

Article

Most Often Motivated by Social Media: The Who, the What, and the How Much—Experience from Poland

Karol Król ^{1,*}  and Dariusz Zdonek ² 

¹ Digital Cultural Heritage Laboratory, Department of Land Management and Landscape Architecture, Faculty of Environmental Engineering and Land Surveying, University of Agriculture in Krakow, Balicka 253c, 30-198 Kraków, Poland

² Department of Economics and Informatics, Faculty of Organization and Management, Silesian University of Technology in Gliwice, Akademicka 2A, 44-100 Gliwice, Poland; dariusz.zdonek@polsl.pl

* Correspondence: k.krol@onet.com.pl

Abstract: Content published in social media (SM) can be motivating. It can induce action, stimulate demand, and shape opinions. On the other hand, it can demotivate, cause helplessness, or overwhelm with information. Still, the impact of SM is not always the same. The paper aims to analyse the relations between sex, personality, and the way social media is used and motivation to take specific actions. The conclusions are founded on a survey (n = 462). The data were analysed with statistical methods. The study revealed that the use of SM has a significant impact on the motivation to act. Browsing through descriptions and photographs of various achievements posted by others in SM increased the intrinsic motivation of the respondents. Positive comments and emojis had a similar effect. Moreover, women and extraverts noted a significantly greater impact of SM on their intrinsic motivation concerning health and beauty effort, travel, hobby, and public expression of opinions than men and introverts. The results can be useful to recruiters. Extravert women that are open to cooperation, thorough, and well-organised are more likely to be active in SM.

Keywords: motivation; personality; predispositions; character; activity; impact



Citation: Król, K.; Zdonek, D. Most Often Motivated by Social Media: The Who, the What, and the How Much—Experience from Poland. *Sustainability* **2021**, *13*, 11193. <https://doi.org/10.3390/su132011193>

Academic Editors:
Joanna Paliszkievicz and
Marcin Ratajczak

Received: 2 August 2021
Accepted: 7 October 2021
Published: 11 October 2021

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2021 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

Numerous studies demonstrated that the way social media (SM) is used depends on sex, age, and personality traits [1–4]. Their significant portions focused on SM use drivers and the question of actions motivated by SM [5–8]. Polish researchers investigated SM use by business and public institutions, but also the use of SM to contact these organizations [9–12]. Sedkowski [10] demonstrated that there is still a significant potential of SM left untapped in Poland. The question is, what area of SM is still to be harnessed and how to do it? One of such domains can be the user's motivation to use SM in the context of demographics, individual needs, experience, patterns, and motivational factors. Motivation determines engagement, frequency and manner of SM use [6,13–15].

The motivational aspect of SM use has been investigated globally. Some relevant countries include Slovakia [9], Norway [15], Malaysia, India, and Pakistan [16], the United States, Germany, China, and India [17], South Korea [18], Romania and Tunisia [19], and Russia [20]. Unfortunately, the volume of research on SM and motivation in Poland is relatively modest. The problem has been appreciated only recently, but grows more popular [11,12,21,22]. This fact substantiates the need for relevant research. The present research addressed a specific gap. We investigated the impact of SM on intrinsic motivation by an in-depth look into respondents personalities in the context of selected demographic characteristics. We sought answers to whether active use of social media increases the motivation to perform selected actions and whether the frequent use of SM, including browsing and posting, entails additional actions, motivates to act. Eventually, what actions and their frequencies are taken thanks to social media. The objective was to analyse the

relations between sex, personality, and how SM was used and the motivation to perform specific actions. The research attempted to answer the following research question:

- Question 1 (Q1). Does the motivating impact of SM (the motivational strength) depend on sex, SM use, and personality?
- Question 2 (Q2). What does SM motivate people to most often, and does it depend on sex, SM use, and personality traits?

This paper is organised as follows. Section 2 looks into issues related to the growing popularity of SM and its perception in the context of: motivation to use SM (why and for what SM is used), SM as a source of motivation (what is motivated by SM and what actions are taken under its influence), and differences in the use of SM by sex and personality. Section 3 presents the research methodology, including the survey questionnaire, profile of the respondents, and statistical analysis. Section 4 describes the results that are then discussed and concluded.

2. Literature Review

People are always motivated; in fact, they are never unmotivated [23] (p. 145). Nevertheless, sometimes they are not motivated to do what they have to or should do. In psychology, motivation is a force that energises and directs behaviour towards a goal [24]. Just as a force moves an object, motivation moves a person. To continue the metaphor, if individuals are machines, motivation is the very engine that powers and directs individuals' behaviour. Motives serve three essential functions: (1) energising us (i.e., turning the key and starting the motivational engine), (2) directing us (i.e., pointing us in a particular direction), and (3) helping us to select the behaviour most appropriate for achieving our goals [25] (p. 262). Motivation is an inner state that arouses an individual's desire for a goal and maintains their efforts in a specific direction and time [23].

Motivation is among the key factors decisive for the effectiveness of the human effort. It may give strength to act, but it changes over time and space. Its two forms are intrinsic and extrinsic motivation [26,27]. The notion of intrinsic motivation, also known as internal or endogenous motivation, applies to those activities that are pursued for their own sake. Extrinsic (exogenous, instrumental) motivation is related to activities aimed at an incentive offered by the goal or effect [28].

Motivation makes people behave in certain ways. It affects the direction they pursue (what they are trying to do), the effort they make (how hard they try), and the perseverance (how long they keep trying). People are motivated when they expect their actions to lead to a goal and a reward to satisfy their needs. Very motivated people always pursue clear goals. They can be self-motivated, but most need some degree of extrinsic motivation [29]. Both sources of motivation, the environment providing external motivation and intrinsic motivation, affect how people use social media (the frequency and types of activities, such as browsing or posting), the types of platforms used, and how they are used. The influence is bidirectional. It is the specific motivation that determines SM use, but SM also motivates particular behaviour, activities, actions, or attitudes. Examining individual differences in the intrinsic motivations for SM use is essential for determining what causes individuals to enjoy using social networking sites and to engage more consistently in online activities [30].

2.1. Motivation and Social Media

Research on SM to date focused mostly on the impact of tools (technologies) for establishing relations on attitudes and behaviour that reinforce social capital of individuals. It demonstrated basic mechanisms through which SM generates social capital benefits and discussed the burdens and advantages of SM [31]. SM can, for example, provide emotional support from friends (from an SNS and through it) [32]. Steinfield et al. [31] demonstrated that social platforms significantly impact relationship management in large groups of people connected by an SNS. SNSs provide societal support and access to useful information. Other studies showed that people use SM to maintain bonds with friends and establish new relationships. Therefore, it facilitates specific social relationship-building to

a certain degree [7,33]. The studies exhibited positive relationships between SM use and mental well-being understood as experience of positive emotions, good mood, and high life satisfaction level. Nevertheless, many studies suggest otherwise. The growing use of SM can cause increased exposure to fake news or accumulated negative information (of xenophobic, pessimistic nature, for example) and psychological abuse, which is deteriorating for well-being (by causing mental stress) and could result in anxiety or depression in the long term [34,35]. Hence, the need for education regarding effective creation of information and messages and, perhaps mainly, verification of the authenticity and quality of content and handling excess negative information and mental abuse. Research shows that SM users often disseminate rather than question disinformation [36]. It is more important for them to gain attention, 'heat it up', and establish social relations (also through controversies) than to make sure the information they pass on is accurate and true [37].

Chou and Edge [38] investigated the impact of SM use on the perception of the lives of others. Their research showed that people who used selected social platforms longer and watched SM profiles of others for a long time more often believed that others were happier and had better lives. Therefore, longer use of SM makes the users forget that SM is a projection with controlled, moderated, or even 'doctored' content. The 'real life' or 'reality' is not necessarily as positive, happy, and colourful as its representation in SM. Many users build an image that fails to reflect reality. Paradoxically, such a creation can motivate them to change their lives, for example, increase physical activity or commence education. One example is athletes who often publish videos on SM where they train with fake weights. On the one hand, it could motivate their audience to increased physical activity and more intensive workout, but on the other hand, it may contribute to injuries. It is, therefore, important to take SM content with a pinch of salt.

SM postings can demotivate as well. Some people may feel overwhelmed by the number of success stories others boast about in SM. It can lead to demotivating mental attitudes 'I will never achieve this much. It is not worth even trying'. According to Kross et al. [39], SM use may be detrimental to two components of (subjective) well-being: how people feel at a specific moment and how satisfied they are with their lives. These results conform to those by Chou and Edge [38].

Social media facilitate interactions and are the key factor in relationship marketing. They motivate specific attitudes or activities (SM is a source of motivation), but their use is also motivated (SM is used to achieve specific goals). Research shows that sports fans are motivated to use SM to establish closer relationships with the team or athlete they cheer. Fans exercise four key motives as they draw value from the SM-enabled connection to the team: passion, hope, esteem and camaraderie [6]. Brands strive to create interaction and reinforce consumer involvement through their online presence, particularly in SM. Enginkaya and Yilmaz [5] investigated consumer motivation to interact with brands in SM. Findings of exploratory and confirmatory analyses revealed five distinct motivation factors: 'Brand Affiliation', 'Investigation', 'Opportunity Seeking', 'Conversation', and 'Entertainment'. Sweetser and Kelleher [29] demonstrated that identifying motivations for social media adoption and use is an important skill for leaders in public relations. Karahanna et al. [40] demonstrated, in turn, that psychological ownership motivation drives individuals to engage in SM use because SM has affordances to fulfil the underlying needs of psychological ownership.

