

Review Article

Extraversion type of personality and Facebook: A literature review

Nelly Qassas Derar Eleyan

Abstract

This study aims to understand the relationship between Facebook users' personalities and their usage patterns, with a focus on extraversion traits. Despite the growing body of research on this topic, there remains a scarcity of comprehensive literature reviews. This research attempts to synthesize literature through a review where 45 studies linked extraversion personality traits to Facebook. Researchers discussed Extraversion and Facebook using various studies between 2015 and 2021 identified with the ELSIEVER engine.

The findings of this study spotlight extraversion personality in a marketing and business context, offering insights into potential applications and implications. A conceptual model is proposed to elucidate the role of extraversion in various functional areas of business, including marketing, sales enhancement, promotion, and customer engagement. Moreover, this study offers theoretical and practical implications for practitioners and researchers alike, while also providing suggestions for future research and noticed gaps.

Keywords: Personality traits, Extraversion, Big Five model, Social media, Facebook.

الشخصية الانبساطية والفيسبوك: مراجعة أدبية

الملخص

تهدف هذه الدراسة إلى فهم العلاقة بين شخصيات مستخدمي فيسبوك واستخدامات الفيسبوك. في الآونة الأخيرة ازدهرت الأبحاث العلمية المرتبطة بموضوع الشخصيات عبر الفيسبوك، ونشر الباحثون العديد من المقالات مع عدد نادر جداً من المراجعات العلمية للمقالات. يحاول هذا البحث تجميع الأدبيات من خلال المراجعة العلمية حيث تم مراجعة ٤٥ دراسة تربط سمات الشخصية الانبساطية بالفيسبوك. ناقش الباحثون الشخصية الانبساطية والفيسبوك باستخدام عدد من الدراسات المختلفة وقد تم تحديدها من خلال استخدام محرك البحث الخاص بـ ELSIEVER بين عامي ٢٠١٥ و ٢٠٢١. وتسلط نتائج هذه المقالة الضوء على الشخصية الانبساطية في سياق التسويق والأعمال وتقترب نموذجاً مفاهيمياً. وتناقش هذه المقالة كيف يمكن للأشخاص الانبساطيين المساهمة في التطور والتقدم في مجال الأعمال والفيسبوك في المستقبل، ودورهم في مجالات الأعمال والتسويق، وتعزيز المبيعات، والترويج، ومشاركة العملاء. تقدم هذه الدراسة استنتاجات تتعلق بالنظرية والممارسة العملية للممارسين، والباحثين، علاوة على ذلك، فإن هذه الدراسة تقدم اقتراحات للبحث المستقبلي والفجوات الملحوظة.

الكلمات المفتاحية: سمات الشخصية، الانبساط، نموذج السمات الخمس الكبار، وسائل التواصل الاجتماعي، الفيسبوك.

- Dr. Nelly Qassas, Business Administration Department, Faculty of Business and Economics. Al-Quds University, email: nqassas@staff.alquds.edu.

- Dr. Derar Eleyan, Faculty of Information Technology, Palestine Technical University Kadoorie, Faculty of Telecommunication and Information Technology, Nablus University For Vocational And Technical Education, Palestine, email: d.eleyan@ptuk.edu.ps, d.eleyan@nu-vte.edu.ps.

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Introduction

Many studies indicate that the influence of social media on marketing, especially in digital marketing, has created a significant positive revolution. The revolution has been driven by getting online users to trust, recommend, and freely give feedback and ratings to their network of social connections, in essence crafting a more cost-effective marketing that advertisers are embracing. As of the second quarter of 2020, Clement (2020) tells us that Facebook is number one with more than 2.7 billion monthly active users in Statista (2020). According to a P.R. Newswire report (2019), more than \$55 billion (U.S.) in advertising costs were spent using the Facebook platform last year. Given the substantial investment companies make in Facebook advertising, they must understand the behaviors of social media users. Various studies have quantitatively examined social media usage patterns across different demographics, and some have explored the potential to predict an individual's personality type based on their social media activity. Despite these efforts, and to the best of the researcher's knowledge, regular literature reviews have been undertaken focusing on the extraversion personality trait. However, there appears to be a gap in research specifically aimed at synthesizing the literature on the relationship between extraverted individuals and their behaviors and usage patterns on Facebook. Facebook advertisements average price decreased by 0.06 in 2019, so a lower advertising future costs with an average cost per click for every advertisement is \$1.72 (Spoutsocial, 2020). This indicates that marketers must consider using social media for awareness and brand advocacy in their strategies (Spoutsocial, 2020). Extraverts practice social media to create social connections; they yearn for social relations (Blackwell et al., 2017). This review highlights the connections between Facebook usage and the extraversion personality trait while reporting the most significant trends observed. Further, the researchers present a conceptual framework for benefitting businesses and marketers. It emphasizes a method that identifies the personality types of Facebook users so that companies can apply it to their marketing strategies and in their academic work.

