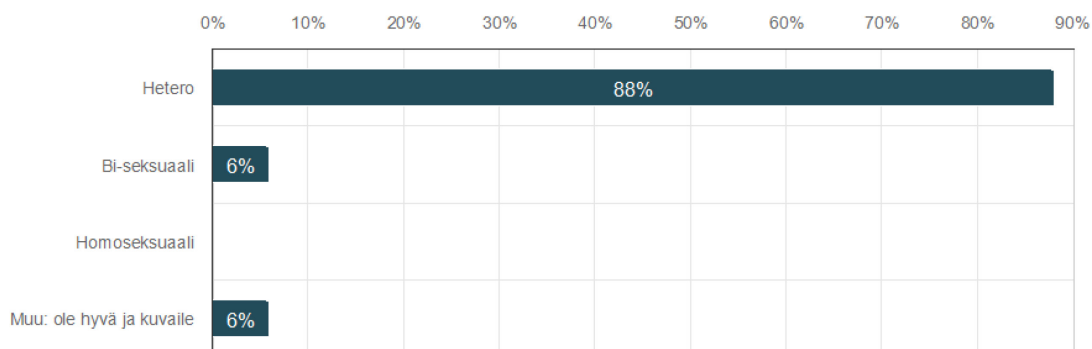
	n	Prosentti
Nainen	18	58,1%
Mies	12	38,7%
Muu: ole hyvä ja kuvaile	1	3,2%

Lisätekstikenttään annetut vastaukset

Vastausvaihtoehdot	Teksti
Muu: ole hyvä ja kuvaile	Transmaskuliininen muunsukupuolinen

## Seksuaalinen identiteetti

Vastaajien määrä: 32



	n	Prosentti
Hetero	28	87,5%
Bi-seksuaali	2	6,2%
Homoseksuaali	0	0,0%
Muu: ole hyvä ja kuvaile	2	6,3%

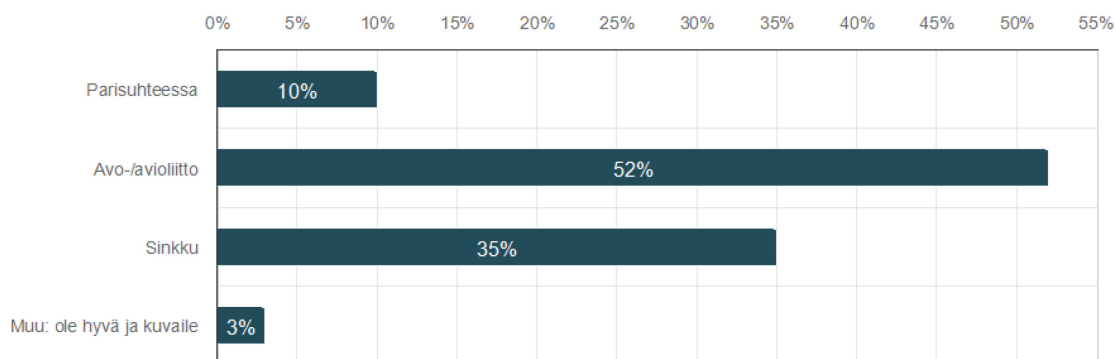
Lisätekstikenttään annetut vastaukset

Vastausvaihtoehdot	Teksti
--------------------	--------

Muu: ole hyvä ja kuvaile	Queer, olen kiinnostunut naisista ja afab-ihmisistä
Muu: ole hyvä ja kuvaile	En koe tarvetta määritellä tätä + koen, että seksuaalisuus on ihmisen yksityiasia, jota ei tarvitse julistaa kaikkialla

## Parisuhteen tila

Vastaajien määrä: 31



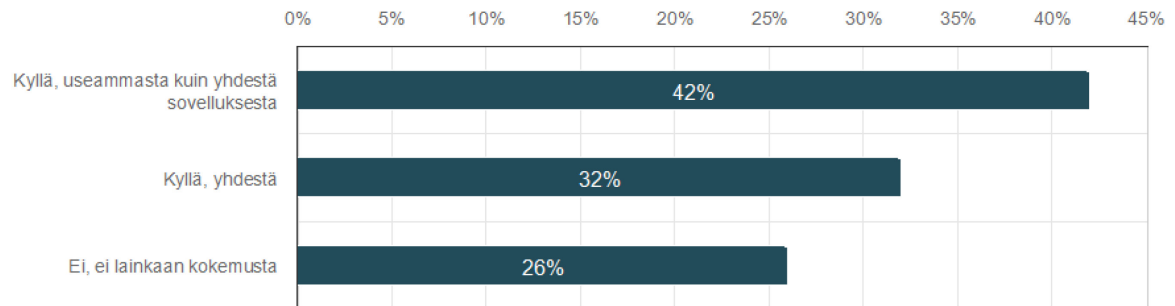
	n	Prosentti
Parisuhteessa	3	9,7%
Avo-/avioliitto	16	51,6%
Sinkku	11	35,5%
Muu: ole hyvä ja kuvaile	1	3,2%

Lisätekstikenttään annetut vastaukset

Vastausvaihtoehdot	Teksti
Muu: ole hyvä ja kuvaile	Tapailusuhteessa

## Minulla on kokemusta Online-treffisovelluksen käytöstä, esim. Tinder, Badoo, Chat & Date, Bumble tms.

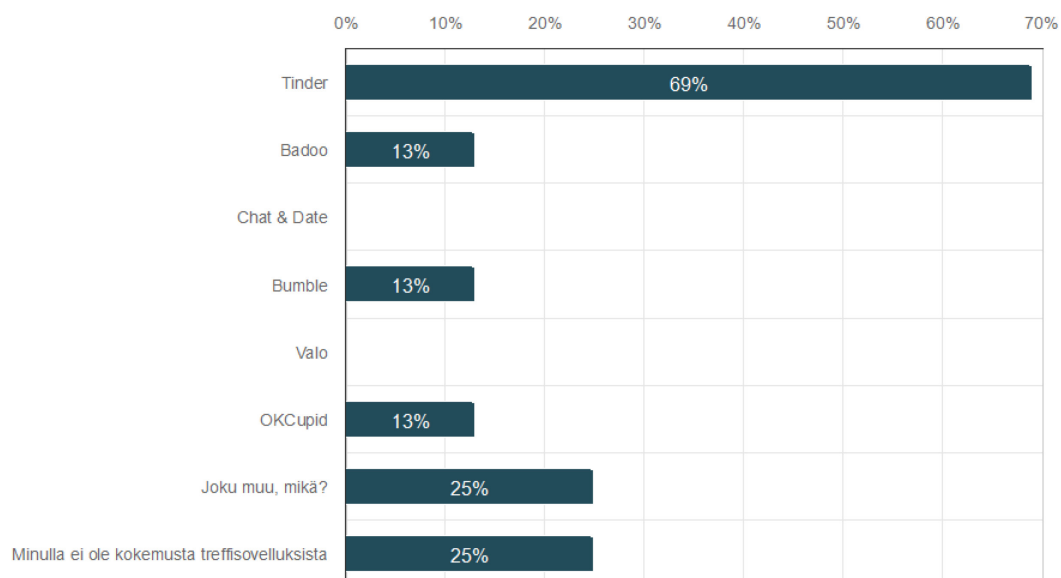
Vastaajien määrä: 31



	n	Prosentti
Kyllä, useammasta kuin yhdestä sovelluksesta	13	41,9%
Kyllä, yhdestä	10	32,3%
Ei, ei lainkaan kokemusta	8	25,8%

## Mistä treffisovelluksista sinulla on kokemusta? Valitse kaikki, joista sinulla on kokemusta.

Vastaajien määrä: 32, valittujen vastausten lukumäärä: 50



	n	Prosentti
Tinder	22	68,8%
Badoo	4	12,5%
Chat & Date	0	0,0%
Bumble	4	12,5%
Valo	0	0,0%
OKCupid	4	12,5%
Joku muu, mikä?	8	25,0%
Minulla ei ole kokemusta treffisovelluksista	8	25,0%

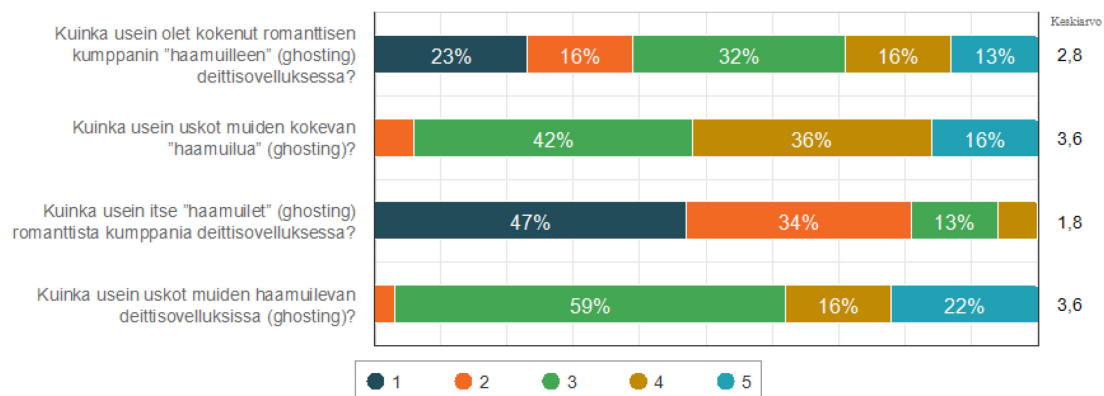
Lisätekstikenttään annetut vastaukset

Vastausvaihtoehdot	Teksti
Joku muu, mikä?	happen
Joku muu, mikä?	City.fi
Joku muu, mikä?	En käytä sovelluksia, vaan www-versioita. Olen käyttänyt myös HappyPanCakea.
Joku muu, mikä?	Hot or Not
Joku muu, mikä?	muzz
Joku muu, mikä?	Taimi (lgbtq) deittisovellus
Joku muu, mikä?	Suomi24 treffit (tms)
Joku muu, mikä?	Hinge, Facebook Dating