2.2. Social Media Use and Sex

Chan and colleagues [37] demonstrated that women are more active in SM; they share information more often and more readily communicate through SM. Compared to women, men more often use SM to interact with others and express themselves [30]. Hassounah and Brengman [41] demonstrated that the user motivation to use free-form/social virtual worlds depends primarily on sex. Manipulation, achievement, and relationship derive for males. Females: Friendship and escapism. Males are manipulators, uninvolved. Females are friendship seekers. Women who more often use chats and discussion groups exhibit

higher levels of introversion and neuroticism [42]. Moreover, extraverts more often use social platforms, with less emotionally stable men being more regular users [1].

Content in SM affects women and men differently. It may be due to differences in the frequency and manner of SM use by women and men due to character differences. It is particularly true for engagement and susceptibility to SM content. Consequently, SM can motivate people belonging to a specific sex and with specific personality traits to particular actions more intensely and often. Moreover, sex and personality traits may predispose to certain attitudes (activities) in SM. Based on the literature, the following hypotheses is proposed:

Hypothesis 1 (H1). *The motivational strength of SM differs depending on sex.*

2.3. Social Media Use and Personality

The impact of personality traits on SM use is most often investigated with the five-factor model [43]. The Big-Five framework is a model of personality that contains five factors representing personality traits at a broad level: extraversion, neuroticism, openness to experiences, agreeableness, and conscientiousness [2,44]. Extraversion, emotional stability, and openness to experience are positively correlated with the degree of SM use [1,45]. Extraverts tend to use SM more as they crave social interactions [46]. Moreover, extraverts usually have more relationships with others in SM and in real life. They also tend to have better self-esteem [47,48]. SM users are dissatisfied with their lives less often, which suggests that SM could help cope with low satisfaction and self-esteem [49]. In addition, personality can affect the choice of social platforms to a large extent. For example, according to Hughes and colleagues [2], extraverts and more sociable persons prefer Facebook, while introverts and less outgoing people choose Twitter. Extraversion, openness and neuroticism are robustly linked to the use of diverse social media platforms. Personality accounts for the variance in social media use significantly more compared to sex and age [50]. The literature review yielded the following research hypotheses:

Hypothesis 2 (H2). *The motivational strength of SM differs depending on personality traits.*

The relationship between the frequency and scope of activities in SM and motivation to certain consumer or purchasing behaviour or refraining from such behaviour. Frequent exposure to specific content, both advertising and personal relations, such as tourist photographs, reviews of products and services (positive and negative both), can motivate others to a specific activity, such as a purchase, travel, or physical activity (along the lines of: ‘my friends in social media did it’, ‘this product has many positive reviews’, ‘my friends in social media were satisfied with it’ or to the contrary: ‘my friends advised against it in social media’). The literature review yielded the following research hypothesis:

Hypothesis 3 (H3). *Active use of SM increases motivation to certain activities.*

2.4. Social Media in Poland

Social media research was carried among Polish Internet users as well. It was primarily cross-sectional studies focusing on attributes of users (including demographic parameters), their preferences, motivations and behaviour [51], but also on content published in SM and its impact on selected socioeconomic phenomena [52]. Differences in SM use between various generations were analysed, including Generation Y [22] and Generation Z [4]. Other SM studies in Poland included project management [21], use by various industries, institutions, and businesses, but also customers and consumers, for example, to choose tourist destinations [22], industrial buying [53] or corporate social responsibility [54].

Research shows that SM users in Poland mostly trust content shared in SM even though they are aware that such information does not necessarily reflect reality [22].

Werenowska and Rzepka [22] demonstrated that Facebook, YouTube, and Instagram are the most popular social platforms in Poland, particularly among Generation Y. Zdonek and Król [4] established that it is women who are much more active in SM in Poland, particularly on Instagram. They are also more active on Pinterest and Snapchat. Men, on the other hand, are more active on YouTube. Extraverts publish more often on Facebook, Instagram, Snapchat, or Pinterest by a wide margin. They are also more active in general and more often judged SM content. Hysa et al. [12] investigated the frequency of SM use and the scope of use when planning a tourist trip. Their sample consisted of representatives of Baby Boomers and Generations X, Y, and Z. The research results showed that the frequency of SM use decreases with age. The differences between the generations are visible in such behaviours as using social media to check opinions about tourist places, recommending a holiday spot with positive opinions and comments in social media, as well as forgoing holiday trips based on negative opinions and comments [12].

Karasek and Hysa [11] investigated employer challenges regarding SM. They pointed out the need for increasing the use of SM in management, image building, and verification of job applicant information. Another research pointed out that the most common drivers of social media use for Internet users in Poland were immediate needs, often of pragmatic nature, such as rapid communication and exchange of information and social needs [4]. Fietkiewicz et al. [55] conducted an intercultural study in Germany, Poland and South Africa (Investigating the generation- and gender-dependent differences in social media use: a cross-cultural study in Germany, Poland and South Africa). The researchers found out that users in Poland used content from YouTube and Instagram differently than others. Their conclusions suggested that it could be a result of such socioeconomic factors as political and economic views, demography, and availability of SM. They further demonstrated that some SM use patterns are consistent across cultures considering user age structure. Younger generations tend to search for new social platforms and increasingly abandon established ones, such as Facebook and Twitter. Moreover, research by Fietkiewicz et al. [55] confirmed generational changes that favour platforms dedicated to mobile devices. Kot et al. [9] studied whether consumers in Slovakia and Poland based their purchases on information from SM. They concluded there was no significant difference in the use of selected platforms in the purchase process between Slovak and Polish customers. They further demonstrated that SM was used more often in the purchase process in Poland than in Slovakia.

3. Materials and Methods

The research process has been divided into four stages. The first stage was a literature review focusing on the effect of sex, age, and personality traits on the use of SM and motivation to use SM. It identified the research gap and helped define the goal and research hypotheses more precisely. The second stage was an analysis of the digital ecosystem of SM in Poland and the world. The most popular social platforms in the research group were pinpointed. The third stage involved selecting research tools to determine respondents' personalities and link their responses to the frequency of SM use. The personality test was conducted with 16Personalities.com (16P for short, NERIS Analytics Limited, Cambridge, UK, accessed on 24 September 2021) [56]. The personality results were verified with an original interactive survey, which included questions on personality traits and perception of SM impact on motivation to act in various domains of social and business activities. The survey questions employed a seven-point Likert scale, five-point ordinal scale, and a percentage score.

The anonymous survey was conducted from 10 December 2020 to 15 January 2021 among 18 to 49-year-old full-time and part-time students. The research sample was randomly selected. Invitations were sent to 700 persons, 543 of whom responded. Sampling was non-probabilistic. It employed the cluster sampling method [57]. The respondents comprised students of five fields: management, business analytics, logistics, production engineering, and project management. Student-focused surveys are gaining in popularity.

The trend was confirmed in an in-depth literature analysis by LaRose and Tsai [58] and numerous studies involving academic circles [51,57,59].

Participation was voluntary, but the students were offered IT course engagement credits for taking the survey and discussing its results. They had to produce a code displayed after the completion of a survey questionnaire and be active during project classes to receive the credits. A high response rate with reliable questionnaires was important due to the personality test.

The responses were verified. Among the submitted questionnaires, 51 were of low quality (incomplete, duplicate, etc.) and were excluded. The population qualified for further analysis was 492.

3.1. Survey Questionnaire and Profile of the Respondents

One of the questionnaire topics was SM use depending on the declared sex and selected personality traits. To ensure the population is as homogenous as possible to focus on sex and personality, the statistical analysis was performed for responses of the most numerous group of respondents aged 18 to 25 ($n = 462$). Only 6.5% of the respondents failed to provide an answer or were unable to determine their character (Table 1).

Table 1. Profile of the respondents.

Demographic Items ($n = 462$)	Frequency	Percentage (%)
(S1) Sex		
Female	287	62.1
Male	175	37.9
(A1) Age		
18–25	462	100
(P2) Personality 2 (own opinion)		
Introvert	64	13.9
Rather Introvert	67	14.5
Both (Ambivert)	136	29.4
Rather Extravert	95	20.6
Extravert	70	15.2
Don't know/Hard to say	30	6.5

The first part of the survey asked the respondents to complete the 16P test and see the results. Descriptions of the personality types used in the 16P test have been included in the Appendix A (Content 1). 16P was selected due to its research value, availability, and respondent-friendliness (which is important, as it motivates completing the test). The 16P form was used in other studies, such as personality profiling with SM posts [60], research on the impact of sex and personality on SM use during the pandemic [4], investigation of links between personality and personal abilities [61], or personality classification modelling [62].

In the second part of the survey, the respondents were asked to fill in an original questionnaire and specify their sex and the 16P test result. The questions in the questionnaire concerned the frequency of SM use, and the impact SM has on motivation.

The frequency of social media use was measured with an ordinal scale with the following values: less than several times a year or not at all (1), several times a year (2), several times a month (3), several times a week (4), and several times a day (5). The frequency of use of individual social platforms was analysed in three domains: posting (Q33), reacting (Q22), and browsing (Q11). The analysis involved the eight most popular in Poland and the age group social platforms: Facebook (FB), Instagram (IG), Snapchat (SC), YouTube (YT), TikTok (TT), Twitter (TW), Whatsapp (WA), and Pinterest (PR). Detailed questions related to the type of activity in SM and its impact on motivation to act (Table 2)

and questions regarding the general impact of SM on motivation (Table 3) were measured on a seven-point Likert scale ranging from strongly disagree (1) to strongly agree (7).

Table 2. Survey questions concerning motivation (M-ACT).