Extraversion personality

Humans have a natural inclination to wonder about the behavior of others, the characteristics people have, and the kind of person they are; a person's personality influences their behavior (Sauer, 2018; Buettner, 2016.). Jung (2014), developed one personality type, which he called 'extraversion,' in 1912. Eysenck was a giant in personality psychology in the 20th century. He took an experimental approach to studying the differences between people. He was among the first handful of researchers to map out the largely overlooked dimensions of personality when he did so in 1944, following Raymond Cattell's discovery in 1943. "Extraversion" refers to consistently displaying high levels of sociability, talkativeness, confidence, and assertiveness across various situations and over time (Goldberg, 1993). Davydenko et al. (2020) measure the positive social feedback that results from extraversion traits such as friendliness, niceness, sociability, and likeability. Goldberg (1993) stated that "extraverts experience greater positive affect when behaving in extraverted ways." They measured it through verbal behavior as "agreement, compliments, laughing" and nonverbal as "smiling, eye contact, physical proximity." Neumann (2020) revealed an association between personality trait type and amygdala activation. Ku et al. (2020) recommended that extroverts recognize positive formation in words during vocabulary feature recapture.

Depue and Collins (1999) characterized extraverts as possessing qualities such as cheerfulness, optimism, enthusiasm, gregariousness, sociability, ambition, energy, talkativeness, assertiveness, adventurousness, and a tendency towards sensation seeking. Extraverts have a heightened need for self-presentation, another point that Buettner (2016) emphasized. Komolo et al. (2020) found that students with a high degree of extraversion tend to be exceptionally well-adjusted socially and exhibit social solid orientation.

Extraversion measurement models evolution

The OCEAN model or “Big Five” is a comprehensive framework for classifying personality traits that emerge from analyses of how individuals describe themselves and others using natural language. This model traces its origins to the lexical hypothesis, which posits that the most important personality traits are embedded in our language (Allport, 1937). John and Srivastava (1999) revisited Cattell’s work from 1943, which identified twelve Personality Factors he incorporated into his Sixteen Personality Factors. Subsequent researchers further explored the dimensional structure of the trait ratings, contributing to identifying and understanding the Big Five dimensions. In 1949, Fiske was one of these researchers. In their study of 1961, Tupes and Christal reevaluated correlation matrices and identified “five relatively strong and recurrent factors and nothing more of any consequence.” John and Srivastava (1999) noted that this five-factor structure had been replicated in subsequent research, including studies by Norman (1963), Borgatta (1964), and Digman and Takemoto-Chock (1981), all of which were based on lists derived from Cattell’s 35 variables. They explained that Norman (1963) initially named these factors as follows: First, “Extraversion or Surgency,” defined as traits like “talkativeness, assertiveness, and energy”; second, “Agreeableness,” observed as “being good-natured, cooperative, and trustful”; third, “Conscientiousness,” labeled by “being orderly, responsible, and dependable”; fourth, “Emotional Stability versus Neuroticism,” characterized by “being calm, not neurotic, and not easily upset”; and fifth, “Culture,” defined as “being intellectual, polished, and independent-minded. Referring to these dimensions as the “Big Five.” Over time, further research and development have led to the creation of additional instruments designed to assess these big five personality traits. Goldberg (1990-1992) used Trait Descriptive Adjectives (TDA) to identify personality traits. Furthermore, Wiggins created another adjectival instrument, which inspired John, Donahue, and Kentle to create the Big Five Inventory (BFI) in 1991, which includes 44 items. Costa and McCrae developed the NEO Personality Inventory, which measures neuroticism, extraversion, and openness. In 1992, the NEO Personality Inventory-Revised (NEO PI-R) was expanded to include 240 items. They then produced the NEO-FFI, a more concise 60-item measure. According to John and Srivastava (1999), the Big Five traits were eventually abbreviated as OCEAN, which stands for Extraversion (Energy, Enthusiasm), Agreeableness (Altruism, Affection), Conscientiousness (Control, Constraint), Neuroticism (Negative Affectivity, Nervousness), and Openness (Originality, Open-mindedness).

Extraversion and Facebook

Shen et al. (2015) discovered that extroverts use Facebook to generate opinions about others based on their activity and behavior on the network. These opinions are formed by; first, reviewing profiles for demographics, personal interests, and friend groups; second, by evaluating the content, such as photos, and status updates; and third, by interacting with friends, including likes, and comments.

The study discovered a significant relationship between these types of usage, behaviors, and users' personalities, meaning that Facebook is a helpful source of data for personality identification, particularly for traits such as Extraversion, where profile-centered analysis is particularly effective (Gosling, Gaddis, and Vazire, 2007). Hatzithomas et al. (2017) referred to the Big Five as the Five-Factor Model of Personality (FFM), stating that it is a helpful model for investigating the relationships between personality types and online behavior. Extroversion positively correlates with the frequency and intensity of Facebook use (Vlachopoulou and Boutsouki, 2014). Based on these findings and others examined it's evident that there's a rising interest in understanding how specific personality traits, such as extraversion, influence Facebook participation. This review seeks to define and clarify the study linkages between extraversion personality type and Facebook usage trends.