**Valitse asteikolta se vaihtoehto, joka parhaiten kuvastaa kokemuksiasi näissä tilanteissa. Vastaa kysymyksiin mahdollisimman rehellisesti.**

**Asteikolla 1 = ei koskaan - 5 = Hyvin usein**

Vastaajien määrä: 32

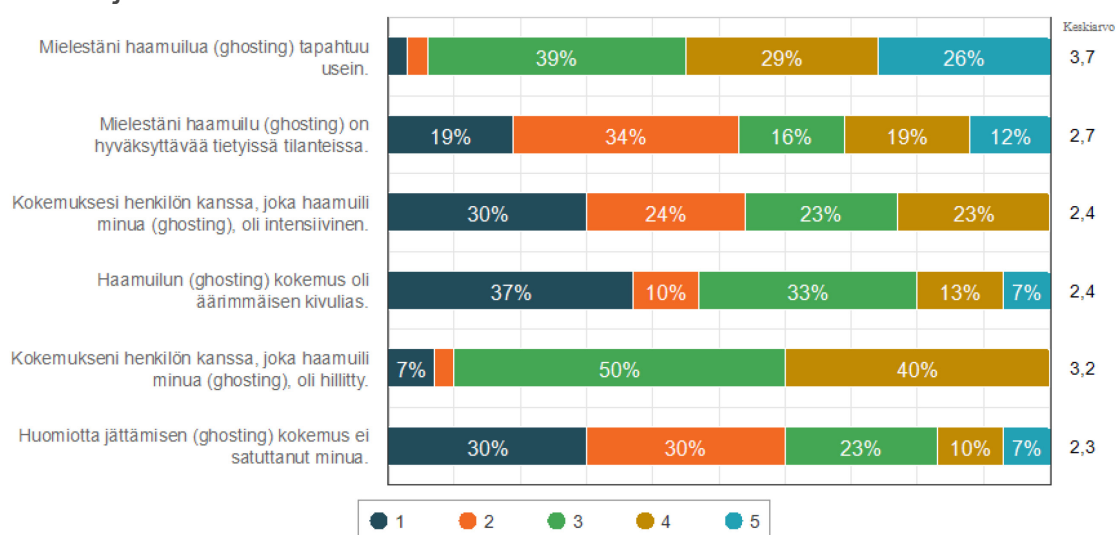


	1	2	3	4	5	Keskiaarvo	Mediaani
Kuinka usein olet kokenut romanttisen kumppanin "haamuilleen" (ghosting) deittisovelluksessa?	22,6 %	16,1 %	32,3 %	16,1 %	12,9 %	2,8	3,0
Kuinka usein uskot muiden kokevan "haamuilua" (ghosting)?	0,0 %	6,5 %	41,9 %	35,5 %	16,1 %	3,6	4,0
Kuinka usein itse "haamuilet" (ghosting) romanttista kumppania deittisovelluksessa?	46,9 %	34,4 %	12,5 %	6,2 %	0,0 %	1,8	2,0
Kuinka usein uskot muiden haamuilevan deittisovelluksissa (ghosting)?	0,0 %	3,1 %	59,4 %	15,6 %	21,9 %	3,6	3,0

**Valitse asteikolta se vaihtoehto, joka parhaiten kuvastaa kokemuksiasi näissä tilanteissa. Vastaa kysymyksiin mahdollisimman rehellisesti.**

**1= Erittäin eri mieltä - 5= Erittäin samaa mieltä**

Vastaajien määrä: 32

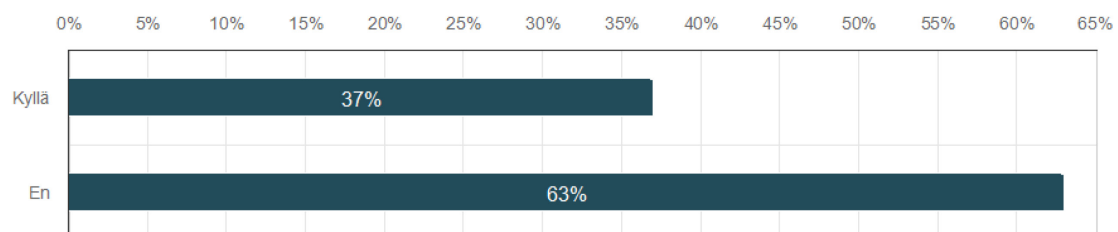


	1	2	3	4	5	Keskiarvo	Mediaani
Mielestäni haamuilua (ghosting) tapahtuu usein.	3,2%	3,2%	38,7%	29,1%	25,8%	3,7	4,0
Mielestäni haamuilu (ghosting) on hyväksyttävää tietyissä tilanteissa.	18,7%	34,4%	15,6%	18,8%	12,5%	2,7	2,0
Kokemuksesi henkilön kanssa, joka haamuili	30,0%	23,4%	23,3%	23,3%	0,0%	2,4	2,0

minua (ghosting), oli intensiivinen.							
Haamuilun (ghosting) kokemus oli äärimmäisen kivulias.	36,7 %	10,0 %	33,3 %	13,3 %	6,7%	2,4	3,0
Kokemukseni henkilön kanssa, joka haamuili minua (ghosting), oli hillitty.	6,7%	3,3%	50,0 %	40,0 %	0,0%	3,2	3,0
Huomiotta jättämisen (ghosting) kokemus ei satuttanut minua.	30,0 %	30,0 %	23,3 %	10,0 %	6,7%	2,3	2,0

## Oletko tavannut kasvotusten romanttisen kumppanin, joka haamuili sinua (ghosting)?

Vastaajien määrä: 30

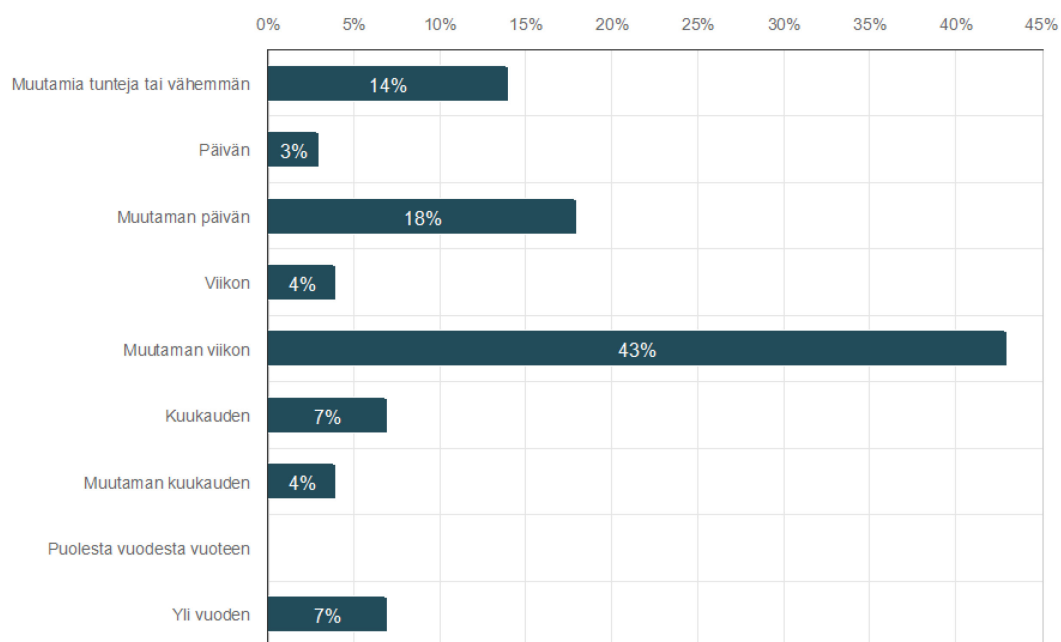


	n	Prosentti
Kyllä	11	36,7%
En	19	63,3%



## Kuinka kauan keskustelitte tai treffailitte ennen kuin toinen henkilö haamuili sinua (ghosting)?

Vastaajien määrä: 28

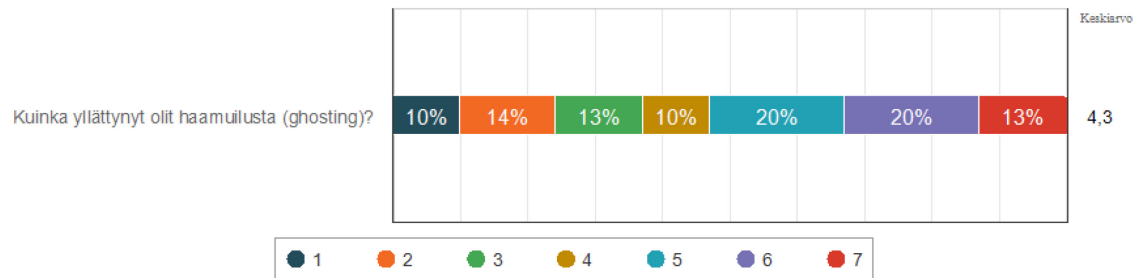


	n	Prosentti
Muutamia tunteja tai vähemmän	4	14,3%
Päivän	1	3,6%
Muutaman päivän	5	17,9%
Viikon	1	3,6%
Muutaman viikon	12	42,8%
Kuukauden	2	7,1%
Muutaman kuukauden	1	3,6%
Puolesta vuodesta vuoteen	0	0,0%
Yli vuoden	2	7,1%