Q81	I think when I select a product (or service) to buy, I am sometimes consciously or unconsciously driven by anonymous opinions online.
Q82	Browsing the achievements of others in social media increases my intrinsic motivation (will) to act.
Q83	Browsing information posted by others increases my intrinsic motivation (will) to publish my information on social media.
Q84	Positive comments and emojis I receive on social media (such as ‘likes’ or hearts) increase my intrinsic motivation to act.
Q85	Browsing the achievements of others on social media sometimes makes me jealous.
Q86	Publishing of my achievements increases my intrinsic motivation to act.
Q87	Posting my information increases my intrinsic motivation to use specific social platforms.
Q88	Positive comments and emojis I receive (such as ‘likes’ or hearts) increase my motivation to use specific social platforms.

Table 3. General questions concerning motivation (M-OUT).

Q91	Social media increases my intrinsic motivation to share knowledge and information.
Q92	Social media increases my intrinsic motivation to make an effort regarding my health and beauty.
Q93	Social media increases my intrinsic motivation to travel.
Q94	Social media increases my intrinsic motivation to learn by myself.
Q95	Social media increases my intrinsic motivation to shop.
Q96	Social media increases my intrinsic motivation to pursue my passions.
Q97	Social media increases my intrinsic motivation to express my opinions publicly.
Q98	Social media increases my intrinsic motivation to support a specific political party or politician.

The questionnaire contained two more questions: (P1_X) To what percentage extent do you agree with the result and specification of your personality by the 16P test? (on a 0 to 100% scale) and (P1_Q) Do you agree with the result and specification of your personality by the 16P test? The respondents were asked to use a seven-point Likert scale ranging from strongly disagree (1) to strongly agree (7).

Regarding question (P1_Q), the respondents agreed with their result of the 16P test in 76% on average ($\pm 17\%$). Most respondents (82.5%) considered the result of the 16P test to be consistent with their perception of their personalities in question (P1_X) (responses: strongly agree—13.9%, agree—37.2%, rather agree—31.4%). Only 7.8% did not agree with the result of the 16P test (responses strongly disagree—0.2%, disagree—0.6%, rather disagree—7%).

The personality types from the 16P test were grouped by descending importance: Mind (Extraverted {E} and Introverted {I}), Energy (Intuitive {N} and Observant {S}), Nature (Feeling {F} and Thinking {T}), and Tactics (Prospecting {P} and Judging {J}). This way, the respondents were divided into clear groups and roles for further analyses (Table 4).

Conformity between variable Mind (PP11) and P2 was verified by assuming values Extraverted (E) = 2, Introverted (I) = 1 in PP1 and values Introvert = 1, Rather Introvert = 2, Rather 50/50 (Ambivert) = 3, Rather Extravert = 4, Extravert = 5, Don’t know/Hard to say = NN in P2. This yielded a statistically significant Pearson’s correlation of $r = 0.683$ ($p < 0.05$) and Spearman’s rank correlation $r = 0.691$ ($p < 0.05$). This means a relatively high correlation between respondents’ assessment of their personality types (Introvert or Extravert) and results of the 16P test. Therefore, the 16P test result was very consistent with respondents’ declarations.

Table 4. Populations of individual respondent groups by sex and personality traits.

Criterion	Group A (No. of Respondents)	Group B (No. of Respondents)
Sex (SEX)	Male {MALE} (175)	Female {FEMALE} (287)
Mind (PP11)	Introverted {I} (196)	Extraverted {E} (266)
Energy (PP12)	Observant {S} (219)	Intuitive {N} (243)
Nature (PP13)	Thinking {T} (133)	Feeling {F} (329)
Tactics (PP14)	Judging {J} (279)	Prospecting {P} (183)

3.2. Statistical Analysis

Questions were assigned to factors with factor analysis to build relevant constructs. The reliability and validity of the scale for each construct were tested using reliability analysis with Cronbach's alpha and Rho_A with results above the 0.7 threshold. We have also conducted convergent validity analysis with average variance extracted (AVE) with the result exceeding the 0.5 threshold. Only three constructs achieved AVE slightly below 0.5. They were still considered suitable because their composite reliability (CR) was above 0.6. An internal consistency test with CR yielded a result above the 0.7 threshold. Furthermore, the discriminant validity was tested with the HTMT criterion with a result below 0.85. Only one construct (Use of YT) failed to meet the threshold values and should be rejected from further analyses. The results show that the reliability and validity of scale for the constructs were acceptable (Table A1). The responses concerning YouTube (Use of YT) were interesting regarding the objective and scope of the study. Therefore, they were presented. The data were analysed statistically using univariate and bivariate methods. Univariate statistics are based on classic and positional descriptive analysis. The statistical analysis involved 462 questionnaires. It was more than the minimum random sample size estimated at 386 (for the maximum sample error of $\pm 5\%$ and confidence level of $p = 0.95$). The descriptive statistical analysis focused mostly on calculating such quantitative measures as the arithmetic mean (Mean), standard deviation (Sd), and median (Mdn).

The normality of variable distribution was tested with the Shapiro–Wilk test, and the homogeneity of variance was tested with the F test. The Mann–Whitney U test was applied because most of the data were not normally distributed or population variances were not homogeneous. When verifying statistical hypotheses, the statistical tests were used, taking into account significance at the level of $\alpha \leq 0.05$. At the same time, it was noted that the p probability of an error was not greater than 0.05. The statistical analysis was performed in Microsoft Excel (Microsoft, Redmond, WA, USA), Statistica (StatSoft, Kraków, Poland) and SmartPLS (SmartPLS GmbH, Bönningstedt, Germany).

4. Results

4.1. Impact of Social Media Use on Motivation to Act According to Sex Type

The authors conducted the Mann–Whitney U test to verify hypothesis H1 (The motivational strength of SM differs depending on sex).

The study shows numerous statistically significant differences between women and men in terms of SM use. The women in the population were much more active on such platforms as Instagram, Snapchat, Pinterest, WhatsApp, and TikTok. Men were more active on YouTube. The statistical differences in SM use between women and men are shown in the Appendix A (Table A2).

Question Q85 on the impact of SM on jealousy yielded interesting results. The study showed that the only statistical difference was found for sexes. Under the employed research design, women felt slightly more jealous when browsing other people's achievements in SM than men (Q85, $p < 0.001$, $M = 2.75 \pm 1.66$ Mdn = 2, $F = 3.50 \pm 1.79$, Mdn = 3) (Table A3).

Women identified a much greater impact of SM on their intrinsic motivation to pursue selected activities (Table 5), including the effort to care for their health and beauty (Q92), travel (Q93), self-study (Q94), and shopping (Q95).

Table 5. Differences between groups. Mann–Whitney U test for variable sex (Male, Female)—variables Q91–Q98.

Variable	p-Value	Significance	Male	Female
Q91	0.0764		3.34 ± 1.75 Mdn: 3	3.64 ± 1.75 Mdn: 4
Q92	0.0000	***	3.98 ± 1.84 Mdn: 4	5.04 ± 1.54 Mdn: 5
Q93	0.0002	***	4.98 ± 1.77 Mdn: 5	5.58 ± 1.47 Mdn: 6
Q94	0.0001	***	3.90 ± 1.85 Mdn: 4	4.6 ± 1.65 Mdn: 5
Q95	0.0000	***	3.94 ± 1.73 Mdn: 4	5.09 ± 1.63 Mdn: 5
Q96	0.1140		4.98 ± 1.62 Mdn: 5	5.21 ± 1.54 Mdn: 5
Q97	0.3293		2.97 ± 1.82 Mdn: 3	3.07 ± 1.66 Mdn: 3
Q98	0.4124		3.01 ± 2.05 Mdn: 2	3.1 ± 1.96 Mdn: 3

Note: *** $p < 0.001$.

The results suggest that hypothesis H1 has been partially confirmed: the motivational impact of SM differs by sex. A greater influence on intrinsic motivation was found in women than in men. It was particularly visible in the strength of SM impact on personal activities.

4.2. Impact of Social Media Use on Motivation to Act According to Personality Type

The authors conducted the Mann–Whitney U test to verify hypothesis H2 (The motivational strength of SM differs depending on personality traits).

Extraverts identified a much greater impact of SM on their intrinsic motivation to (Table 6) care for their health and beauty (Q92), travel (Q93), pursue hobbies (Q96), and express their opinions in public (Q97).

Table 6. Differences between groups. U Mann–Whitney test for variable personality trait PP11 (Introverted, Extraverted).

Variable	p-Value	Significance	Introverted	Extraverted
Q91	0.0785		3.36 ± 1.72 Mdn: 3	3.66 ± 1.77 Mdn: 4
Q92	0.0031	**	4.38 ± 1.74 Mdn: 5	4.83 ± 1.72 Mdn: 5
Q93	0.0016	**	5.07 ± 1.72 Mdn: 5	5.56 ± 1.5 Mdn: 6
Q94	0.3048		4.22 ± 1.81 Mdn: 5	4.42 ± 1.72 Mdn: 5
Q95	0.0825		4.48 ± 1.79 Mdn: 5	4.78 ± 1.72 Mdn: 5
Q96	0.0045	**	4.89 ± 1.62 Mdn: 5	5.3 ± 1.52 Mdn: 5
Q97	0.0032	**	2.76 ± 1.67 Mdn: 2	3.23 ± 1.74 Mdn: 3
Q98	0.0537		2.85 ± 1.9 Mdn: 2	3.22 ± 2.04 Mdn: 3

Note: ** $p < 0.01$.

No statistical differences were found for group PP12 (Intuitive and Observant). Group PP13 (Thinking and Feeling) exhibited a single difference in motivation to shop (Q95).

Significant differences were identified in group PP14 (Prospecting and Judging). Persons with the Judging {J} trait (i.e., resolute, thorough, and well organised) identified a greater impact of SM on their motivation to make an effort regarding their health and beauty (Q92), travel (Q93), self-study (Q94) and shop (Q95) (Table 7).

Table 7. Differences between groups. U Mann–Whitney test for variable personality trait PP14 (Prospecting, Judging).