Methods

Research searching procedure and selection criteria

This review emphasizes the relationship between the extraversion personality type and behavior and usage patterns on Facebook. Studies that did not produce results relating to extraversion and Facebook were omitted from consideration. This selection criterion highlighted Facebook's use as a marketing instrument. In addition, because of the scope of this review, meta-analysis publications and theoretical papers were removed. By focusing on the objectives and outcomes of relevant studies, this review aims to offer insights that will help researchers and marketing managers understand the global consequences of Facebook usage regarding extraverted personalities.

This literature review contains studies that employ quantitative research methodologies to discover the connection between Facebook usage and the extraversion personality type. The inclusion criteria were broad, covering research utilizing the five-factor or any other recognized model to examine the dynamics between social media use—specifically Facebook—and extraversion. Critical considerations for selection included studies that utilize established scales for measuring traits related to extraversion, research published from 2015 to 2020, and studies that have been peer-reviewed and published in ELSEVIER journals.

Search strategy and information sources

The researchers conducted a thorough examination of the ELSEVIER databases, focusing on the period from 2015 to 2020, yet also including articles that surfaced in 2021 within the search engine. The search strategy was designed to identify research articles that intersect the domains of personality—or more specifically, extraversion as conceptualized by the five-factor model—and Facebook usage. This was achieved by initially searching for the terms within article titles and subsequently within abstracts. The key search phrase employed was: [Extraverts and Facebook].

Study selection

The researchers led a comprehensive search of the ELSEVIER database. The research resulted in a selection of 225 research articles for potential review. Figure 2 illustrates the distribution of these articles by year, as identified in the search results. Given that the search was confined to a single database, the issue of duplicate entries was logically avoided. Then, the researchers reviewed the abstracts and titles of these articles to filter out studies that did not directly investigate personality—OR specifically, extraversion—and its influence on behavior within Facebook OR social media, the internet, online communication, or digital communication. Applying this selection criterion, the field was narrowed to 109 papers for a more in-depth review. The subsequent phase involved a detailed reading of these articles to pinpoint those that specifically correlated extraversion with Facebook usage or behavior. During this process, the researchers excluded articles focused on meta-analyses, theoretical frameworks, or platforms other than Facebook. This process yielded 45 relevant articles and thus was included in this research review. Figure 1 provides a flowchart to show a detailed visual representation of this selection process.