**Valitse asteikolta se vaihtoehto, joka parhaiten kuvastaa kokemuksiasi näissä tilanteissa. Vastaa kysymyksiin mahdollisimman rehellisesti.**

**1 = ei ollenkaan yllättynyt - 7 = erittäin yllättynyt**

Vastaajien määrä: 30

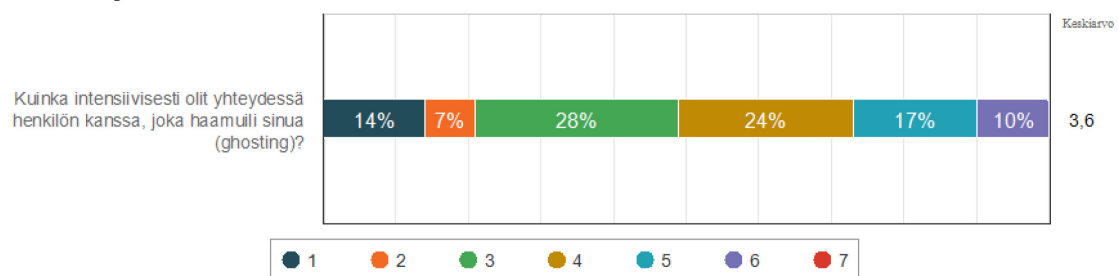


	1	2	3	4	5	6	7	Keskiarvo	Mediानी
Kuinka yllättynyt olit haamuilusta (ghosting)?	10,0%	13,4%	13,3%	10,0%	20,0%	20,0%	13,3%	4,3	5,0

**Valitse asteikolta se vaihtoehto, joka parhaiten kuvastaa kokemuksiasi näissä tilanteissa. Vastaa kysymyksiin mahdollisimman rehellisesti.**

**Yhteyden intensiteetti oli 1 = erittäin vähäistä - 7 = erittäin intensiivistä.**

Vastaajien määrä: 29

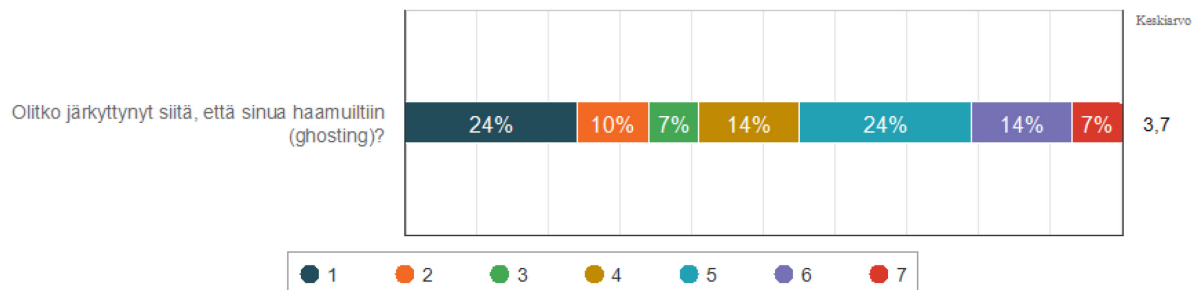


	1	2	3	4	5	6	7	Keskiarvo	Mediaani
Kuinka intensiivisesti olit yhteydessä henkilön kanssa, joka haamuili sinua (ghosting)?	13,8 %	6,9 %	27,6 %	24,1 %	17,2 %	10,4 %	0,0 %	3,6	4,0

**Valitse asteikolta se vaihtoehto, joka parhaiten kuvastaa kokemuksiasi näissä tilanteissa. Vastaa kysymyksiin mahdollisimman rehellisesti.**

**1 = ei ollenkaan järkyttynyt - 7 = erittäin järkyttynyt**

Vastaajien määrä: 29

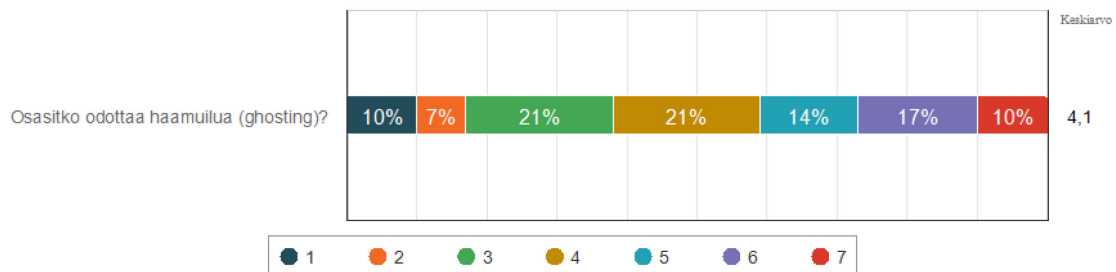


	1	2	3	4	5	6	7	Keskia rvo	Media ani
Olitko järkyttynyt siitä, että sinua haamuihtiin (ghosting)?	24,1 %	10,4 %	6,9 %	13,8 %	24,1 %	13,8 %	6,9 %	3,7	4,0

**Valitse asteikolta se vaihtoehto, joka parhaiten kuvastaa kokemuksiasi näissä tilanteissa. Vastaa kysymyksiin mahdollisimman rehellisesti.**

**1 = täysin odotettu - 7 = ei lainkaan odotettu**

Vastaajien määrä: 29

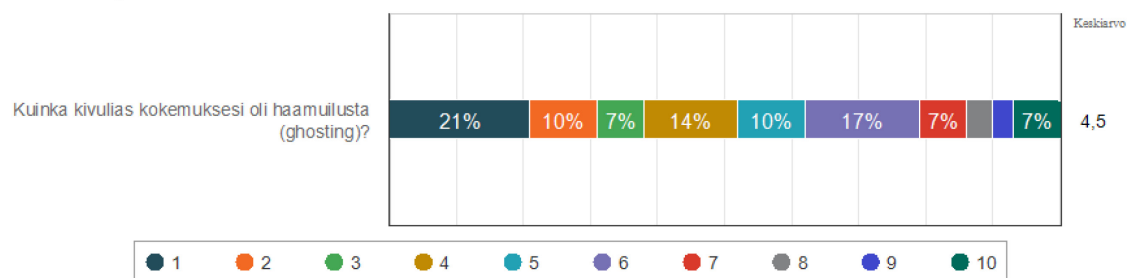


	1	2	3	4	5	6	7	Keskia rvo	Media ani
Osasitko odottaa haamuilua (ghosting)?	10,4 %	6,9 %	20,7 %	20,7 %	13,8 %	17,2 %	10,3 %	4,1	4,0

**Valitse asteikolta se vaihtoehto, joka parhaiten kuvastaa kokemuksiasi näissä tilanteissa. Vastaa kysymyksiin mahdollisimman rehellisesti.**

**1 = ei ollenkaan kivulias - 10 = äärimmäisen kivulias.**

Vastaajien määrä: 29

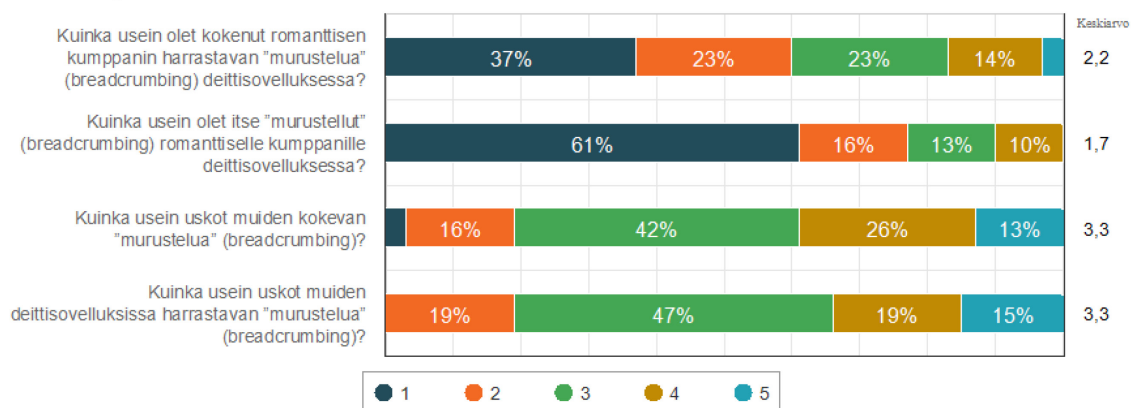


	1	2	3	4	5	6	7	8	9	10	Keskisarvo	Mediaani
Kuinka kivulias kokemuksesi oli haamuilusta (ghosting)?	20,7%	10,3%	6,9%	13,8%	10,3%	17,2%	6,9%	3,5%	3,5%	6,9%	4,5	4,0

**Valitse asteikolta se vaihtoehto, joka parhaiten kuvastaa kokemuksiasi näissä tilanteissa. Vastaa kysymyksiin mahdollisimman rehellisesti.**

