NOVA IMS Information Management School

MEGI

Master Degree Program in

Statistics and Information Management

The impact of Instagram on happiness

Evaluation of the impact of Instagram on happiness, measured as self-esteem, social comparison, the closeness of relationships and life satisfaction

Angelina Stalimerou

Dissertation

presented as partial requirement for obtaining the Master Degree Program in Statistics and Information Management

NOVA Information Management School
Instituto Superior de Estatística e Gestão de Informação
Universidade Nova de Lisboa

NOVA Information Management School
Instituto Superior de Estatística e Gestão de Informação
Universidade Nova de Lisboa

THE IMPACT OF INSTAGRAM ON HAPPINESS

By

Angelina Stalimerou

Master Thesis presented as partial requirement for obtaining the Master's degree in Statistics and Information Management, with a specialization in Information Analysis and Management

Co-Supervisors: Prof. Teodóra Szabó-Douat, Ph.D.

Prof. Diego Costa Pinto, Ph.D

November 2022

STATEMENT OF INTEGRITY

I hereby declare having conducted this academic work with integrity. I confirm that I have not used plagiarism or any form of undue use of information or falsification of results along the process leading to its elaboration. I further declare that I have fully acknowledge the Rules of Conduct and Code of Honor from the NOVA Information Management School.

Α. Σταλιμέρου

A. Stalimerou

Lisbon, 28.11.2022

ABSTRACT

The impact of the Social Networking Sites (SNSs) on their users continues receiving attention from the scientific community. There are several different SNSs, with different features and motives for use, and their effect varies. Social media have been linked to increased depression and lower self-esteem. At the same time, positive interaction on SNSs is associated to decreased loneliness. Limited studies exist specializing on the impact of Instagram and usually from delimited populations; either age group, gender or location. Additionally, there have been findings of relation between SNSs use and personality traits.

This study attempts to contribute with insight of whether Instagram can impact the happiness of its users, taking into consideration the different personality traits/types. To define happiness, the survey used adaptations specifically for the use of Instagram of the Social Comparison Orientation Scale (SCOS), the Life Satisfaction Scale (LSS), the Rosenberg Self-Esteem Scale (RSES) and the Unidimensional Relationship Closeness scale (URCS). For the personality traits an adaptation of the Myers-Briggs personality types was included.

N=358 participants, from 21 to over 60 years old, responded to an online anonymous self-report survey, without geographical, or other delimitation, regarding the way Instagram makes them feel.

The outcome of the study suggests that Instagram is a platform that enables social comparison, and which may negatively impact self-esteem. However, in contrary to existing literature, these findings were accompanied by simultaneous positive impact of Instagram on life satisfaction. There was indication that Instagram supports its users to increase the closeness of their relationships and overall feelings of satisfaction with their lives. Additionally, it was suggested that individuals higher on extrovert, sensor, thinker and judger personality traits are affected more positively by using Instagram than individuals scoring lower on these traits.

These findings suggest that Instagram can indeed impact its users' happiness, however the impact depends on the individual personality traits.

KEYWORDS

Instagram; Happiness; Self-esteem; Relationship closeness; Social comparison; Life satisfaction; Personality traits

Sustainable Development Goals (SGD):

INDEX

LIST OF FIGURES

LIST OF ABBREVIATIONS AND ACRONYMS

SNS(s)	Social networking site(s)
SCOS	Social Comparison Orientation Scale
LSS	Life Satisfaction Scale
RSES	Rosenberg Self-Esteem Scale
URCS	Unidimensional Relationship Closeness scale

1. INTRODUCTION

Social networking sites (SNSs), or social media, are web-based platforms on which individuals connect with other users to generate and maintain social connections (Boyd & Ellison, 2007). Social media have been growing very rapidly during the past decade, being present in several different aspects of life (Ortiz-Ospina, 2019). Despite their similarities, each SNS platform (e.g., Facebook, Tinder, Instagram, etc.) has unique and specific features, user habits, motives, and gratifications (Kircaburun & Griffiths, 2018). More specifically, Instagram, which is the focus of this study, apart from the writing message exchange, it mainly serves as an online photo and video sharing social media networking service, where the users upload photos and videos, receive comments and "likes" from others, follow and are followed by others' profiles (Shahbaznezhad et al., 2021).

There is good reason to prioritize further research on the impact of Instagram rather than on other social media networking services (Sharma, 2022). Even though it is the fastest growing social network site globally (Lunden, 2014), Instagram and its users have been less in the focus of research so far.