Variable	<i>p</i> -Value	Significance	Prospecting	Judging
Q91	0.7724		3.56 ± 1.79 Mdn: 4	3.51 ± 1.73 Mdn: 4
Q92	0.0008	***	4.28 ± 1.82 Mdn: 5	4.87 ± 1.64 Mdn: 5
Q93	0.0004	***	5.03 ± 1.71 Mdn: 5	5.56 ± 1.51 Mdn: 6
Q94	0.0079	**	4.06 ± 1.79 Mdn: 4	4.52 ± 1.72 Mdn: 5
Q95	0.0329	*	4.44 ± 1.79 Mdn: 5	4.79 ± 1.72 Mdn: 5
Q96	0.0934		4.96 ± 1.66 Mdn: 5	5.23 ± 1.51 Mdn: 5
Q97	0.2287		3.16 ± 1.78 Mdn: 3	2.95 ± 1.68 Mdn: 3
Q98	0.7176		3.10 ± 1.98 Mdn: 3	3.04 ± 2.00 Mdn: 2

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Regarding the other questions on the impact of individual SM activities, such as browsing (Q82, Q83), posting (Q86, Q87), and receiving positive comments and emojis (Q88), they were much more important to extraverts (Table A4). No significant differences were identified for the other groups ($p < 0.01$).

The results suggest that hypothesis H2 has been partially confirmed. Personality is a set of multiple individual traits. Only some of them affect the motivational strength of SM regarding the personal or public activity. Even though a greater motivational strength of SM concerning personal and public activity and all the listed activates was identified for extraverts, statistical differences were noted only for half of them. A similar pattern was found for group PP14 (Prospecting and Judging). Only half of Judging persons exhibited a greater motivational strength of SM to various activities. The H2 hypothesis was rejected for the two other personality trait groups (PP12 and PP13).

The authors used nonparametric tests to analyse differences between groups regarding SM use for all respondents with specific personality traits (PP11–PP14).

Significant differences between means in the groups were compiled into a matrix with a score of 2 for $p < 0.01$ (**) and 1 for $p < 0.05$ (*). When no significant differences between the groups were found, (–) was used. The positive or negative value (+/–) depended on the mean in each group. This yielded a ranking list of criteria that affected the use of SM the most (Table A5).

According to the analysis, SM use depends mostly on sex (Male and Female)—16/24 activities (a difference of 40 points), then on personality type Introvert—Extravert (PP11)—10/24 activities (a difference of 38 points), and then on Thinking vs. Feeling trait (PP13)—5/24 activities (a difference of 18 points). Sex and personality affected the use of the following platforms the most: Instagram (activities Q11_IG, Q22_IG, browsing and reacting); Snapchat (activities Q11_SC, Q22_SC, and Q33_SC, browsing, reacting, and posting), and TikTok (activity Q11_TT, browsing).

4.3. Impact of Social Media on Motivation to Act According to Active and Passive Use

The authors verified hypothesis H3 (Active use of SM increases motivation to certain activities) through the analysis of use of the most popular social platforms in Poland and then with the Mann–Whitney U test.

Analysis of responses to questions about the frequency and manner of using specific social platforms identified differences in their popularity. According to the study, the respondents used Instagram, Facebook, YouTube, Snapchat, WhatsApp, and TikTok most frequently. The study investigated three types of activities: browsing, reacting, and posting. The analyses included the mean, standard deviation, and median (Figure 1, Table 8).

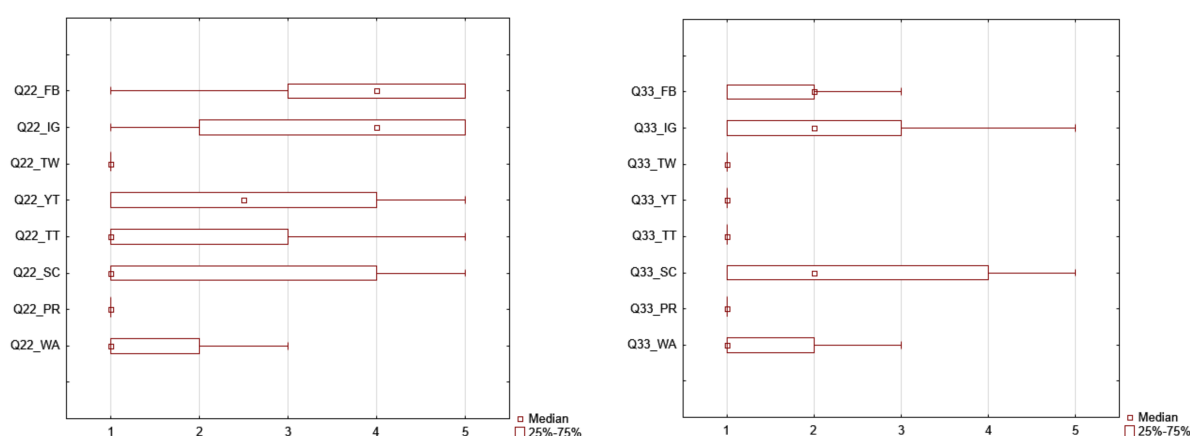


Figure 1. Social Media: reacting (Q22), posting (Q33). Scale: less than several times a year or not at all (1), several times a year (2), several times a month (3), several times a week (4), and several times a day (5).

Table 8. Use of social platforms.

Type of Activity	Browsing (Q11)			Reacting (Q22)			Posting (Q33)		
Social Media	Mean	SD	Median	Mean	SD	Median	Mean	SD	Median
Facebook (_FB)	4.69	0.65	5.00	3.43	1.28	4.00	2.03	1.00	2.00
Instagram (_IG)	4.17	1.46	5.00	3.55	1.58	4.00	2.08	0.96	2.00
Twitter (_TW)	1.45	1.06	1.00	1.30	0.88	1.00	1.11	0.53	1.00
YouTube (_YT)	4.45	0.75	5.00	2.67	1.40	2.50	1.35	0.78	1.00
TikTok (_TT)	2.32	1.67	1.00	1.89	1.48	1.00	1.13	0.57	1.00
Snaphchat (_SC)	3.24	1.71	4.00	2.35	1.61	1.00	2.54	1.63	2.00
Pinterest (_PR)	1.95	1.23	1.00	1.48	1.00	1.00	1.08	0.43	1.00
WhatsApp (_WA)	2.35	1.49	2.00	1.72	1.22	1.00	1.65	1.17	1.00

Note: n = 462; SD—standard deviation; Scale: less than several times a year or not at all (1), several times a year (2), several times a month (3), several times a week (4), and several times a day (5).

The next stage was assigning weights to each activity type (Q11 = 1, Q22 = 2, Q33 = 3). Each user was assigned a value (AP_X) based on the frequency of use of each of the social platforms and the weight of each activity. This way, the respondents were categorised into two groups, those who were active users of SM (ACT) and passive users (PAS). The classification criterion was Mdn = 100. Selected statistics were calculated: min = 52, max = 177, Mean = 100.32, and Sd = 24.28 (Figure 2).

The analysis identified statistical differences for all the questions Q81–Q88 and Q91–Q98 for respondents that were active (ACT) and passive (PAS) SM users (Tables A6 and 9). This means that the way one uses SM has a significant impact on their motivation to act. The results suggest that hypothesis H3 has been confirmed.

The use of SM and its motivating effect were related mostly to sex and personality (introvert or extravert in research question Q2). Women identified a much greater impact of SM on their intrinsic motivation to such activities as the effort to care for their health and beauty, travel, education, and shopping. Extraverts noted a significantly greater impact of SM on their intrinsic motivation concerning health and beauty, travel, hobby, and public expression of opinions. Moreover, women and extraverts found large numbers of positive comments and emojis important and motivating. The research further showed the people with the Judging [J] trait who are resolute, thorough, and well organised noted a much greater influence of SM on their motivation to make an effort for their health and beauty, travel, and self-study than Prospecting [P] people (who improvise, are flexible, and nonconforming; question Q2).

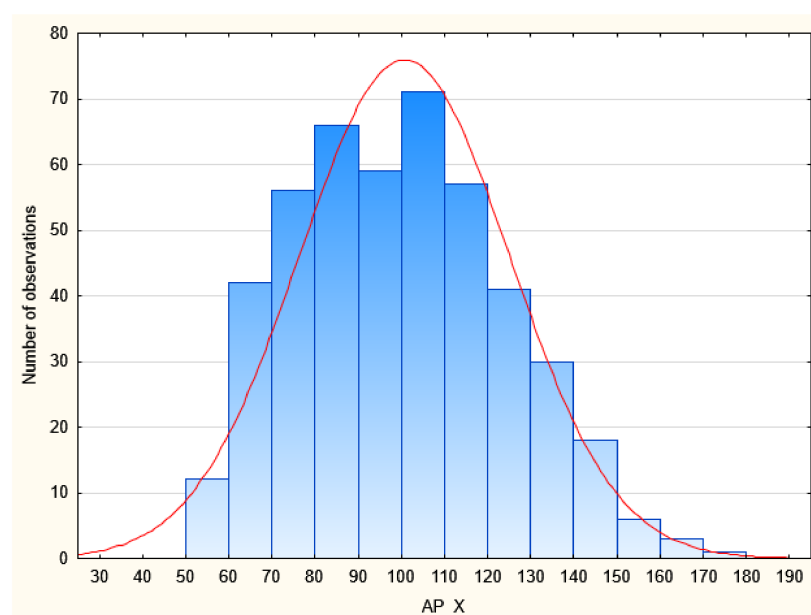


Figure 2. Classification of the respondents by SM use (passive or active).

Table 9. Differences between groups. U Mann–Whitney test for variable SM use (AP_X).