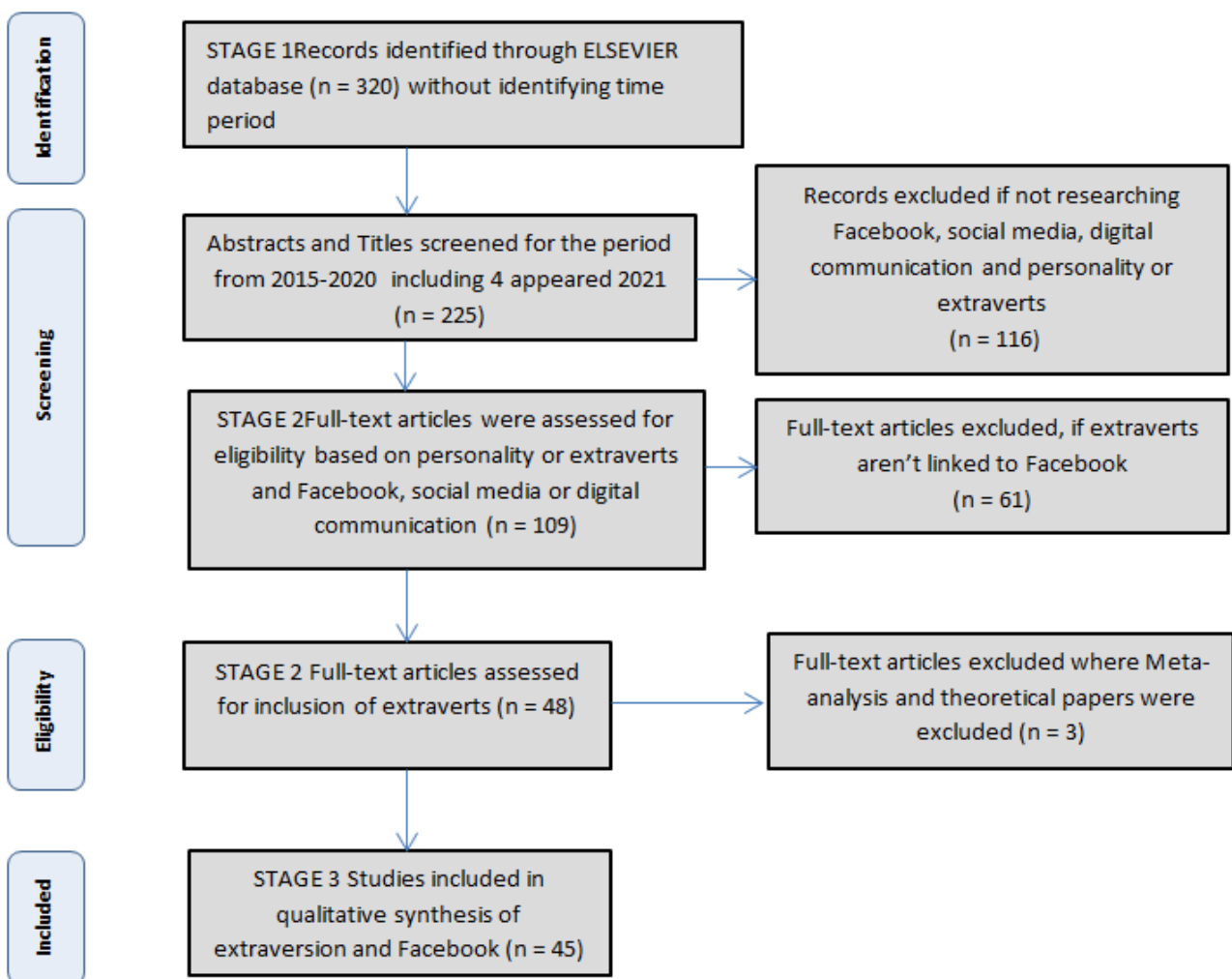


Figure 1. A flow diagram

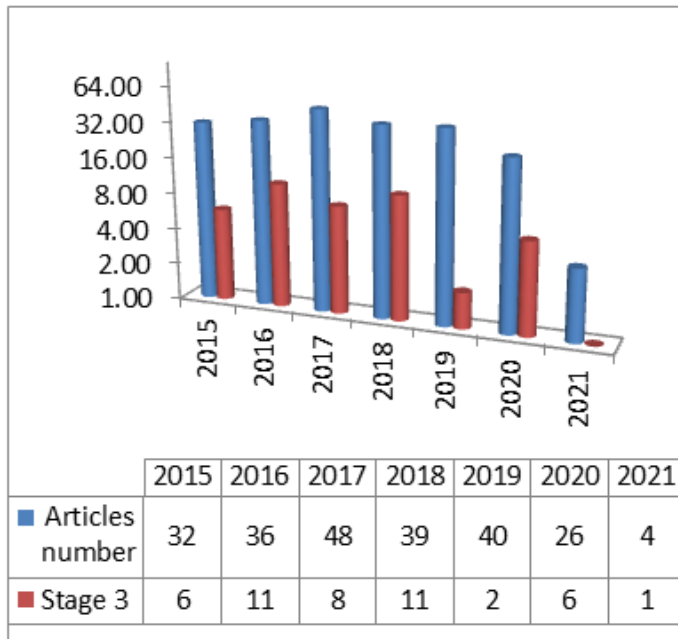


Figure 2. Number of articles per year (ELSEVIER, extraversion, and Facebook visited on September 25 2020).

The researcher retained the relevant papers that examine how an extraverted personality influences Facebook behavior and vice versa. Research lacking an emphasis on extraversion was excluded from further consideration. Additionally, any findings or results that did not explicitly link extraversion with Facebook usage were omitted from the review process.

Analysis

A multi-stage analysis process was executed during the study. The researcher started by listing essential information from each article, including the title, authors, year of publication, sample sizes, characteristics of participants, the measurement tools used, behaviors of extraverts on Facebook, and primary findings related to other personality types, as well as the statistical methods applied. This data was organized into a table for internal use. After thoroughly reading each article, the researchers compiled a second table. This table documented the relevant findings from the 45 articles, incorporating the researchers' observations and comments. This systematic review adhered to Creswell's (2003) methodological steps, aiming to synthesize existing knowledge on the chosen topic and to clarify and discuss these findings comprehensively. Moreover, this research introduces and elaborates on a model designed to help marketing managers rest the foundation for future investigations.

Results

Features of the study

The examination of Facebook as a research platform exposed a variety of study objectives. Ranging from predicting persuasive outcomes and detecting privacy violations to understanding Facebook addiction ($n = 5$), the perceived value of information, and the impact of users' personalities on operational and financial performance. Other studies included exploring users individual differences, comparing their profiles, investigating motives behind Facebook avoidance, examining continuance intentions towards Facebook built on gender, predicting personality through profile choices ($n = 2$), assessing

the impact of subjective well-being on Facebook use, exploring uncivil commenting, and studying the Dark Triad traits' influence on Facebook behavior. Moreover, the research investigated online trolling behaviors, personality and social influence processes in adolescents' problematic Facebook usage (n = 2), the application of relational cohesion and personality theories to online relationships, Facebook usage patterns (n=3), the influence of personality traits on Facebook attitudes, posting status updates on Facebook (n = 3), personality traits & Facebook attitude toward & computer-mediated communication (CMC)(skill, knowledge & motivation), the correlation between Facebook use and students' academic performance, and the effects of unexpected events on disclosure intentions, among others.