Instagram was originally launched in 2010. It gained popularity very rapidly and within 2 months, one million users had registered (Mansoor, 2022). As of 2021, Instagram had 1 billion monthly active users. Instagram users share approximately 100 million new posts daily, and Instagram's rate of new users has overpassed Twitter, YouTube and Facebook (Statista, 2022). For an activity used by such a large part of the population on a stable manner, it is interesting to understand if such interaction could promote its user's happiness.

Social media may be detrimental to young people's psychological wellbeing (Coulthard, 2018). A study concluded that there is in fact a causal link between the use of social media and negative effects on well-being, primarily depression and loneliness (Mammoser, 2018). Extend research has studied the potential for addictive or problematic social media use overall (Banyai et al., 2017) and linked Facebook use to negative subjective well-being (Kross et al., 2013). Additionally, viewing information posted by others tends to make people more aware of their limitations and shortcomings, which could lead to lower self-esteem (Kross et al., 2013). Another study showed that teenagers spending more time on social media report substantially higher rate of self-reported depression than those who spent less time on social media (Miller et al., 2022). The majority of studies have been conducted for either generally SNSs or with specific social platforms, predominantly Facebook (Stewart, 2015). However, other social media apps such as Instagram have been scarcely studied (Kim et al., 2021). Furthermore, another study concluded that SNSs must be differentiated to truly understand how they shape human interactions and suggested that future research should pay closer attention to the effects of different types of social networks used as well as different ages and how that could affect self-esteem (Koutamanis et al., 2015) (Valkenburg et al., 2017) (Rekman, 2022) (Faelens et al., 2021) (Baker & Algorta, 2016).

Instagram exists for less than 13 years and studies attempting to clarify its impact have demonstrated sometimes contradicting outcomes.

The purpose of this study is to explore and provide deeper insight and understanding of the potential impact the use of Instagram has on our happiness. Instagram, in contrast to other social media such as

Facebook or Twitter, is mostly image focused. With the different functionalities of each SNSs, additional research is required to comprehend whether previous results regarding the impact of SNS use are generalizable to Instagram. The vague concept of happiness was broken down and evaluated as self-esteem and social comparison, the closeness of relationships and life satisfaction.

Another area that this study aims to shed light to is the different impact Instagram has based on the personality traits of the user. Limited knowledge exists about who is using the platform, specifically what kinds of personality traits Instagram users have (Jennewein et al., 2020). As personality traits have been shown to be an important predictor for individuals' behaviour (McAndrew, 2018) and due to the increased relevance of Instagram as a platform, our study aims to provide insights into the relationships between personality traits of Instagram users and how individuals with specific traits use the platform impacting their self-esteem, social comparison, closeness of relationship and life satisfaction.

Finally, additional novelty in this study was expected by the wide target audience for the survey. Most research on this subject delimits the participants by either age and/ or location, conditioning the respondents profile.

2. LITERATURE REVIEW

2.1. WHY INSTAGRAM

During the past decade, social media use and its many sub-forms including social networking use have evolved rapidly. Recent statistics (Global Social Media Statistics, n.d.) show that almost 60% of the total global population are social media users. This popularity is expected to result in problematic use and abuse of specific platforms for a minority of its users (Kircaburun et al., 2018).

Social networking sites, such as Instagram, are media that "enable users to connect by creating personal information profiles that can be accessed by friends and colleagues, and by sending emails and instant messages between each other" (Kircaburun & Griffiths, 2018). The reasons for using Instagram seem to be different than the rest of social media (Sharma, 2022). The main difference of Instagram in comparison to other social networking services is that Instagram's main activity is posting pictures or short videos, and "liking" and/or commenting on photos or videos of other users. Instagram's main feature of video and photo sharing may be more harmful than other social network sites that focus on written content (MacMillan, 2017). Images hold a special power to the human brain. It is estimated that the human brain processes images 60.000 times faster than text (MEC-Media Education Centre, 2010).

2.2. WHAT IS HAPPINESS

#happy ranks as one of Instagram's most used hashtags (De Paola et al., 2020). But can the use of Instagram promote happiness? Happiness is an emotional state characterized by feelings of joy, satisfaction, contentment, and fulfilment. While happiness has many different definitions, it is often described as involving positive emotions and life satisfaction (Cherry, 2022).

Two key components of happiness are (Ackerman, 2022):

- The balance of emotions: Everyone experiences both positive and negative emotions, feelings, and moods. Happiness is generally linked to experiencing more positive feelings than negative.
- Life satisfaction: This relates to how satisfied one feels with different areas of their life including relationships, work, achievements, and other things that they consider important.

Happiness is also composed from the feelings that (Ackerman, 2022):

- One is living the life that they wanted; feelings of satisfactions with one's life.
- One is accepting oneself in comparison with the others; feelings of self-esteem.
- One has or can accomplish what they want in life; feeling that the conditions of one's life are good.