Variable	<i>p</i> -Value	Significance	Passive	Active
Q91	<0.001	***	3.07 ± 1.79 Mdn: 3	3.98 ± 1.59 Mdn: 4
Q92	<0.001	***	4.08 ± 1.85 Mdn: 4	5.19 ± 1.42 Mdn: 5
Q93	<0.001	***	4.96 ± 1.79 Mdn: 5	5.74 ± 1.30 Mdn: 6
Q94	<0.001	***	3.94 ± 1.86 Mdn: 4	4.73 ± 1.57 Mdn: 5
Q95	<0.001	***	4.08 ± 1.80 Mdn: 4	5.22 ± 1.52 Mdn: 5
Q96	<0.001	***	4.73 ± 1.73 Mdn: 5	5.52 ± 1.29 Mdn: 6
Q97	<0.001	***	2.42 ± 1.51 Mdn: 2	3.64 ± 1.71 Mdn: 4
Q98	<0.001	***	2.65 ± 1.88 Mdn: 2	3.47 ± 2.01 Mdn: 4

Note: *** $p < 0.001$.

5. Discussion

Differences between people, mostly due to personality traits and demographic characteristics, affect motivation to use SM. A study by Zhang et al. [30] showed that personality traits are the best predictors of intrinsic motivation to use SM. The Big Five personality traits, such as agreeableness and extraversion, positively impacted social interaction and impression management, but conscientiousness had a negative impact on impression management. The study demonstrated that such demographic variables as age and sex affect the strength of intrinsic motivation to use SM. Moreover, Zhang et al. [30] demonstrated that men more often used SM to express themselves and expand their social interactions than women. They proved that respondents aged 25 and more had lower impression management needs than people 25 and younger. This observation was confirmed in research by Hassouneh and Brengman [41], who demonstrated that users' motives for using SM (free-form SM/social virtual worlds) differ depending on age and sex.

Nielsen and Razmerita [63] investigated the motivation of Danish employees to share knowledge with their co-workers in SM. They pointed out that SM has a substantial potential to improve communication within organisations, but it is used for this purpose not nearly enough. According to Nielsen and Razmerita [63], it is individual and organisational factors that mostly hinder workplace knowledge sharing in SM. It calls for an SM attitude

change at the top organisational level that would credit employees with a greater SM use freedom at work to improve organization's workflow.

Customers engagement with brands on social media is critical to social media managers [8]. Mangold and Faulds [64] demonstrated that SM has become a primary source of reliable information for consumers/users. However, it requires substantial effort, knowledge, and skills on the part of marketing specialists to observe and recognise the context of chats and opinions expressed by consumers in SM. Content in SM can affect consumers, but can also be tools for influencing them as noted by Enginkaya and Yilmaz [5]. Brands strive to improve the visibility of their services and products in SM, nourish interactions, and fuel consumer/user engagement through their online presence. Exploratory analyses of consumer motives for interacting with brands and/or discussing them in SM identified five motivational factors. 'Brand Affiliation', 'Investigation', 'Opportunity Seeking', 'Conversation', and 'Entertainment'. Considering the importance of SM as a tool for brand engagement and brand communities, the brand affiliation and conversation motives might play a key role in SM marketing implications [65]. Even though SM motivates to activity, it may require motivation on the part of the brand/company/person to exert a specific impact.

Bazi et al. [8] investigated customer motivation to engage with luxury brands in SM. They identified thirteen motives in six domains: perceived content relevancy (brand news, post quality, and celebrity endorsement), brand–customer relationship (brand love, and brand ethereality), hedonic (entertainment), aesthetic (design appeal), socio-psychological (actual self-congruency, status signalling, and enhance and maintain face), brand equity (perceived brand quality), and technology factors (ease of use and convenience). It helped with understanding how to improve customer motivation to engage with luxury brand SM.

Werenowska and Rzepka [22] demonstrated that content shared in SM affects the selection of tourist destinations, and the most popular social platform for searching information on a planned trip in Poland is Facebook. Generation Y evaluates the tourist appeal of a place using SM opinions, and one of the primary goals for holiday trips is to acquire content (photographs, videos, etc.) that can be shared in SM. This suggests that SM affects motivation two-fold: (1) 'on the outside' by motivating to specific activities; posted content affects consumer choices, motivates consumers to specific decisions or activities and (2) 'on the inside'—specific actions are taken so that relevant content can be published in SM (which is motivating). The present research confirmed these relationships, and it additionally looked at motivation in the context of demographics. Hence, it is an in-depth analysis. Hysa and Spalek [21] focused their research on communication in SM and its use in project management. They pointed out that SM motivates and improves employee commitment to projects and various corporate matters. Research by Hysa and Spalek [21] demonstrated that it is mostly younger respondents from Poland, predominantly Generations X and Y, who used social platforms more often for project management. Our results correspond with theirs, mainly regarding the motivating impact of SM. Hysa et al. [12] identified differences in SM use related to demographics. The differences are apparent in the sensitivity to specific content, particularly comments and opinions in SM. The motivational strength is different for Generation Y and Generation Z. Hysa et al. [12] demonstrated that women more often than men declared favourable attitudes towards information in SM. Moreover, positive opinions and comments in SM more often affected women (motivating or demotivating them). This finding corresponds with our results because women declared a much greater influence of SM on their intrinsic motivation than men. Moreover, women found large numbers of positive comments important and motivating. Fietkiewicz et al. [55] found that younger generations tend to search for new social platforms and more readily depart from popular ones, such as Facebook or Twitter. It was confirmed by Zdonek and Król [4], who also pointed out certain trends among young SM users from Poland to search for new SM and leave those platforms that are well established, such as Facebook. These studies identify a particular 'outflow' movement of young users to new media

6. Conclusions

SM affects people in at least two areas: the private domain of personal benefits and the social domain open to people. Hence, activities motivated by SM can be of a private, local nature (effects limited to a specific person and their immediate surroundings) or be global (effects surpassing local range, particularly regarding socioeconomics, culture, and the environment). Consequently, publication of specific content in SM (including its amount and form) can affect more people, motivate specific activities, elicit specific responses, or shape particular attitudes. There is room for further research in this regard.

Research shows that content published in SM may be motivating and inspire people to act, engender enthusiasm, stimulate, drive demand, and/or will depending on personal user traits. On the other hand, it can demotivate (with such factors as excess negative content, overwhelming success of others, helplessness, or information flood). Moreover, social platforms alone are used for specific reasons, which means that their use is motivated.

The research shows that SM motivated the respondents to travel and pursue their hobbies the most. SM was found to motivate consumption (shopping), health and beauty activities, and education. The motivational (impact) strength of SM differed depending on sex and personality traits. Women were more active SM users (reacting, browsing, and posting) than men. Moreover, active SM users noted a significantly greater impact of SM on their motivation to act in all the investigated domains. SM activity as such depended much more on sex than individual personality traits. The general conclusion is that sex and personality traits significantly impact SM use, while SM is a considerable motivator in stimulating activity.

Practical Implications and Limitations of the Research

Intense and directed activity in SM can motivate the audience and affect sales, demand, or other forms of target conversion. The research shows that women are more predisposed to be active in SM as they exhibit selected extravert traits: they are open to cooperation (Feeling), conscientious, and well organised (Judging). The research confirmed that people with these traits are more engaged and better motivated to act. A question arises from a slightly different perspective regarding methods for improving men's engagement in active SM use and ways of increasing SM influence on men. The research shows that one way to improve the social media activity of men could be to increased video content. Note that women also readily watch videos. Use of this type of material can, therefore, improve site statistics, including time spent and the number of activities taken.

The study was carried out in Poland on respondents aged 18 to 25. Sampling was non-probabilistic. It employed the cluster sampling method, and the population included students of five fields. Therefore, the results cannot be generalised for the entire student population in Poland without further in-depth research. Personality traits were determined with the 16P tool and an original questionnaire, which may entail a measurement error despite their high quality. The analysis was founded on a specific advantage of one of two extreme poles of each personality trait (such as introvert vs. extravert or feeling vs. thinking), and the potential advantage of a trait was not considered. The research focused on activity on selected social platforms in Poland. These limitations are the research design framework for the study. The results should, therefore, be interpreted as 'results under the employed research design'.

Author Contributions: Conceptualisation, D.Z. and K.K.; methodology, D.Z.; validation, D.Z. and K.K.; formal analysis, D.Z.; resources, D.Z. and K.K.; data curation, D.Z.; writing—original draft preparation, K.K. and D.Z.; writing—review and editing, K.K. and D.Z.; visualisation, K.K. and D.Z.; supervision, K.K. and D.Z.; project administration, K.K. and D.Z.; funding acquisition, D.Z. and K.K. All authors have read and agreed to the published version of the manuscript.

Funding: Funded with a subsidy of the Ministry of Science and Higher Education for the Silesian University of Technology in Gliwice for 2021. Funded with a subsidy of the Ministry of Science and Higher Education for the University of Agriculture in Krakow for 2021.

Institutional Review Board Statement: The study was conducted according to the guidelines of the Declaration of Helsinki, but has not been submitted to an Institutional Review Board.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The datasets generated and analysed during the current study are not publicly available due to participant confidentiality, but are available from the corresponding author upon reasonable request.

Acknowledgments: The authors wish to express their gratitude to the reviewers for their constructive criticism, which contributed to the final content of the paper. The paper was written at the Digital Cultural Heritage Laboratory (<https://culturalheritage.urk.edu.pl>, accessed on 24 September 2021), part of the Department of Land Management and Landscape Architecture at the Faculty of Environmental Engineering and Land Surveying of the University of Agriculture in Krakow, Poland.