Between these varied research objectives, the most studied variables were Facebook addiction, status updates, and usage patterns, offering valuable insights for future research. However, it is important to note that these studies were not extensively applied in marketing management or business contexts. Most research employed questionnaires and online surveys, with one exceptional study conducting both self-report questionnaires and an online Facebook study, another utilizing an on-site visual evaluation of Facebook profile pictures, three studies implementing application-based questionnaires on Facebook, and one study combining interviews with questionnaires to gather data on Facebook usage patterns.

Previous research respondents were from various cultural backgrounds, including the USA, Emirates, Taiwan, Poland, Turkey, and Ukraine. Most studies predominantly utilized the Big Five personality model, referencing seminal works by Costa and McCrae (1992), Goldberg (1990, 1992, 1999, 2006), and John and Srivastava (1999), among others. Most studies employed a range of measurement tools, including the International Personality Item of Big five Factor Markers (Goldberg, 1992), and the rest depended on John, Donahue, and Kentle (1991), and another versions of big five model as for Donnellan, Oswald, Baird and Lucas (2006), Ashton (2013), (Goldberg, 1999). Also, previous studies adopted the Polish version of Atroszko (2015) of Ten Item Personality Inventory (TIPI) (Gosling, Rentfrow, and Swann, 2003), John et al. (1991), the Hebrew version (5a) (Etzion & Laski, 1998), based on a scale developed by John and colleges (BFI; John, Donahue, and Kentle, 1991).

Additionally, different versions were adopted by different researchers as the version that was proposed by Rammstedt and John (BFI-21; 2005), MyPersonality Facebook application (Kosinski, Matz, Gosling, Popov, and Stillwell, 2015), "International Personality Item Pool (IPIP-NEO; Goldberg et al., 2006), which is a publicly available, validated measure of all the Big Five factors (Johnson, 2005)". Moreover, other versions of the Big Five Inventory (BFI) (Sumer, Lajunen, and Ozkan, 2005), Lai's Personality Test (Teng et al., 2011), (Benet-Martínez and John, 1998, John et al., 2008), (Gosling et al., 2003), (Gosling, Rentfrow, and Swann, 2003),(John, Donahue, and Kentle, 1991), Italian version of the Big Five Questionnaire (Caprara et al., 1993, Caprara et al., 1994), Caplan (2010), Ten Item Personality Measure (Gosling et al., 2003), Corr-Cooper Reinforcement Sensitivity Personality Questionnaire (RST-PQ) (Corr and Cooper, 2016), (Panayiotou et al., 2004), BFI (John, Donahue, and Kentle, 1991), Ten-Item Personality Inventory (TIPI; Gosling, Rentfrow, and Swann, 2003), Berkeley Personality Profile (Harary and Donahue, 1994), the PAN-AP-2015 corpus and myPersonality to collect data sets of personality to suit different cultural contexts and research objectives, including translations and modifications of the original scales.

These methodologies, based on the foundational work of Paul Costa and Robert McCrae, who developed the NEO Personality Inventory and later validated the Big Five model across different populations, aimed to ensure the accurate and culturally sensitive assessment of personality traits according to the OCEAN (Openness, Conscientiousness, Extraversion, Agreeableness, Neuroticism) framework. The effectiveness of the Big Five personality model depends on its appropriate application to the research objective. Adaptations may be necessary to encompass additional personality dimensions and account for geographic and gender differences. However, questions regarding the reliability of self-reported data remain unanswered: Will participants accurately self-identify their personality traits on questionnaires? Are personality traits consistent over time, or do individuals alter their responses to align with admired traits? These concerns raise essential considerations about the methodologies employed in the reviewed research.

Findings

The researchers categorized the findings from the reviewed studies into six main categories of usage and behavior, as follows:

Extraverts and business

Extraversion can affect purchase and engagement intentions, as indicated by Winter et al. (2020). Wang and Chen (2020) stated that CEO extraversion increases cost efficiency and profitability. These studies were conducted between 2015 and 2020 and, more importantly, offer insights into the role of extraverts in business contexts. Notably, the first study did not rely on experimental methods or social media interactions but used questionnaires to gauge purchasing intentions. The second study offered valuable insights; however, its results were limited by the small sample size. As a result, the generalizability of the findings is uncertain. Furthermore, Winter, Maslowska, and Vos (2020) research established a positive relationship between extraversion and vulnerability to scarcity, consensus, and authority influences.