**Asteikolla 1 = ei koskaan - 5 = Hyvin usein**

Vastaajien määrä: 32



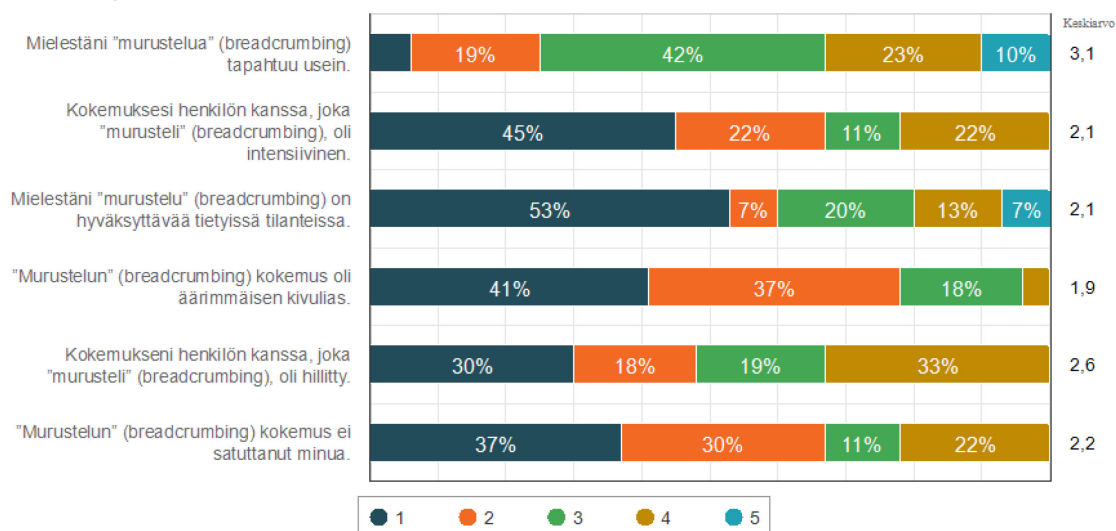
	1	2	3	4	5	Keskia rvo	Media ani
Kuinka usein olet kokenut romanttisen kumppanin harrastavan "murustelua" (Breadcrumbing) deittisovelluksessa?	36,7 %	23,3 %	23,3 %	13,3 %	3,4 %	2,2	2,0
Kuinka usein olet itse "murustellut" (Breadcrumbing) romanttiselle kumppanille deittisovelluksessa?	61,3 %	16,1 %	12,9 %	9,7 %	0,0 %	1,7	1,0
Kuinka usein uskot muiden	3,2 %	16,1 %	42,0 %	25,8 %	12,9 %	3,3	3,0

kokevan "murustelua" (Breadcrumbs)?							
Kuinka usein uskot muiden deittisovelluksissa harrastavan "murustelua" (Breadcrumbs)?	0,0 %	18,7 %	46,9 %	18,8 %	15,6 %	3,3	3,0

**Valitse asteikolta se vaihtoehto, joka parhaiten kuvastaa kokemuksiasi näissä tilanteissa. Vastaa kysymyksiin mahdollisimman rehellisesti.**

**1= Erittäin eri mieltä - 5= Erittäin samaa mieltä**

Vastaajien määrä: 31

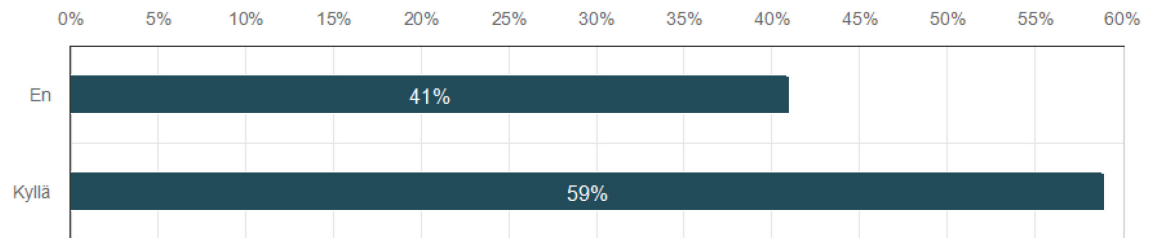


	1	2	3	4	5	Keskiaarvo	Mediaanini
Mielestäni ”murustelua” (Breadcrumbing) tapahtuu usein.	6,4 %	19,4 %	41,9 %	22,6 %	9,7 %	3,1	3,0
Kokemuksesi henkilön kanssa, joka ”murusteli” (Breadcrumbing), oli intensiivinen.	44,5 %	22,2 %	11,1 %	22,2 %	0,0 %	2,1	2,0
Mielestäni ”murustelu” (Breadcrumbing) on hyväksyttävä ä tietyissä tilanteissa.	53,3 %	6,7 %	20,0 %	13,3 %	6,7 %	2,1	1,0
”Murustelun” (Breadcrumbing) kokemus oli äärimmäisen kivulias.	40,8 %	37,0 %	18,5 %	3,7 %	0,0 %	1,9	2,0
Kokemukseni henkilön kanssa, joka ”murusteli” (Breadcrumbing), oli hillitty.	29,6 %	18,5 %	18,5 %	33,4 %	0,0 %	2,6	3,0
”Murustelun” (Breadcrumbing) kokemus ei satuttanut minua.	37,1 %	29,6 %	11,1 %	22,2 %	0,0 %	2,2	2,0



## Oletko tavannut kasvotusten romanttisen kumppanin, joka on ”murustellut” sinua (Breadcrumbing)?

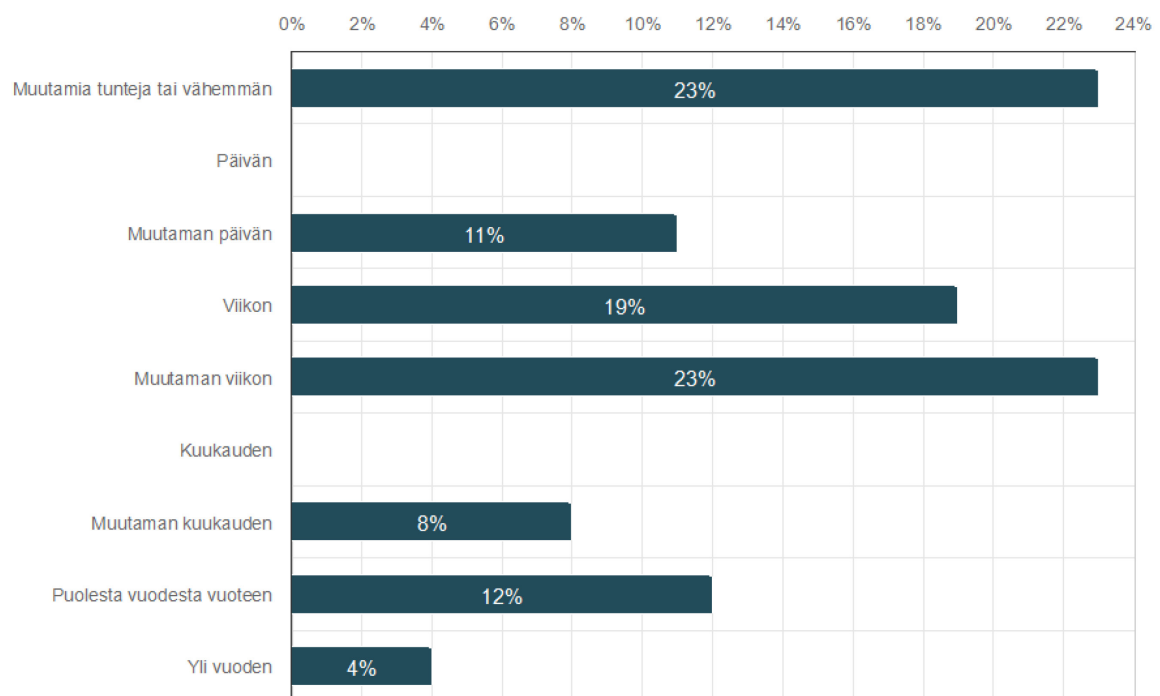
Vastaajien määrä: 27



	n	Prosentti
En	11	40,7%
Kyllä	16	59,3%

## Kuinka kauan keskustelitte tai treffailitte ennen kuin toinen henkilö alkoi murustella (Breadcrumbing) sinua?

Vastaajien määrä: 26

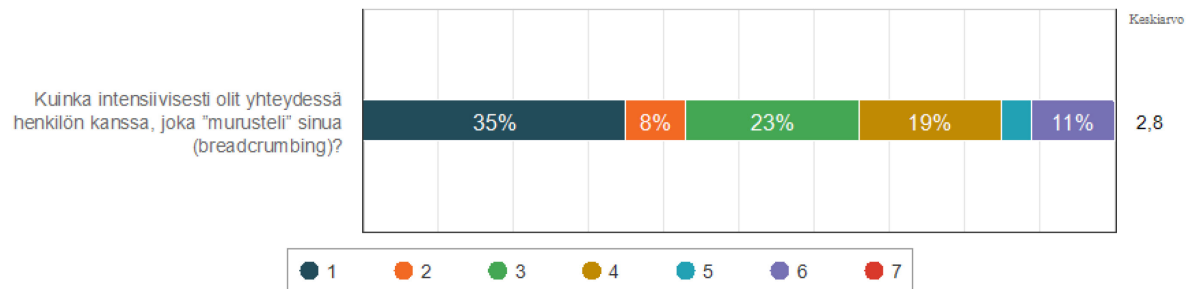


	n	Prosentti
Muutamia tunteja tai vähemmän	6	23,1%
Päivän	0	0,0%
Muutaman päivän	3	11,5%
Viikon	5	19,2%
Muutaman viikon	6	23,1%
Kuukauden	0	0,0%
Muutaman kuukauden	2	7,7%
Puolesta vuodesta vuoteen	3	11,5%
Yli vuoden	1	3,9%