Conflicts of Interest: The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

Appendix A

Content 1: The personality types described in the 16P test are based on independent traits referred to with the following acronyms: Mind (Introverted {I}, Extraverted {E}), Energy (Observant {S}, Intuitive {N}), Nature (Thinking {T}, Feeling {F}), and Tactics (Judging {J}, Prospecting {P}). The last one is Identity (Assertive {-A}, Turbulent {-T}). All the acronyms and personality traits are discussed in detail on the 16P test website. Introverts {I} prefer solitary activities, are mostly sensitive to external stimulation, such as sounds, images, and odours. They get exhausted by social interaction; extraverted minds {E} prefer group activities and tend to be more easily excited than introverts. They get energised by social interaction; observant {S} individuals are highly practical and pragmatic. They tend to have strong habits and focus on what is happening; intuitive {N} individuals are very imaginative, open-minded, and curious. They prefer novelty over stability and focus on hidden meanings; thinking {T} individuals focus on objectivity and rationality, prioritising logic over emotions. They tend to hide their feelings and see efficiency as more important than cooperation; feeling {F} individuals are sensitive and emotionally expressive. They are more empathic than thinking types and focus on social harmony and cooperation; judging {J} individuals are decisive, thorough and highly organised. They value clarity and predictability, preferring structure and planning to spontaneity; prospecting {P} individuals are very good at improvising and spotting opportunities. They tend to be flexible, relaxed nonconformists who prefer keeping their options open [56]. The first letters of each identified trait are combined to define one of 16 personality types. Personality types according to the 16P test are Architect (INTJ), Advocate (INFJ), Logician (ISTJ), Virtuoso (ISTP), Logician (INTP), Mediator (INFP), Defender (ISFJ), Adventurer (ISFP), Commander (ENTJ), Protagonist (ENFJ), Executive (ESTJ), Entrepreneur (ESTP), Debater (ENTP), Campaigner (ENFP), Consul (ESFJ), and Entertainer (ESFP). Selected traits of specific personalities can be grouped to represent four roles: Analysts (Intuitive {N} and Thinking {T}), Diplomats (Intuitive {N} and Feeling {F}), Sentinels (Observant {S} and Judging {J}), and Explorers (Observant {S} and Prospecting {P}). Each personality type and role has been described by NERIS Analytics Limited [56]. This way, personality traits could be linked to SM use and its impact on motivation.

Table A1. Statistics for the reliability and validity of scale for the constructs used in the survey (n = 462).

	Items	Cronbach's Alpha	Rho_A	Composite Reliability	Average Variance Extracted (AVE)
Motivation 2 Private Activities	Q92, Q93, Q94, Q95, Q96	0.824	0.825	0.824	0.484
Motivation 2 Social Activities	Q91, Q97, Q98	0.721	0.753	0.724	0.475
Reasons for Activity	Q83, Q84, Q86, Q87, Q88	0.865	0.868	0.866	0.564
Use of FB	Q22_FB, Q33_FB	0.648	0.664	0.654	0.488

Table A1. Cont.

	Items	Cronbach's Alpha	Rho_A	Composite Reliability	Average Variance Extracted (AVE)
Use of IG	Q11_IG, Q22_IG, Q33_IG	0.818	0.834	0.813	0.597
Use of PR	Q11_PR, Q22_PR, Q33_PR	0.722	0.824	0.744	0.519
Use of TT	Q11_TT, Q22_TT, Q33_TT	0.755	0.825	0.788	0.564
Use of TW	Q11_TW, Q22_TW, Q33_TW	0.891	0.917	0.898	0.748
Use of WA	Q11_WA, Q22_WA, Q33_WA	0.874	0.886	0.876	0.704
Use of SC	Q11_SC, Q22_SC, Q33_SC	0.893	0.909	0.893	0.739

Table A2. Differences between groups. Mann–Whitney U test for variable sex (Male, Female)—variables Q11_FB—Q33_WA.

Variable	p-Value	Significance	Male	Female
Q11_FB	0.4432		4.71 ± 0.61 Mdn: 5	4.68 ± 0.67 Mdn: 5
Q11_IG	0.0000	***	3.66 ± 1.65 Mdn: 4	4.48 ± 1.23 Mdn: 5
Q11_TW	0.3195		1.58 ± 1.24 Mdn: 1	1.38 ± 0.93 Mdn: 1
Q11_YT	0.0000	***	4.78 ± 0.51 Mdn: 5	4.24 ± 0.80 Mdn: 4
Q11_TT	0.0000	***	1.67 ± 1.29 Mdn: 1	2.71 ± 1.74 Mdn: 2
Q11_SC	0.0002	***	2.86 ± 1.74 Mdn: 3	3.47 ± 1.65 Mdn: 4
Q11_PR	0.0000	***	1.30 ± 0.76 Mdn: 1	2.34 ± 1.29 Mdn: 2
Q11_WA	0.0004	***	2.04 ± 1.40 Mdn: 1	2.54 ± 1.51 Mdn: 2
Q22_FB	0.2816		3.32 ± 1.39 Mdn: 3	3.49 ± 1.21 Mdn: 4
Q22_IG	0.0000	***	2.89 ± 1.67 Mdn: 3	3.94 ± 1.38 Mdn: 4
Q22_TW	0.0851		1.35 ± 0.90 Mdn: 1	1.27 ± 0.86 Mdn: 1
Q22_YT	0.0014	**	2.97 ± 1.53 Mdn: 3	2.49 ± 1.30 Mdn: 2
Q22_TT	0.0000	***	1.45 ± 1.13 Mdn: 1	2.17 ± 1.60 Mdn: 1
Q22_SC	0.0000	***	1.95 ± 1.47 Mdn: 1	2.60 ± 1.64 Mdn: 2
Q22_PR	0.0000	***	1.07 ± 0.32 Mdn: 1	1.73 ± 1.18 Mdn: 1
Q22_WA	0.0000	***	1.42 ± 0.97 Mdn: 1	1.90 ± 1.32 Mdn: 1
Q33_FB	0.6965		2.10 ± 1.12 Mdn: 2	1.98 ± 0.91 Mdn: 2
Q33_IG	0.0000	***	1.71 ± 0.92 Mdn: 1	2.30 ± 0.92 Mdn: 2
Q33_TW	0.3879		1.12 ± 0.49 Mdn: 1	1.11 ± 0.55 Mdn: 1
Q33_YT	0.0000	***	1.65 ± 1.02 Mdn: 1	1.17 ± 0.50 Mdn: 1
Q33_TT	0.5997		1.12 ± 0.55 Mdn: 1	1.14 ± 0.59 Mdn: 1
Q33_SC	0.0000	***	2.07 ± 1.49 Mdn: 1	2.82 ± 1.65 Mdn: 3
Q33_PR	0.0021	**	1.02 ± 0.23 Mdn: 1	1.12 ± 0.51 Mdn: 1
Q33_WA	0.0002	***	1.42 ± 1.00 Mdn: 1	1.79 ± 1.24 Mdn: 1

Note: ** $p < 0.01$; *** $p < 0.001$.

Table A3. Differences between groups. Mann–Whitney U test for variable sex.

Variable	p-Value	Significance	Male	Female
Q81	0.0053	**	4.86 ± 1.48 Mdn: 5	5.20 ± 1.48 Mdn: 5
Q82	0.0033	**	3.98 ± 1.71 Mdn: 4	4.45 ± 1.63 Mdn: 5

Table A3. *Cont.*

Variable	<i>p</i> -Value	Significance	Male	Female
Q83	0.0014	**	2.43 ± 1.54 Mdn: 2	2.86 ± 1.53 Mdn: 3
Q84	0.0022	**	3.92 ± 1.99 Mdn: 4	4.47 ± 1.86 Mdn: 5
Q85	0.0000	***	2.75 ± 1.66 Mdn: 2	3.50 ± 1.80 Mdn: 3
Q86	0.1088		3.21 ± 1.87 Mdn: 3	3.47 ± 1.80 Mdn: 3
Q87	0.0346	*	2.64 ± 1.59 Mdn: 2	2.94 ± 1.62 Mdn: 3
Q88	0.0456	*	3.67 ± 2.01 Mdn: 4	4.05 ± 1.87 Mdn: 5

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table A4. Differences between groups. U Mann–Whitney test for variable personality trait PP11 (Introverted, Extraverted).

Variable	<i>p</i> -Value	Significance	Introverted	Extraverted
Q81	0.2303		5.13 ± 1.51 Mdn: 5	5.02 ± 1.47 Mdn: 5
Q82	0.0004	***	3.94 ± 1.68 Mdn: 4	4.52 ± 1.63 Mdn: 5
Q83	0.0007	***	2.42 ± 1.47 Mdn: 2	2.90 ± 1.58 Mdn: 3
Q84	0.0026	**	3.97 ± 1.88 Mdn: 4	4.48 ± 1.94 Mdn: 5
Q85	0.9307		3.21 ± 1.76 Mdn: 3	3.22 ± 1.80 Mdn: 3
Q86	0.0019	**	3.05 ± 1.68 Mdn: 3	3.61 ± 1.9 Mdn: 3.5
Q87	0.0007	***	2.53 ± 1.50 Mdn: 2	3.05 ± 1.66 Mdn: 3
Q88	0.0158	*	3.65 ± 1.90 Mdn: 4	4.09 ± 1.94 Mdn: 4

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table A5. Statistical differences in SM use for specific criteria and groups.