Extraverts and violation conduct

According to Van der Schyff et al. (2020) Extraverts are «vulnerable to privacy violations». Conversely, according to Koohikamali et al. (2017), extraverts exhibit a positive concern for the privacy of others, they do not interrupt someone else's privacy. Koban et al. (2018) found that extraversion does not influence the likelihood of making offensive comments. In contrast, Hong and Cheng (2018) indicated, «Social extraversion is a significant predictive variable for four kinds of online trolling: malicious trolling, obstruction trolling, evocative trolling, and pathological trolling». Wallace et al. (2017) discovered that extraverts are less prone to experiencing envy on Facebook. Additionally, while lower extraversion levels are linked to an increased likelihood of Problematic Facebook Use (PFU) as per Marino et al. (2016). Less extraverted individuals might turn to Facebook to compensate for their social skills deficit. Marino et al. (2016) also observed a direct association between higher extraversion levels and PFU. Gerson et al. (2016) explained this by noting that highly extraverted individuals use social networking sites (SNS) for social enhancement, whereas those with lower extraversion scores use them for social compensation.

Furthermore, Extraversion is related to optimism, self-esteem, and well-being (Kokkinos et al., 2016). Moreover they showed that extraverts have no correlation with antisocial behavior on Facebook. However, Vander Molen et al. (2018) identified a positive relationship between extraversion and the dark triad trait of Machiavellianism. It's important to consider that while personality traits like extraversion can influence behaviors such as trolling, antisocial actions, or problematic Facebook usage, other factors like gender and individual psychiatric conditions, which were not addressed by the researchers, can also play a significant role in such behaviors.

Extraverts and socialization

Rajesh and Rangaiah (2020) and Lönnqvist and Itkonen (2016) highlight that Extraverted individuals treat Facebook as a place for conducting social activities, communicating, and having more friends. These individuals not only amass a large number of friends on the platform but also exhibit high levels of interaction through frequent messaging and posting, primarily focusing on their real-world friends. Tsai et al. (2017) further elaborate that extraverts interact less with non-known individuals through Facebook, so they socialize well. Extraversion and having numerous online friends are linked to good measures of well-being such as "self-esteem, happiness, and life satisfaction" (Hébert-Ratté & Poulin, 2019). These individuals actively use social media platforms for communication.

Furthermore, their extensive and active friend networks facilitate numerous social exchanges, fostering the creation of social relationships and groups. Extraverts may have a wide range and high volume of friends, so they intend to have many exchanges, forming social relations and groups, and consequently, they build strong online relations (Huang et al., 2018), Bodroža and Jovanović (2016).

Extraversion is linked to information value and influences Facebook usage intensity (Gvili et al., 2020). Open extraverted people will behave more by "liking" things, listing events, and collecting and sharing more information and statuses (Saef et al., 2018). They include communicative, flourishing social language (Saef et al., 2018). Lee et al. (2016) discovered that Extraversion predicts virtual endorsement on Facebook via the like button and the duration of Facebook usage. Extraverts are anticipated to post both positive and negative status updates on Facebook (Dupuis et al., 2017). Individuals with lower extraversion scores are "more likely to change their Facebook profile image" (Whitty et al., 2018). Cho (2017) found that extraverts, agreeable, and open people are more likely to report their unfavorable negative emotions.

In contrast, Extraversion and social anxiety emerged as insignificant predictors of the number of status updates posted by participants, the number of likes received per status update, and the number of individual commenters. Whereas extraversion significantly predicted more positive valence, as Große Deters et al. (2016) claimed, this result is a consequence of the study's small effect size and lack of power. From the opposite direction, individual comments on sociability can judge extraverted traits, such as how outgoing and active an individual is, as Darbyshire et al. (2016) revealed. Extroverts have a significantly more significant number of Facebook friends than introverts. Extroverts also engage in more Facebook social activities, such as sharing images, longer videos, and status updates (Shen et al., 2015). They receive the same number of likes as introverts do (Shen et al., 2015). Extraversion was found to be adversely linked with fear of rejection (Burtăverde et al., 2019). Some research has sample size issues.

These researchers can not generalize results because of the participants' nationality and the small size of the samples. It should also be related to other social and cultural values, norms, and attitudes toward socialization since these factors can impact socialization activities. These research articles add significantly to the field by providing valuable results that link extraversion personality type to Facebook usage and behavior.

Extraverts presentation

Cemalcilar et al. (2018) rated extraverts as more attractive at an increasing rate. Kokkinos et al. (2016) indicated that extraverted people are likelier to engage in online self-presentation. Being a social extravert on Facebook does affect academic performance because they keep generating and having up-to-date information, as Naqshbandi et al. (2017) indicated. They discovered that extraverted persons engage in more activities on Facebook. And Facebook use partially mitigates the extraversion's impact on academic achievement. Also, according to Hart et al. (2015), Low extraversion causes attachment avoidance that predicts restrained Facebook usage. Extraverts have a beneficial impact on the perceived utility of Facebook (Mouakket, 2018). Furthermore, Wu et al. (2015) found that higher extraverted users prefer more self-representative photographs than lower extraverted users. The higher extraverted users intend to have a higher online presentation of themselves, as Wu et al. (2015) indicated.