**Valitse asteikolta se vaihtoehto, joka parhaiten kuvastaa kokemuksiasi näissä tilanteissa. Vastaa kysymyksiin mahdollisimman rehellisesti.**

**Yhteyden intensiteetti oli 1 = erittäin vähäistä - 7 = erittäin intensiivistä.**

Vastaajien määrä: 26

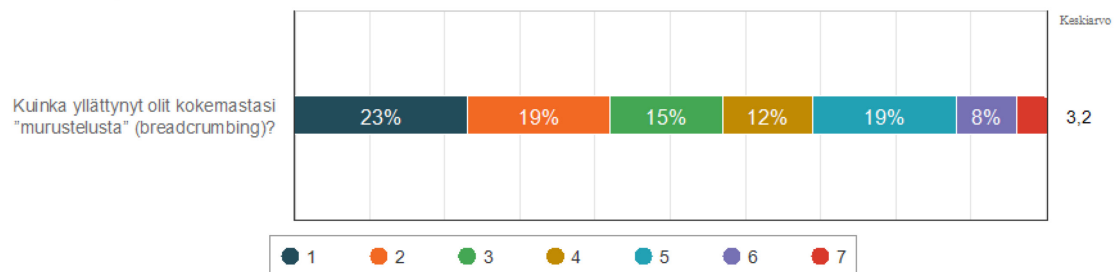


	1	2	3	4	5	6	7	Keskiarvo	Mediaani
Kuinka intensiivisesti olit yhteydessä henkilön kanssa, joka "murusteli" sinua (Breadcrumbing)?	34,6%	7,7%	23,1%	19,2%	3,9%	11,5%	0,0%	2,8	3,0

**Valitse asteikolta se vaihtoehto, joka parhaiten kuvastaa kokemuksiasi näissä tilanteissa. Vastaa kysymyksiin mahdollisimman rehellisesti.**

**1 = en ollenkaan yllättynyt - 7 = olin erittäin yllättynyt**

Vastaajien määrä: 26

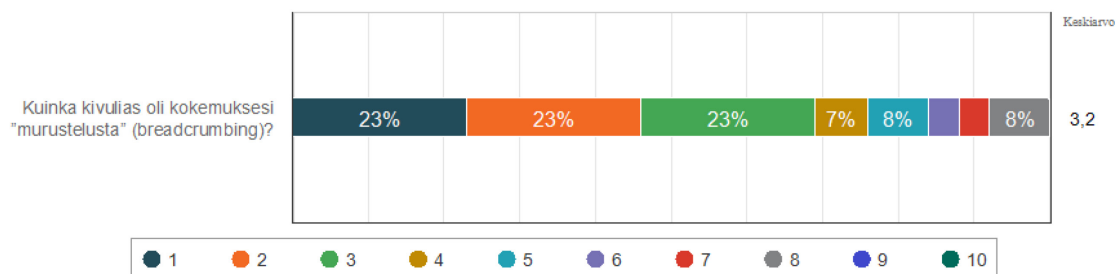


	1	2	3	4	5	6	7	Keskiarvo	Mediानी
Kuinka yllättynyt olit kokemastasi "murustelusta" (Breadcrumbing)?	23,1%	19,2%	15,4%	11,5%	19,2%	7,7%	3,9%	3,2	3,0

**Valitse asteikolta se vaihtoehto, joka parhaiten kuvastaa kokemuksiasi näissä tilanteissa. Vastaa kysymyksiin mahdollisimman rehellisesti.**

**1 = ei ollenkaan kivulias - 10 = äärimmäisen kivulias.**

Vastaajien määrä: 26

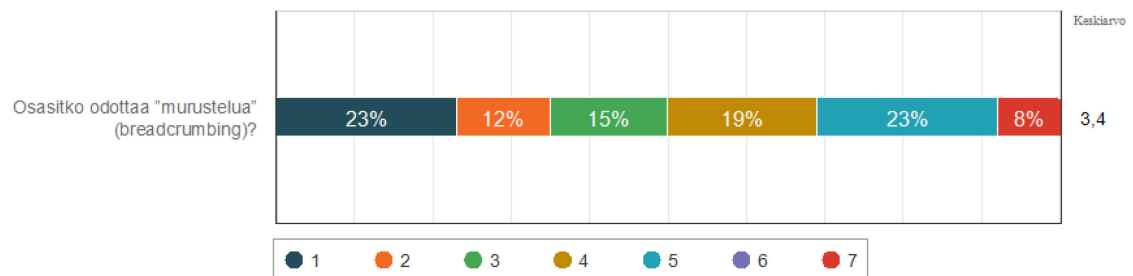


	1	2	3	4	5	6	7	8	9	10	Keskiarvo	Mediaani
Kuinka kivulias oli kokemuksesi "murustelusta" (Breadcrumbing)?	23,1 %	23,1 %	23,1 %	7,7 %	7,7 %	3,8 %	3,8 %	7,7 %	0,0 %	0,0 %	3,2	3,0

**Valitse asteikolta se vaihtoehto, joka parhaiten kuvastaa kokemuksiasi näissä tilanteissa. Vastaa kysymyksiin mahdollisimman rehellisesti.**

**1 = täysin odotettua - 7 = en lainkaan odottanut sitä**

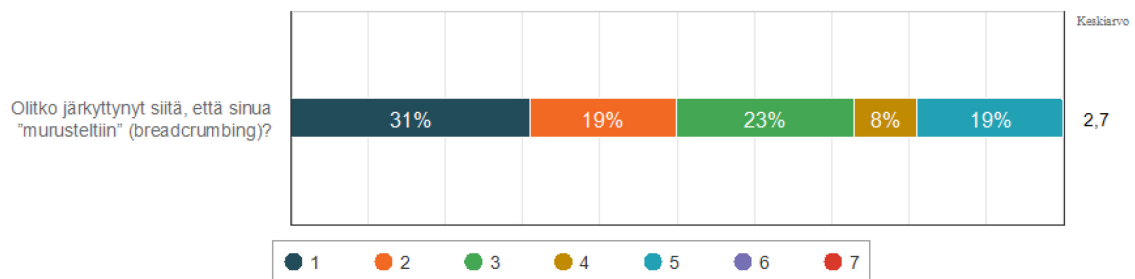
Vastaajien määrä: 26



	1	2	3	4	5	6	7	Keski arvo	Medi aani
Osaitko odottaa "murustelua" (Breadcrumbing)?	23,1%	11,5%	15,4%	19,2%	23,1%	0,0%	7,7%	3,4	3,5

**Valitse asteikolta se vaihtoehto, joka parhaiten kuvastaa kokemuksiasi näissä tilanteissa. Vastaa kysymyksiin mahdollisimman rehellisesti.**

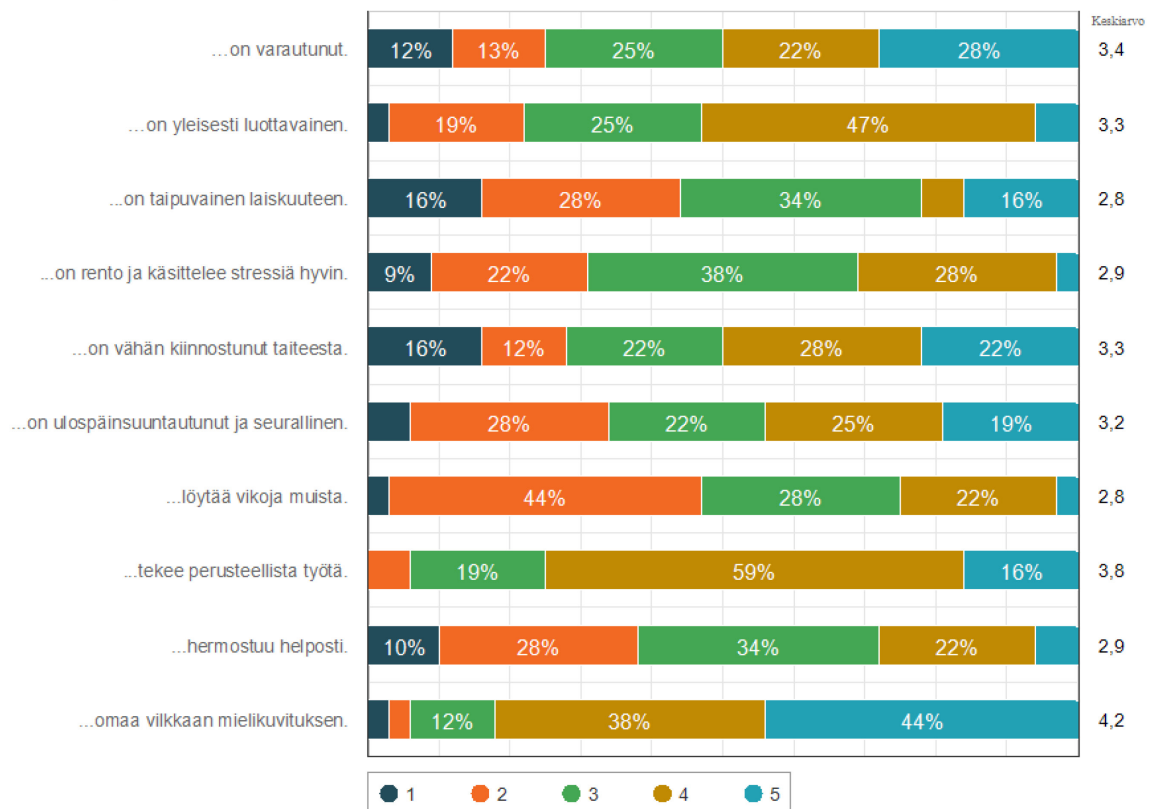
**1 = ei ollenkaan järkyttynyt - 7 = olin erittäin järkyttynyt**  
Vastaajien määrä: 26