Classification Criterion/Social Media	SEX		PP11		PP12		PP13		PP14	
	MA	FE	I	E	N	S	T	F	P	J
Q11_FB	-	-	-	-	-	-	-	-	-	-
Q11_IG	-2	2	-2	2	-2	2	-	-	-1	1
Q11_TW	-	-	-	-	-	-	-	-	-	-
Q11_YT	2	-2	-	-	-	-	-	-	-	-
Q11_TT	-2	2	-2	2	-	-	-1	1	-	-
Q11_SC	-2	2	-2	2	-2	2	-2	2	-	-
Q11_PR	-2	2	-	-	-	-	-2	2	-	-
Q11_WA	-2	2	-	-	-	-	-	-	-1	1
Q22_FB	-	-	-2	2	-	-	-	-	-	-
Q22_IG	-2	2	-2	2	-	-	-	-	-1	1
Q22_TW	-	-	-	-	-	-	-	-	-	-
Q22_YT	2	-2	-	-	-	-	-	-	-	-
Q22_TT	-2	2	-1	1	-	-	-	-	-	-
Q22_SC	-2	2	-2	2	-	-	-2	2	-	-

Table A5. Cont.

Classification Criterion/Social Media	SEX		PP11		PP12		PP13		PP14	
	MA	FE	I	E	N	S	T	F	P	J
Q22_PR	−2	2	−	−	−	−	−	−	−	−
Q22_WA	−2	2	−	−	−	−	−	−	−	−
Q33_FB	−	−	−2	2	−	−	−	−	−	−
Q33_IG	−2	2	−2	2	−	−	−	−	−	−
Q33_TW	−	−	−	−	−	−	−	−	−	−
Q33_YT	2	−2	−	−	−	−	−	−	−	−
Q33_TT	−	−	−	−	−	−	−	−	−	−
Q33_SC	−2	2	−2	2	−	−	−2	2	−	−
Q33_PR	−	−	−	−	−	−	−	−	−	−
Q33_WA	−2	2	−	−	−	−	−	−	−	−
SUM	−20	20	−19	19	−4	4	−9	9	−3	3

Note: Sum (SUM), groups: SEX (Male (MA), Female (FE)), PP11 (Introverted (I), Extraverted (E)), PP12 (Observant (S), Intuitive (N)), PP13 (Thinking (T), Feeling (F)), PP14 (Judging (J), Prospecting (P)).

Table A6. Differences between groups. Mann–Whitney U test for variable activity AP_X (Active, Passive).

Variable	p-Value	Significance	Passive	Active
Q81	0.0094	**	4.87 ± 1.59 Mdn: 5	5.26 ± 1.35 Mdn: 5
Q82	<0.0001	***	3.85 ± 1.74 Mdn: 4	4.69 ± 1.50 Mdn: 5
Q83	<0.0001	***	2.25 ± 1.42 Mdn: 2	3.14 ± 1.55 Mdn: 3
Q84	<0.0001	***	3.70 ± 1.94 Mdn: 4	4.82 ± 1.75 Mdn: 5
Q85	<0.0001	***	2.89 ± 1.76 Mdn: 2	3.54 ± 1.74 Mdn: 3
Q86	<0.0001	***	2.87 ± 1.74 Mdn: 3	3.87 ± 1.79 Mdn: 4
Q87	<0.0001	***	2.41 ± 1.48 Mdn: 2	3.25 ± 1.63 Mdn: 3
Q88	<0.0001	***	3.34 ± 1.91 Mdn: 3	4.47 ± 1.79 Mdn: 5

Note: ** $p < 0.01$; *** $p < 0.001$.

References

- Correa, T.; Hinsley, A.W.; de Zúñiga, H.G. Who interacts on the Web?: The intersection of users' personality and social media use. *Comput. Hum. Behav.* **2010**, *26*, 247–253. [\[CrossRef\]](#)
- Hughes, D.J.; Rowe, M.; Batey, M.; Lee, A. A tale of two sites: Twitter vs. Facebook and the personality predictors of social media usage. *Comput. Hum. Behav.* **2012**, *28*, 561–569. [\[CrossRef\]](#)
- Schwartz, H.A.; Eichstaedt, J.C.; Kern, M.L.; Dziurzynski, L.; Ramones, S.M.; Agrawal, M.; Shah, A.; Kosinski, M.; Stillwell, D.; Seligman, M.E.P.; et al. Personality, Gender, and Age in the Language of Social Media: The Open-Vocabulary Approach. *PLoS ONE* **2013**, *8*, e73791. [\[CrossRef\]](#) [\[PubMed\]](#)
- Zdonek, D.; Król, K. The Impact of Sex and Personality Traits on Social Media Use during the COVID-19 Pandemic in Poland. *Sustainability* **2021**, *13*, 4793. [\[CrossRef\]](#)
- Enginkaya, E.; Yılmaz, H. What Drives Consumers to Interact with Brands through Social Media? A Motivation Scale Development Study. *Procedia Soc. Behav. Sci.* **2014**, *148*, 219–226. [\[CrossRef\]](#)
- Stavros, C.; Meng, M.D.; Westberg, K.; Farrelly, F. Understanding fan motivation for interacting on social media. *Sport Manag. Rev.* **2014**, *17*, 455–469. [\[CrossRef\]](#)
- Alt, D. College students' academic motivation, media engagement and fear of missing out. *Comput. Hum. Behav.* **2015**, *49*, 111–119. [\[CrossRef\]](#)
- Bazi, S.; Filieri, R.; Gorton, M. Customers' motivation to engage with luxury brands on social media. *J. Bus. Res.* **2020**, *112*, 223–235. [\[CrossRef\]](#)

9. Kot, S.; Ferencová, M.; Kakalejčík, L. Using of Selected Social Media in Slovakia and Poland—Comparative Study. *Mediterr. J. Soc. Sci.* **2016**, *7*, 113. [\[CrossRef\]](#)
10. Sedkowski, M. Social media in Poland—great potential utilized by few. *Ecoforum J.* **2016**, *5*, 199–202.
11. Karasek, A.; Hysa, B. Social media and generation Y, Z—A challenge for employers. *Zesz. Naukowe. Organ. I Zarządzanie/Politech. Śląska* **2020**, *144*, 227–237. [\[CrossRef\]](#)
12. Hysa, B.; Karasek, A.; Zdonek, I. Social Media Usage by Different Generations as a Tool for Sustainable Tourism Marketing in Society 5.0 Idea. *Sustainability* **2021**, *13*, 1018. [\[CrossRef\]](#)
13. Chi, H.-H. Interactive Digital Advertising vs. Virtual Brand Community. *J. Interact. Advert.* **2011**, *12*, 44–61. [\[CrossRef\]](#)
14. Kim, E.; Drumwright, M. Engaging consumers and building relationships in social media: How social relatedness influences intrinsic vs. extrinsic consumer motivation. *Comput. Hum. Behav.* **2016**, *63*, 970–979. [\[CrossRef\]](#)
15. Aldao, C.; Mihalic, T.A. New Frontiers in Travel Motivation and Social Media: The Case of Longyearbyen, the High Arctic. *Sustainability* **2020**, *12*, 5905. [\[CrossRef\]](#)
16. Jaidka, K.; Ahmed, S.; Skoric, M.; Hilbert, M. Predicting elections from social media: A three-country, three-method comparative study. *Asian J. Commun.* **2019**, *29*, 252–273. [\[CrossRef\]](#)
17. Hoehle, H.; Zhang, X.; Venkatesh, V. An espoused cultural perspective to understand continued intention to use mobile applications: A four-country study of mobile social media application usability. *Eur. J. Inf. Syst.* **2015**, *24*, 337–359. [\[CrossRef\]](#)
18. Minton, E.; Lee, C.; Orth, U.; Kim, C.-H.; Kahle, L. Sustainable Marketing and Social Media. *J. Advert.* **2012**, *41*, 69–84. [\[CrossRef\]](#)
19. Capatina, A.; Micu, A.; Micu, A.E.; Bouzaabia, R.; Bouzaabia, O. Country-based comparison of accommodation brands in social media: An fsQCA approach. *J. Bus. Res.* **2018**, *89*, 235–242. [\[CrossRef\]](#)
20. Enikolopov, R.; Makarin, A.; Petrova, M. Social media and protest participation: Evidence from Russia. *Econometrica* **2020**, *88*, 1479–1514. [\[CrossRef\]](#)
21. Hysa, B.; Spalek, S. Opportunities and threats presented by social media in project management. *Heliyon* **2019**, *5*, e01488. [\[CrossRef\]](#)
22. Werenowska, A.; Rzepka, M. The Role of Social Media in Generation Y Travel Decision-Making Process (Case Study in Poland). *Information* **2020**, *11*, 396. [\[CrossRef\]](#)
23. Kong, Y. A brief discussion on motivation and ways to motivate students in English language learning. *Int. Educ. Stud.* **2009**, *2*, 145–149. [\[CrossRef\]](#)
24. Eggen, P.D.; Kauchak, D. *Educational Psychology: Classroom Connections*; Macmillan: New York, NY, USA, 1994.
25. Hamachek, D.E. *Psychology in Teaching, Learning, and Growth*; Allyn and Bacon: Boston, MA, USA, 1989.
26. Parker, S.K.; Bindl, U.K.; Strauss, K. Making Things Happen: A Model of Proactive Motivation. *J. Manag.* **2010**, *36*, 827–856. [\[CrossRef\]](#)
27. Zheng, H.; Li, D.; Hou, W. Task Design, Motivation, and Participation in Crowdsourcing Contests. *Int. J. Electron. Commer.* **2011**, *15*, 57–88. [\[CrossRef\]](#)
28. Gagné, M.; Deci, E.L. Self-determination theory and work motivation. *J. Organ. Behav.* **2005**, *26*, 331–362. [\[CrossRef\]](#)
29. Sweetser, K.D.; Kelleher, T. A survey of social media use, motivation and leadership among public relations practitioners. *Public Relat. Rev.* **2011**, *37*, 425–428. [\[CrossRef\]](#)
30. Zhang, D.; Feng, X.; Chen, P. Examining microbloggers' individual differences in motivation for social media use. *Soc. Behav. Personal. Int. J.* **2018**, *46*, 667–681. [\[CrossRef\]](#)
31. Steinfield, C.; Ellison, N.B.; Lampe, C. Social capital, self-esteem, and use of online social network sites: A longitudinal analysis. *J. Appl. Dev. Psychol.* **2008**, *29*, 434–445. [\[CrossRef\]](#)
32. Shensa, A.; Sidani, J.E.; Escobar-Viera, C.G.; Switzer, G.E.; Primack, B.A.; Choukas-Bradley, S. Emotional support from social media and face-to-face relationships: Associations with depression risk among young adults. *J. Affect. Disord.* **2020**, *260*, 38–44. [\[CrossRef\]](#)
33. Boyd, D.M.; Ellison, N.B. Social Network Sites: Definition, History, and Scholarship. *J. Comput. Mediat. Commun.* **2007**, *13*, 210–230. [\[CrossRef\]](#)
34. Primack, B.A.; Shensa, A.; Escobar-Viera, C.G.; Barrett, E.L.; Sidani, J.E.; Colditz, J.B.; James, A.E. Use of multiple social media platforms and symptoms of depression and anxiety: A nationally-representative study among U.S. young adults. *Comput. Hum. Behav.* **2017**, *69*, 1–9. [\[CrossRef\]](#)
35. Hunt, M.G.; Marx, R.; Lipson, C.; Young, J. No More FOMO: Limiting Social Media Decreases Loneliness and Depression. *J. Soc. Clin. Psychol.* **2018**, *37*, 751–768. [\[CrossRef\]](#)
36. Jaques, C.; Islar, M.; Lord, G. Post-Truth: Hegemony on Social Media and Implications for Sustainability Communication. *Sustainability* **2019**, *11*, 2120. [\[CrossRef\]](#)
37. Chen, X.; Sin, S.-C.J.; Theng, Y.-L.; Lee, C.S. Why Students Share Misinformation on Social Media: Motivation, Gender, and Study-level Differences. *J. Acad. Librariansh.* **2015**, *41*, 583–592. [\[CrossRef\]](#)
38. Chou, H.-T.G.; Edge, N. "They Are Happier and Having Better Lives than I Am": The Impact of Using Facebook on Perceptions of Others' Lives. *Cyberpsychol. Behav. Soc. Netw.* **2012**, *15*, 117–121. [\[CrossRef\]](#) [\[PubMed\]](#)
39. Kross, E.; Verduyn, P.; Demiralp, E.; Park, J.; Lee, D.S.; Lin, N.; Shablack, H.; Jonides, J.; Ybarra, O. Facebook Use Predicts Declines in Subjective Well-Being in Young Adults. *PLoS ONE* **2013**, *8*, e69841. [\[CrossRef\]](#)
40. Karahanna, E.; Xu, S.X.; Zhang, N. Psychological ownership motivation and use of social media. *J. Mark. Theory Pract.* **2015**, *23*, 185–207.