These studies provide substantial contributions to understanding personality traits, Facebook usage, and behavior. The demographics of Facebook users can influence research findings. There are many differences between adults, teenagers, and older people; different behavior patterns also can be related to Facebook users' profession, gender, and income level. These factors can also influence extraverts' self-presentation on the Facebook platform.

Extraverts and addiction

Higher extraversion was associated with Facebook addiction (Atroszko et al., 2018), (Kanat-Maymon et al., 2018). Błachnio et al. (2017) found a negative correlation between internet addiction and extraversion, emotional stability, and conscientiousness. Błachnio and Przepiorka (2016) found that extraversion is associated with reduced online addiction ratings compared to normal internet users due to their positive outlook. Furthermore, Grieve and Kemp (2015) linked extraversion and openness to F.B. social connectivity, which is associated with emotional stability. Because of the high sample size, most studies are credible and accurate, and they provide substantial information about personality traits as well as Facebook usage and behavior. While some individuals were of certain nationalities, there are some serious concerns concerning the generalizability of these findings. In addition, there are flaws with self-reported data that are unjust.

Extraverts according to gender

Han et al. (2020) found a negative correlation between extraversion and «personal values, supervision words, and special dates.» Extraverts, particularly young female extraverts and the elderly, are frequent Facebook users (Vaid, S. S., and Harari, G. M., 2020). Only extraversion personality has a major impact on men's satisfaction (Mouakket, 2018). Females have a strong extraversion personality and regard themselves as beneficial (Mouakket, 2018).

Well-being parameters (feeling joyful) have a statistically significant effect on SNS usage only in highly extraverted persons. There are also significant disparities between users' ages and whether they are strongly or somewhat extraverted (Munzel et al., 2018). Extraverted people that are open to new experiences have a good perspective of Facebook (Chua and Chua, 2017).

Sorokowska et al. (2016) revealed clearly that women engage more in selfies posting behavior than men do and that extraversion and social exhibitionism can forecast the selfies quantity from all types (alone or with others) displayed and posted by women and men on different social media platforms. These findings underscore the link between extravert personality and gender, which is strongly associated with Facebook usage. It would be better if these researches relate gender to geographical location, religion, and cultural norms and values to better indicate Facebook usage and behavior over Facebook platforms.

Discussion

Major implications of the findings

This study aimed to examine the primary findings that directly relate extraverts to Facebook and vice versa, where diverse cultures were investigated, as well as different demographics such as teenagers, adults, and older people, from various colleges, organizations, and CEOs who use Facebook. According to the ample size, which is an important issue to consider when comparing studies, the smallest sample size was 50 for two studies, despite the recommendation to have 384 participants to achieve reliable representation of populations of 100,000 or more with 95% confidence as provided by (Krejcie and Morgan, 1970).

Extraverts who use Facebook appear to be socially active. They achieve great academic success because they are extremely engaged with others, have up-to-date information due to their active personalities and relationships, and have a strong purchase intention. Extravert CEOs have a good relationship with cost competence. This relationship is due to their chatty nature. They can create large and diverse social networks that allow them to contact different people and resources through public relations at the lowest possible cost, with the least amount of time and effort. So they understand how to communicate and conduct appropriate communications. Extraverts use the internet and Facebook platforms for social connection in order to establish a favorable online self-image and increase their social appeal.

They have numerous real-life and Facebook friends; they do not break any rules since they are more concerned with enjoyment, entertainment, communication, and the development of good relationships. So they do not engage in any infractions or social envy on Facebook; instead, they are engaged and willing to click "like" to enjoy these behavioral forms; this is evident from later revised research. High extraverts use Facebook regularly and have no history of Facebook addiction since they are happy, busy, have a solid social life, do not lack social skills, and exhibit the same offline behavior patterns as seen in most research studies. They have a good outlook on Facebook and its use (Dupuis, M., Khadeer, S., & Huang, J. (2017). They do not violate privacy, do not like doing so, seek to respect others' privacy, and are driven by social connectivity.

They enjoy beautifully presenting themselves, utilizing nice pictures with some gender-based variances, which is understandable given that females prefer to provide selfies with their spouses more than guys. They express their feelings, regardless of whether they are favorable or unpleasant. Wallace et al. (2017) found that certain extraverts have engaged in trolling behavior at least once. Low extraverts exhibit problematic conduct (Marino, 2016), which could be attributed to certain people's online addiction, which manifests itself through Facebook if they lack emotional stability. The non-significant results in Große Deters et al. (2016) were due to the small size effect, as previously mentioned. In addition, some researchers are afraid to reveal non-significant results if they exist.