	1	2	3	4	5	6	7	Keskiarvo	Mediानी
Olitko järkyttynyt siitä, että sinua ”murusteltiin” (Breadcrumbs)?	30,8%	19,2%	23,1%	7,7%	19,2%	0,0%	0,0%	2,7	2,5

## Näen itseni sellaisena, joka...

Vastaajien määrä: 32



	1	2	3	4	5	Keskia rvo	Media ani
...on varautunut.	12,5 %	12,5 %	25,0 %	21,9 %	28,1 %	3,4	3,5
...on yleisesti luottavainen.	3,1 %	18,7 %	25,0 %	46,9 %	6,3 %	3,3	4,0
...on taipuvainen laiskuuteen.	15,6 %	28,1 %	34,4 %	6,3 %	15,6 %	2,8	3,0
...on rento ja käsittelee stressiä hyvin.	9,4 %	21,9 %	37,5 %	28,1 %	3,1 %	2,9	3,0
...on vähän kiinnostunut taiteesta.	15,6 %	12,5 %	21,9 %	28,1 %	21,9 %	3,3	3,5
...on ulospäinsuunta utunut ja seurallinen.	6,3 %	28,1 %	21,9 %	25,0 %	18,7 %	3,2	3,0
...löytää vikoja muista.	3,1 %	43,8 %	28,1 %	21,9 %	3,1 %	2,8	3,0
...tekee perusteellista työtä.	0,0 %	6,3 %	18,7 %	59,4 %	15,6 %	3,8	4,0
...hermostuu helposti.	9,4 %	28,1 %	34,4 %	21,9 %	6,2 %	2,9	3,0
...omaa vilkkaan mielikuvituksen .	3,1 %	3,1 %	12,5 %	37,5 %	43,8 %	4,2	4,0



## Correlation table 1.

		Correlations										
		IsPreparedV arautunut	ConfidentLuot ttavainen	Lazy	Relaxed	littleArt	Extrovert	OthersFalt	ThoroughWor k	EasilyNerves	Imagine	GhostingExtr emePainfull
IsPreparedVarautunut	Pearson Correlation	1	.206	-.115	-.447*	.144	.456**	.272	.030	-.323	.025	-.235
	Sig. (2-tailed)		.257	.530	.010	.433	.009	.132	.871	.071	.893	.212
	Sum of Squares and Cross-products	57.719	8.469	-6.156	-19.187	8.344	23.844	10.844	.969	-14.625	1.031	-12.233
	Covariance	1.862	.273	-.199	-.619	.269	.769	.350	.031	-.472	.033	-.422
	N	32	32	32	32	32	32	32	32	32	32	32
ConfidentLuottavainen	Pearson Correlation	.206	1	-.142	-.088	.099	.258	-.085	-.056	.074	.178	.171
	Sig. (2-tailed)	.257		.438	.632	.590	.155	.644	.763	.688	.330	.367
	Sum of Squares and Cross-products	8.469	29.219	-5.406	-2.687	4.094	9.594	-2.406	-1.281	2.375	5.281	6.233
	Covariance	.273	.943	-.174	-.087	.132	.309	-.078	-.041	.077	.170	.215
	N	32	32	32	32	32	32	32	32	32	32	32
Lazy	Pearson Correlation	-.115	-.142	1	-.212	-.224	.133	.338	.103	-.122	.101	.109
	Sig. (2-tailed)	.530	.438		.243	.218	.466	.058	.575	.505	.582	.566
	Sum of Squares and Cross-products	-6.156	-5.406	49.469	-8.437	-12.031	6.469	12.469	3.094	-5.125	3.906	5.100
	Covariance	-.199	-.174	1.596	-.272	-.388	.209	.402	.100	-.165	.126	.176
	N	32	32	32	32	32	32	32	32	32	32	32
Relaxed	Pearson Correlation	-.447*	-.088	-.212	1	.268	-.423*	-.353*	.054	.691**	.248	.079
	Sig. (2-tailed)	.010	.632	.243		.138	.016	.048	.767	<.001	.172	.678
	Sum of Squares and Cross-products	-19.187	-2.687	-8.437	31.875	11.563	-16.437	-10.437	1.313	23.250	7.688	3.133
	Covariance	-.619	-.087	-.272	1.028	.373	-.530	-.337	.042	.750	.248	.108
	N	32	32	32	32	32	32	32	32	32	32	32
littleArt	Pearson Correlation	.144	.099	-.224	.268	1	.037	-.300	.079	.414*	.176	-.181
	Sig. (2-tailed)	.433	.590	.218	.138		.839	.095	.665	.018	.335	.339
	Sum of Squares and Cross-products	8.344	4.094	-12.031	11.563	58.469	1.969	-12.031	2.594	18.875	7.406	-9.400
	Covariance	.269	.132	-.388	.373	1.886	.064	-.388	.084	.609	.239	-.324
	N	32	32	32	32	32	32	32	32	32	32	32
Extrovert	Pearson Correlation	.456**	.258	.133	-.423*	.037	1	.179	.139	-.052	.314	-.381*
	Sig. (2-tailed)	.009	.155	.466	.016	.839		.327	.447	.778	.080	.038
	Sum of Squares and Cross-products	23.844	9.594	6.469	-16.437	1.969	47.469	6.469	4.094	-2.125	11.906	-18.033
	Covariance	.769	.309	.209	-.530	.064	1.531	.209	.132	-.069	.384	-.622
	N	32	32	32	32	32	32	32	32	32	32	32
OthersFalt	Pearson Correlation	.272	-.085	.338	-.353*	-.300	.179	1	.004	-.324	.031	-.181
	Sig. (2-tailed)	.132	.644	.058	.048	.095	.327		.982	.070	.864	.339
	Sum of Squares and Cross-products	10.844	-2.406	12.469	-10.437	-12.031	6.469	27.469	.094	-10.125	.906	-6.467
	Covariance	.350	-.078	.402	-.337	-.388	.209	.886	.003	-.327	.029	-.223
	N	32	32	32	32	32	32	32	32	32	32	32
ThoroughWork	Pearson Correlation	.030	-.056	.103	.054	.079	.139	.004	1	.015	.374*	.048
	Sig. (2-tailed)	.871	.763	.575	.767	.665	.447	.982		.936	.035	.800
	Sum of Squares and Cross-products	.969	-1.281	3.094	1.313	2.594	4.094	.094	18.219	.375	8.781	1.300
	Covariance	.031	-.041	.100	.042	.084	.132	.003	.588	.012	.283	.045
	N	32	32	32	32	32	32	32	32	32	32	32
EasilyNerves	Pearson Correlation	-.323	.074	-.122	.691**	.414*	-.052	-.324	.015	1	.508**	.097
	Sig. (2-tailed)	.071	.688	.505	<.001	.018	.778	.070	.936		.003	.608
	Sum of Squares and Cross-products	-14.625	2.375	-5.125	23.250	18.875	-2.125	-10.125	.375	35.500	16.625	3.867
	Covariance	-.472	.077	-.165	.750	.609	-.069	-.327	.012	1.145	.536	.133
	N	32	32	32	32	32	32	32	32	32	32	32
Imagine	Pearson Correlation	.025	.178	.101	.248	.176	.314	.031	.374*	.508**	1	.003
	Sig. (2-tailed)	.893	.330	.582	.172	.335	.080	.864	.035	.003		.986
	Sum of Squares and Cross-products	1.031	5.281	3.906	7.688	7.406	11.906	.906	8.781	16.625	30.219	.100
	Covariance	.033	.170	.126	.248	.239	.384	.029	.283	.536	.975	.003
	N	32	32	32	32	32	32	32	32	32	32	32
GhostingExtremePainfull	Pearson Correlation	-.235	.171	.109	.079	-.181	-.381*	-.181	.048	.097	.003	1
	Sig. (2-tailed)	.212	.367	.566	.678	.339	.038	.339	.800	.608	.986	
	Sum of Squares and Cross-products	-12.233	6.233	5.100	3.133	-9.400	-18.033	-6.467	1.300	3.867	.100	49.367
	Covariance	-.422	.215	.176	.108	-.324	-.622	-.223	.045	.133	.003	1.702
	N	30	30	30	30	30	30	30	30	30	30	30