41. Hassouneh, D.; Brengman, M. A motivation-based typology of social virtual world users. *Comput. Hum. Behav.* **2014**, *33*, 330–338. [CrossRef]
42. Hamburger, Y.A.; Ben-Artzi, E. The relationship between extraversion and neuroticism and the different uses of the Internet. *Comput. Hum. Behav.* **2000**, *16*, 441–449. [CrossRef]
43. McCrae, R.R.; Costa, P.T., Jr. Personality trait structure as a human universal. *Am. Psychol.* **1997**, *52*, 509–516. [CrossRef]
44. Ehrenberg, A.; Juckes, S.; White, K.M.; Walsh, S.P. Personality and Self-Esteem as Predictors of Young People's Technology Use. *Cyberpsychol. Behav.* **2008**, *11*, 739–741. [CrossRef]
45. Ryan, T.; Xenos, S. Who uses Facebook? An investigation into the relationship between the Big Five, shyness, narcissism, loneliness, and Facebook usage. *Comput. Hum. Behav.* **2011**, *27*, 1658–1664. [CrossRef]
46. Blackwell, D.; Leaman, C.; Trampusch, R.; Osborne, C.; Liss, M. Extraversion, neuroticism, attachment style and fear of missing out as predictors of social media use and addiction. *Personal. Individ. Differ.* **2017**, *116*, 69–72. [CrossRef]
47. Zywicki, J.; Danowski, J. The Faces of Facebookers: Investigating Social Enhancement and Social Compensation Hypotheses; Predicting Facebook™ and Offline Popularity from Sociability and Self-Esteem, and Mapping the Meanings of Popularity with Semantic Networks. *J. Comput. Mediat. Commun.* **2008**, *14*, 1–34. [CrossRef]
48. Ross, C.; Orr, E.S.; Sisic, M.; Arseneault, J.M.; Simmering, M.G.; Orr, R.R. Personality and motivations associated with Facebook use. *Comput. Hum. Behav.* **2009**, *25*, 578–586. [CrossRef]
49. Ellison, N.B.; Steinfield, C.; Lampe, C. The Benefits of Facebook “Friends”: Social Capital and College Students' Use of Online Social Network Sites. *J. Comput. Mediat. Commun.* **2007**, *12*, 1143–1168. [CrossRef]
50. Vaid, S.S.; Harari, G.M. Who uses what and how often?: Personality predictors of multiplatform social media use among young adults. *J. Res. Personal.* **2021**, *91*, 104005. [CrossRef]
51. Król, K.; Zdonek, D. Social media use and its impact on intrinsic motivation in Generation Z: A case study from Poland. *GKMC* **2021**, *70*, 442–458. [CrossRef]
52. Huang, J.; Obracht-Prondzynska, H.; Kamrowska-Zaluska, D.; Sun, Y.; Li, L. The image of the City on social media: A comparative study using “Big Data” and “Small Data” methods in the Tri-City Region in Poland. *Landsc. Urban Plan.* **2021**, *206*, 103977. [CrossRef]
53. Müller, J.M.; Pommeranz, B.; Weisser, J.; Voigt, K.-I. Digital, Social Media, and Mobile Marketing in industrial buying: Still in need of customer segmentation? Empirical evidence from Poland and Germany. *Ind. Mark. Manag.* **2018**, *73*, 70–83. [CrossRef]
54. Szumniak-Samolej, J. Social Media for Corporate Social Responsibility Strategy Creation and Communication in Poland. In *Corporate Social Responsibility in Poland: Strategies, Opportunities and Challenges*; CSR, Sustainability, Ethics & Governance; Długopolska-Mikonowicz, A., Przytuła, S., Stehr, C., Eds.; Springer International Publishing: Cham, Switzerland, 2019; pp. 273–286. [CrossRef]
55. Fietkiewicz, K.J.; Lins, E.; Budree, A. Investigating the Generation- and Gender-Dependent Differences in Social Media Use: A Cross-Cultural Study in Germany, Poland and South Africa. In *Proceedings of the Social Computing and Social Media; Technologies and Analytics*; Meiselwitz, G., Ed.; Springer International Publishing: Cham, Switzerland, 2018; pp. 183–200.
56. NERIS Analytics Limited. 16Personality—Personal Test. Available online: <https://www.16personalities.com/articles/our-theory> (accessed on 24 September 2021).
57. Abbas, J.; Aman, J.; Nurunnabi, M.; Bano, S. The Impact of Social Media on Learning Behavior for Sustainable Education: Evidence of Students from Selected Universities in Pakistan. *Sustainability* **2019**, *11*, 1683. [CrossRef]
58. LaRose, R.; Tsai, H.S. Completion rates and non-response error in online surveys: Comparing sweepstakes and pre-paid cash incentives in studies of online behavior. *Comput. Hum. Behav.* **2014**, *34*, 110–119. [CrossRef]
59. Boahene, K.O.; Fang, J.; Sampong, F. Social Media Usage and Tertiary Students' Academic Performance: Examining the Influences of Academic Self-Efficacy and Innovation Characteristics. *Sustainability* **2019**, *11*, 2431. [CrossRef]
60. Sönmezöz, K.; Uğur, Ö.; Diri, B. MBTI Personality Prediction With Machine Learning. In *Proceedings of the 2020 28th Signal Processing and Communications Applications Conference (SIU)*, Gaziantep, Turkey, 5–7 October 2020; pp. 1–4. [CrossRef]
61. Perez-Gonzalez, H.G.; Nunez-Varela, A.; Martinez-Perez, F.E.; Nava-Munoz, S.E.; David Arjona-Villicana, P.; Castillo-Barrera, F.E.; Munoz-Arteaga, J. Investigating the Effects of Personality on Software Design in a Higher Education Setting Through an Experiment. In *Proceedings of the 2018 6th International Conference in Software Engineering Research and Innovation (CONISOFT)*, San Luis Potosí, Mexico, 24–26 October 2018; pp. 72–78.
62. Park, J.; Lee, S.; Brotherton, K.; Um, D.; Park, J. Identification of Speech Characteristics to Distinguish Human Personality of Introversive and Extroversive Male Groups. *Int. J. Environ. Res. Public Health* **2020**, *17*, 2125. [CrossRef]
63. Nielsen, P.; Razmerita, L. Motivation and Knowledge Sharing through Social Media within Danish Organizations. In *Proceedings of the Creating Value for All through IT*; Bergvall-Kärebörn, B., Nielsen, P.A., Eds.; Springer: Berlin/Heidelberg, Germany, 2014; pp. 197–213. [CrossRef]
64. Mangold, W.G.; Faulds, D.J. Social media: The new hybrid element of the promotion mix. *Bus. Horiz.* **2009**, *52*, 357–365. [CrossRef]
65. Yan, J. Social media in branding: Fulfilling a need. *J. Brand. Manag.* **2011**, *18*, 688–696. [CrossRef]