These findings have a wide range of consequences for marketing and public relations managers, firms, and scholars. Marketing is based on connecting with and reaching the target market in order to maximize value from the Facebook platform, which has a large global user base and a low communication cost. Extraverts may develop stronger relationships with other extraverts who share their inclinations. As a result, if one of them is drawn to a video, an advertisement, or any other marketing offer or program, others on the same buddy list or followers will be drawn to it as well, and most likely in a similar way.

Thus, if each Facebook user profile includes a personality feature identifier, marketers will gain greatly from demographic and psychographic segmentation. This feature may prompt Facebook platform administrators to include a personality test for Facebook users (not self-reported; the results could be biased or phony personalities) to identify their personality on their Facebook profile. This personality test might be a questionnaire based on the big five components "OCEAN" that the user's friends fill out, or it could be an application that uses the user's interests and behaviors, or digital footprints, to overcome self-administered report biases.

Furthermore, marketers can adapt personalized adverts to extroverts by combining digital-trace data acquired on the web with a specific design based on marketing objectives. These objectives are to stimulate the extraverts' purchase behavior, enhance their intention to buy, motivate them to provide positive word of mouth to their friends and build brand awareness and customer engagement. This suggests that micro-targeting utilizes content that is more persuasive because it is tailored to specific personality traits.

Limitations and future research

Marketers require research that identifies the product categories that different personalities favor, as well as the characteristics and benefits that advertisements may present. Customizing marketing offers based on personality or extravert Facebook users to send marketing messages that are more persuasive and appealing has not been thoroughly researched. Will his personality remain steady over time and with serious life experience? This emphasizes the importance of conducting a longterm study on this research issue, particularly for extraverts and Facebook usage and behavior, or for analyzing all five main qualities in relation to Facebook platform use. Is customizing things based on footprints legal or ethical in terms of user privacy? Is it acceptable to identify people based on their personalities? Is this an example of discrimination? The dispute about how well built personality traits identification would mirror reality and personality changes over time must be resolved by additional synthesised material and a unique review study.

Conclusion

This review looked at Facebook usage and behavior related to extraverted personality traits. Extravert customers are more engaged with service providers. They have an impact on consumer involvement. Because they can provide useful and hedonic value, leading to consumer engagement and influencing the customer-brand connection, as Itani et al. (2020) and Goddard (2020) demonstrated in an analysis of antecedents to social media engagement behaviors. Gebeyehu (2020) investigated “The Effect of Big Five Personality Dimensions” and discovered that extraverts can positively impact an organization’s brand image. Furthermore, Anastasiei and Dospinescu (2018) indicated that extraverts are eager to talk. Since they are talkative, they will provide and contribute to positive word of mouth (Anastasiei and Dospinescu, 2018). Also, Kamalinasab (2017) in “Studying the role of positive electrical word of mouth (EWOM) on the willingness to buy, with considering the moderating role of consumer’s personality” revealed that extraverts can impress electronic word of mouth. Building upon the literature review and this review article, a new model can be highlighted to be further investigated to be used by researchers to provide a new model for marketers and professionals interested in employing extraversion personalities through the Facebook platform as indicated in figure 3. The following model indicates the suggested model:

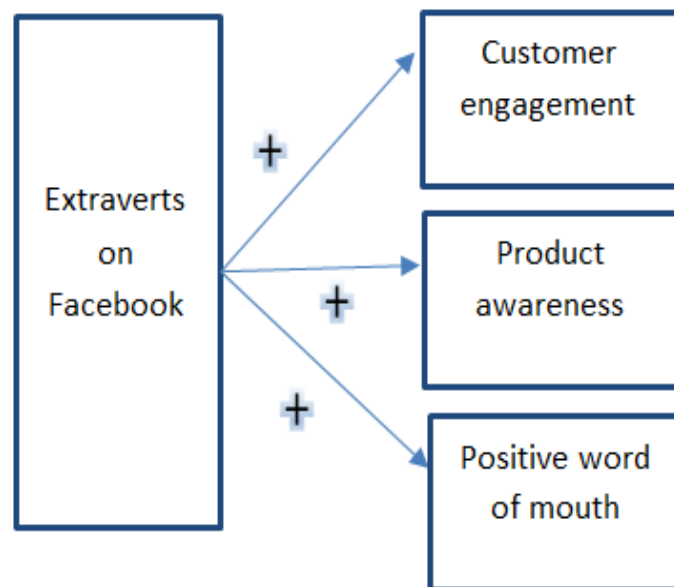


Figure 3. Study conceptual model

Marketers and scholars can treat Extraverts as a reference group, they can train Extraverts to be salespeople to enhance sales. By using Facebook, marketers can be easily connected to a larger number of people, promote, build closer relationships with potential and actual customers, achieve different marketing objectives like increasing customer engagement, enhance product awareness and maintain positive word of mouth. Another key issue is that marketers might target CEO extraverts in order to establish B2B relationships and achieve strategic marketing goals.

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