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

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

## Correlation table 2.

		Correlations										
		GhostingHow Painfull	IsPreparedV arautunut	ConfidentLuo ttavainen	Lazy	Relaxed	littleArt	Extrovert	OthersFalt	ThoroughWor k	EasilyNerves	Imagine
GhostingHowPainfull	Pearson Correlation	1	-.412*	.289	.181	-.060	-.406*	-.102	-.106	-.099	-.025	.154
	Sig. (2-tailed)		.026	.129	.347	.757	.029	.600	.586	.610	.899	.424
	Sum of Squares and Cross-products	215.241	-43.655	21.207	17.655	-4.966	-44.103	-9.862	-7.862	-5.552	-2.034	9.655
	Covariance	7.687	-1.559	.757	.631	-.177	-1.575	-.352	-.281	-.198	-.073	.345
N	29	29	29	29	29	29	29	29	29	29	29	29
IsPreparedVarautunut	Pearson Correlation	-.412*	1	.206	-.115	-.447*	.144	.456**	.272	.030	-.323	.025
	Sig. (2-tailed)	.026		.257	.530	.010	.433	.009	.132	.871	.071	.893
	Sum of Squares and Cross-products	-43.655	57.719	8.469	-6.156	-19.187	8.344	23.844	10.844	.969	-14.625	1.031
	Covariance	-1.559	1.862	.273	-.199	-.619	.269	.769	.350	.031	-.472	.033
N	29	32	32	32	32	32	32	32	32	32	32	32
ConfidentLuottavainen	Pearson Correlation	.289	.206	1	-.142	-.088	.099	.258	-.085	-.056	.074	.178
	Sig. (2-tailed)	.129	.257		.438	.632	.590	.155	.644	.763	.688	.330
	Sum of Squares and Cross-products	21.207	8.469	29.219	-5.406	-2.687	4.094	9.594	-2.406	-1.281	2.375	5.281
	Covariance	.757	.273	.943	-.174	-.087	.132	.309	-.078	-.041	.077	.170
N	29	32	32	32	32	32	32	32	32	32	32	32
Lazy	Pearson Correlation	.181	-.115	-.142	1	-.212	-.224	.133	.338	.103	-.122	.101
	Sig. (2-tailed)	.347	.530	.438		.243	.218	.466	.058	.575	.505	.582
	Sum of Squares and Cross-products	17.655	-6.156	-5.406	49.469	-8.437	-12.031	6.469	12.469	3.094	-5.125	3.906
	Covariance	.631	-.199	-.174	1.596	-.272	-.388	.209	.402	.100	-.165	.126
N	29	32	32	32	32	32	32	32	32	32	32	32
Relaxed	Pearson Correlation	-.060	-.447*	-.088	-.212	1	.268	-.423*	-.353*	.054	.691**	.248
	Sig. (2-tailed)	.757	.010	.632	.243		.138	.016	.048	.767	<.001	.172
	Sum of Squares and Cross-products	-4.966	-19.187	-2.687	-8.437	31.875	11.563	-16.437	-10.437	1.313	23.250	7.688
	Covariance	-.177	-.619	-.087	-.272	1.028	.373	-.530	-.337	.042	.750	.248
N	29	32	32	32	32	32	32	32	32	32	32	32
littleArt	Pearson Correlation	-.406*	.144	.099	-.224	.268	1	.037	-.300	.079	.414*	.176
	Sig. (2-tailed)	.029	.433	.590	.218	.138		.839	.095	.665	.018	.335
	Sum of Squares and Cross-products	-44.103	8.344	4.094	-12.031	11.563	58.469	1.969	-12.031	2.594	18.875	7.406
	Covariance	-1.575	.269	.132	-.388	.373	1.886	.064	-.388	.084	.609	.239
N	29	32	32	32	32	32	32	32	32	32	32	32
Extrovert	Pearson Correlation	-.102	.456**	.258	.133	-.423*	.037	1	.179	.139	-.052	.314
	Sig. (2-tailed)	.600	.009	.155	.466	.016	.839		.327	.447	.778	.080
	Sum of Squares and Cross-products	-9.862	23.844	9.594	6.469	-16.437	1.969	47.469	6.469	4.094	-2.125	11.906
	Covariance	-.352	.769	.309	.209	-.530	.064	1.531	.209	.132	-.069	.384
N	29	32	32	32	32	32	32	32	32	32	32	32
OthersFalt	Pearson Correlation	-.106	.272	-.085	.338	-.353*	-.300	.179	1	.004	-.324	.031
	Sig. (2-tailed)	.586	.132	.644	.058	.048	.095	.327		.982	.070	.864
	Sum of Squares and Cross-products	-7.862	10.844	-2.406	12.469	-10.437	-12.031	6.469	27.469	.094	-10.125	.906
	Covariance	-.281	.350	-.078	.402	-.337	-.388	.209	.886	.003	-.327	.029
N	29	32	32	32	32	32	32	32	32	32	32	32
ThoroughWork	Pearson Correlation	-.099	.030	-.056	.103	.054	.079	.139	.004	1	.015	.374*
	Sig. (2-tailed)	.610	.871	.763	.575	.767	.665	.447	.982		.936	.035
	Sum of Squares and Cross-products	-5.552	.969	-1.281	3.094	1.313	2.594	4.094	.094	18.219	.375	8.781
	Covariance	-.198	.031	-.041	.100	.042	.084	.132	.003	.588	.012	.283
N	29	32	32	32	32	32	32	32	32	32	32	32
EasilyNerves	Pearson Correlation	-.025	-.323	.074	-.122	.691**	.414*	-.052	-.324	.015	1	.508**
	Sig. (2-tailed)	.899	.071	.688	.505	<.001	.018	.778	.070	.936		.003
	Sum of Squares and Cross-products	-2.034	-14.625	2.375	-5.125	23.250	18.875	-2.125	-10.125	.375	35.500	16.625
	Covariance	-.073	-.472	.077	-.165	.750	.609	-.069	-.327	.012	1.145	.536
N	29	32	32	32	32	32	32	32	32	32	32	32
Imagine	Pearson Correlation	.154	.025	.178	.101	.248	.176	.314	.031	.374*	.508**	1
	Sig. (2-tailed)	.424	.893	.330	.582	.172	.335	.080	.864	.035	.003	
	Sum of Squares and Cross-products	9.655	1.031	5.281	3.906	7.688	7.406	11.906	.906	8.781	16.625	30.219
	Covariance	.345	.033	.170	.126	.248	.239	.384	.029	.283	.536	.975
N	29	32	32	32	32	32	32	32	32	32	32	32

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

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

## Correlation table 3.

		Correlations										
		GhostingOwn Experiences	IsPreparedV arautunut	ConfidentLuo ttavainen	Lazy	Relaxed	littleArt	Extrovert	OthersFalt	ThoroughWor k	EasilyNerves	Imagine
GhostingOwnExperiences	Pearson Correlation	1	.127	.105	-.183	.128	.252	.174	-.102	.205	.444*	.602**
	Sig. (2-tailed)		.495	.573	.325	.491	.171	.351	.585	.269	.012	<.001
	Sum of Squares and Cross-products	52.839	6.871	4.129	-9.032	5.194	13.645	8.548	-3.839	6.226	19.226	23.774
	Covariance	1.761	.229	.138	-.301	.173	.455	.285	-.128	.208	.641	.792
N	31	31	31	31	31	31	31	31	31	31	31	31
IsPreparedVarautunut	Pearson Correlation	.127	1	.206	-.115	-.447*	.144	.456**	.272	.030	-.323	.025
	Sig. (2-tailed)	.495		.257	.530	.010	.433	.009	.132	.871	.071	.893
	Sum of Squares and Cross-products	6.871	57.719	8.469	-6.156	-19.187	8.344	23.844	10.844	.969	-14.625	1.031
	Covariance	.229	1.862	.273	-.199	-.619	.269	.769	.350	.031	-.472	.033
N	31	32	32	32	32	32	32	32	32	32	32	32
ConfidentLuottavainen	Pearson Correlation	.105	.206	1	-.142	-.088	.099	.258	-.085	-.056	.074	.178
	Sig. (2-tailed)	.573	.257		.438	.632	.590	.155	.644	.763	.688	.330
	Sum of Squares and Cross-products	4.129	8.469	29.219	-5.406	-2.687	4.094	9.594	-2.406	-1.281	2.375	5.281
	Covariance	.138	.273	.943	-.174	-.087	.132	.309	-.078	-.041	.077	.170
N	31	32	32	32	32	32	32	32	32	32	32	32
Lazy	Pearson Correlation	-.183	-.115	-.142	1	-.212	-.224	.133	.338	.103	-.122	.101
	Sig. (2-tailed)	.325	.530	.438		.243	.218	.466	.058	.575	.505	.582
	Sum of Squares and Cross-products	-9.032	-6.156	-5.406	49.469	-8.437	-12.031	6.469	12.469	3.094	-5.125	3.906
	Covariance	-.301	-.199	-.174	1.596	-.272	-.388	.209	.402	.100	-.165	.126
N	31	32	32	32	32	32	32	32	32	32	32	32
Relaxed	Pearson Correlation	.128	-.447*	-.088	-.212	1	.268	-.423*	-.353*	.054	.691**	.248
	Sig. (2-tailed)	.491	.010	.632	.243		.138	.016	.048	.767	<.001	.172
	Sum of Squares and Cross-products	5.194	-19.187	-2.687	-8.437	31.875	11.563	-16.437	-10.437	1.313	23.250	7.688
	Covariance	.173	-.619	-.087	-.272	1.028	.373	-.530	-.337	.042	.750	.248
N	31	32	32	32	32	32	32	32	32	32	32	32
littleArt	Pearson Correlation	.252	.144	.099	-.224	.268	1	.037	-.300	.079	.414*	.176
	Sig. (2-tailed)	.171	.433	.590	.218	.138		.839	.095	.665	.018	.335
	Sum of Squares and Cross-products	13.645	8.344	4.094	-12.031	11.563	58.469	1.969	-12.031	2.594	18.875	7.406
	Covariance	.455	.269	.132	-.388	.373	1.886	.064	-.388	.084	.609	.239
N	31	32	32	32	32	32	32	32	32	32	32	32
Extrovert	Pearson Correlation	.174	.456**	.258	.133	-.423*	.037	1	.179	.139	-.052	.314
	Sig. (2-tailed)	.351	.009	.155	.466	.016	.839		.327	.447	.778	.080
	Sum of Squares and Cross-products	8.548	23.844	9.594	6.469	-16.437	1.969	47.469	6.469	4.094	-2.125	11.906
	Covariance	.285	.769	.309	.209	-.530	.064	1.531	.209	.132	-.069	.384
N	31	32	32	32	32	32	32	32	32	32	32	32
OthersFalt	Pearson Correlation	-.102	.272	-.085	.338	-.353*	-.300	.179	1	.004	-.324	.031
	Sig. (2-tailed)	.585	.132	.644	.058	.048	.095	.327		.982	.070	.864
	Sum of Squares and Cross-products	-3.839	10.844	-2.406	12.469	-10.437	-12.031	6.469	27.469	.094	-10.125	.906
	Covariance	-.128	.350	-.078	.402	-.337	-.388	.209	.886	.003	-.327	.029
N	31	32	32	32	32	32	32	32	32	32	32	32
ThoroughWork	Pearson Correlation	.205	.030	-.056	.103	.054	.079	.139	.004	1	.015	.374*
	Sig. (2-tailed)	.269	.871	.763	.575	.767	.665	.447	.982		.936	.035
	Sum of Squares and Cross-products	6.226	.969	-1.281	3.094	1.313	2.594	4.094	.094	18.219	.375	8.781
	Covariance	.208	.031	-.041	.100	.042	.084	.132	.003	.588	.012	.283
N	31	32	32	32	32	32	32	32	32	32	32	32
EasilyNerves	Pearson Correlation	.444*	-.323	.074	-.122	.691**	.414*	-.052	-.324	.015	1	.508**
	Sig. (2-tailed)	.012	.071	.688	.505	<.001	.018	.778	.070	.936		.003
	Sum of Squares and Cross-products	19.226	-14.625	2.375	-5.125	23.250	18.875	-2.125	-10.125	.375	35.500	16.625
	Covariance	.641	-.472	.077	-.165	.750	.609	-.069	-.327	.012	1.145	.536
N	31	32	32	32	32	32	32	32	32	32	32	32
Imagine	Pearson Correlation	.602**	.025	.178	.101	.248	.176	.314	.031	.374*	.508**	1
	Sig. (2-tailed)	<.001	.893	.330	.582	.172	.335	.080	.864	.035	.003	
	Sum of Squares and Cross-products	23.774	1.031	5.281	3.906	7.688	7.406	11.906	.906	8.781	16.625	30.219
	Covariance	.792	.033	.170	.126	.248	.239	.384	.029	.283	.536	.975
N	31	32	32	32	32	32	32	32	32	32	32	32

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

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

Correlation table 4.

		Correlations						
		BcShock	BcExpected	BcHowPainful	BcDiscous	BcHowIntensiv	BcNOThurt	BcExtremePainfull
BcShock	Pearson Correlation	1	.546**	.698**	.432*	.400*	.282	.742**
	Sig. (2-tailed)		.004	<.001	.027	.043	.163	<.001
	Sum of Squares and Cross-products	55.885	37.462	55.731	39.769	25.615	12.038	23.962
	Covariance	2.235	1.498	2.229	1.591	1.025	.482	.958
	N	26	26	26	26	26	26	26
BcExpected	Pearson Correlation	.546**	1	.440*	.176	.134	.264	.357
	Sig. (2-tailed)	.004		.025	.389	.514	.192	.073
	Sum of Squares and Cross-products	37.462	84.154	43.077	19.923	10.538	13.846	14.154
	Covariance	1.498	3.366	1.723	.797	.422	.554	.566
	N	26	26	26	26	26	26	26
BcHowPainfull	Pearson Correlation	.698**	.440*	1	.604**	.271	.351	.750**
	Sig. (2-tailed)	<.001	.025		.001	.181	.079	<.001
	Sum of Squares and Cross-products	55.731	43.077	114.038	79.462	24.769	21.423	34.577
	Covariance	2.229	1.723	4.562	3.178	.991	.857	1.383
	N	26	26	26	26	26	26	26
BcDiscous	Pearson Correlation	.432*	.176	.604**	1	.410*	.257	.450*
	Sig. (2-tailed)	.027	.389	.001		.038	.205	.021
	Sum of Squares and Cross-products	39.769	19.923	79.462	151.538	43.231	18.077	23.923
	Covariance	1.591	.797	3.178	6.062	1.729	.723	.957
	N	26	26	26	26	26	26	26
BcHowIntensiv	Pearson Correlation	.400*	.134	.271	.410*	1	.520**	.258
	Sig. (2-tailed)	.043	.514	.181	.038		.006	.204
	Sum of Squares and Cross-products	25.615	10.538	24.769	43.231	73.385	25.462	9.538
	Covariance	1.025	.422	.991	1.729	2.935	1.018	.382
	N	26	26	26	26	26	26	26
BcNOThurt	Pearson Correlation	.282	.264	.351	.257	.520**	1	.246
	Sig. (2-tailed)	.163	.192	.079	.205	.006		.217
	Sum of Squares and Cross-products	12.038	13.846	21.423	18.077	25.462	33.852	6.296
	Covariance	.482	.554	.857	.723	1.018	1.302	.242
	N	26	26	26	26	26	27	27
BcExtremePainfull	Pearson Correlation	.742**	.357	.750**	.450*	.258	.246	1
	Sig. (2-tailed)	<.001	.073	<.001	.021	.204	.217	
	Sum of Squares and Cross-products	23.962	14.154	34.577	23.923	9.538	6.296	19.407
	Covariance	.958	.566	1.383	.957	.382	.242	.746
	N	26	26	26	26	26	27	27

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

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

Correlation table 5.

		Correlations							
		GhostingIntensiv	GhostingExtremePainfull	GhostingFaced	GhostingSupraised	GhostingDiscous	GhostingHowIntensiv	GhostingHowPainfull	GhostingShock
GhostingIntensiv	Pearson Correlation	1	.632**	-.381*	.330	.206	.423*	.511**	.358
	Sig. (2-tailed)		<.001	.041	.081	.293	.022	.005	.056
	Sum of Squares and Cross-products	39.200	27.800	-6.069	20.448	13.714	20.931	46.690	24.034
	Covariance	1.352	.959	-.217	.730	.508	.748	1.667	.858
N	30	30	29	29	28	29	29	29	
GhostingExtremePainfull	Pearson Correlation	.632**	1	-.352	.359	.390*	.312	.654**	.429*
	Sig. (2-tailed)	<.001		.061	.056	.040	.099	<.001	.020
	Sum of Squares and Cross-products	27.800	49.367	-6.448	25.034	29.357	17.379	67.207	32.310
	Covariance	.959	1.702	-.230	.894	1.087	.621	2.400	1.154
N	30	30	29	29	28	29	29	29	
GhostingFaced	Pearson Correlation	-.381*	-.352	1	-.124	-.434*	-.165	-.129	-.088
	Sig. (2-tailed)	.041	.061		.523	.024	.401	.513	.657
	Sum of Squares and Cross-products	-6.069	-6.448	6.967	-3.345	-10.963	-3.321	-4.893	-2.321
	Covariance	-.217	-.230	.240	-.119	-.422	-.123	-.181	-.086
N	29	29	30	29	27	28	28	28	
GhostingSupraised	Pearson Correlation	.330	.359	-.124	1	.406*	.473**	.453*	.675**
	Sig. (2-tailed)	.081	.056	.523		.032	.010	.013	<.001
	Sum of Squares and Cross-products	20.448	25.034	-3.345	110.300	42.786	37.379	66.207	72.310
	Covariance	.730	.894	-.119	3.803	1.585	1.335	2.365	2.583
N	29	29	29	30	28	29	29	29	
GhostingDiscous	Pearson Correlation	.206	.390*	-.434*	.406*	1	.444*	.563**	.685**
	Sig. (2-tailed)	.293	.040	.024	.032		.018	.002	<.001
	Sum of Squares and Cross-products	13.714	29.357	-10.963	42.786	120.429	36.571	87.929	80.857
	Covariance	.508	1.087	-.422	1.585	4.460	1.354	3.257	2.995
N	28	28	27	28	28	28	28	28	
GhostingHowIntensiv	Pearson Correlation	.423*	.312	-.165	.473**	.444*	1	.611**	.601**
	Sig. (2-tailed)	.022	.099	.401	.010	.018		<.001	<.001
	Sum of Squares and Cross-products	20.931	17.379	-3.321	37.379	36.571	63.172	71.276	51.414
	Covariance	.748	.621	-.123	1.335	1.354	2.256	2.546	1.836
N	29	29	28	29	28	29	29	29	
GhostingHowPainfull	Pearson Correlation	.511**	.654**	-.129	.453*	.563**	.611**	1	.772**
	Sig. (2-tailed)	.005	<.001	.513	.013	.002	<.001		<.001
	Sum of Squares and Cross-products	46.690	67.207	-4.893	66.207	87.929	71.276	215.241	121.862
	Covariance	1.667	2.400	-.181	2.365	3.257	2.546	7.687	4.352
N	29	29	28	29	28	29	29	29	
GhostingShock	Pearson Correlation	.358	.429*	-.088	.675**	.685**	.601**	.772**	1
	Sig. (2-tailed)	.056	.020	.657	<.001	<.001	<.001	<.001	
	Sum of Squares and Cross-products	24.034	32.310	-2.321	72.310	80.857	51.414	121.862	115.793
	Covariance	.858	1.154	-.086	2.583	2.995	1.836	4.352	4.135
N	29	29	28	29	28	29	29	29	

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

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