In this study, we focus on the impact of Instagram on happiness through the increase of self-esteem and feelings life satisfaction and closeness of the relationships.

2.3. Passive versus Active use of Social Networking Sites (SNSs) use

The use of Instagram and other SNSs can be described as passive or active. Passive is the attitude where the individuals spend time on the media without posting new content neither engaging with other users, instead, almost hidden, they observe the content of other users. The active use is the intended use of Instagram, and the other social media, where the users post new content and engage with the other users (Holak & McLaughlin, 2017).

In general, passive uses of SNSs seem to be related with worse effects of SNSs use. Higher levels of social anxiety were significantly related to passive uses of Facebook (Seabrook et al., 2016). Passively looking at others' profiles might trigger feelings of envy and loneliness (Krasnova, Wenninger, Widjaja & Buxmann, 2013). Active uses of SNSs demonstrate a more complex relationship. It was found that depressive symptoms positively correlated with more frequent content production and interactive communications. At the same time, people who actively update their profiles and interact with friends, as opposed to passively scoping other people's profiles, tend to experience positive feelings (Pit et al., 2022).

The type of interaction and feedback on SNSs also plays a role, with positive feedback enhancing self-esteem and wellbeing, and negative feedback producing the opposite result in adolescents and adults (Nesi & Prinstein, 2015).

2.4. Contradictory reviews of Social Networking Sites (SNSs)

There is evidence of both positive and negative consequences of social networking for well-being, with passive use in particular being linked to negative consequences.

Benefits of SNSs use have been found to arise from increased social contact and relationships and support mental health (Seabrook et al., 2016). SNSs connect us to friends, family, colleagues, strangers, and celebrities and can help users to maintain and make new friendships, express thoughts and feelings, and express identity (Hiltibran, 2021) (Boyd & Ellison, 2007) (Capurro et al., 2014). Communities on SNSs can provide considerable benefits to their users. They may protect from mental illness, as they support and enable positive quality social interaction, social support and social connection and a positive sense of social inclusion (Hiltibran, 2021) (Boyd & Ellison, 2007) (Capurro et al., 2014). SNSs provide a platform to allow users to reflect aspects of their identity and express emotion that may be relevant to their lived experience (Hiltibran, 2021) (Boyd & Ellison, 2007) (Capurro et al., 2014). The primary social functions that SNSs perform may augment the benefits of engaging in face-to-face interaction by extending the reach and accessibility of our social networks (Hiltibran, 2021) (Boyd & Ellison, 2007) (Capurro et al., 2014). Indeed, SNS use is consistently associated with lower levels of loneliness, depression and anxiety and greater feelings of belonging, social connection, and actual and perceived access to social support and is generally associated with higher levels of life satisfaction and self-esteem (Hiltibran, 2021) (Boyd & Ellison, 2007) (Capurro et al., 2014).

However, on SNSs there can also be negative interactions. SNSs use increases an individual's exposure to negative social interactions, such as cyberbullying, and for individuals with depression or anxiety,

the interpretation and frequent exposure to Instagram may have impact negatively their mood and mental health (Seabrook et al., 2016). Also, negative interaction has been associated with decreases in self-esteem and life satisfaction (Seabrook et al., 2016). Kircaburun and Griffiths reported that the use of social networking is associated with negative social factors, such as loneliness, poorer life satisfaction, lower psychological well-being, and a higher rate of depression, sleep problems, and lack of social connectedness (Rogowska & Libera, 2022). Facebook use has been also associated with increased feelings of stress, social overload and lower self-esteem (Hu, 2017). Also, negative social comparisons facilitated through SNSs seem to be related with higher levels of depression and anxiety. However, these studies mainly focused on social media in general or specific SNSs, such as Facebook and Twitter (Seabrook et al., 2016).

Social comparison is argued to be a contributing factor to low self-esteem (Chusniah et al., 2021). Idealistic information presented through SNSs has increased social comparison norms and the more time people spend on SNSs, the more likely they would believe that others have better lives and are happier and more successful, reducing their self-esteem (Chusniah et al., 2021). Following strangers also changes our social comparison group. This could have an effect on other factors such as their self-esteem or life satisfaction (Chusniah et al., 2021). Past studies offer ample support for the negative link between social comparison and self-esteem. In a survey study among college students, it was found that participants who scored higher on social comparison orientation experienced reduced self-esteem and poorer self-perception balance (Bergagna & Tartaglia, 2018). Another survey also showed that when people perceived their social media friends as having better lives, their self-reported self-esteem level was lower (Bergagna & Tartaglia, 2018). The existing research has mainly examined Facebook use, while Instagram has some different technological features that may increase users' social comparison and its effect on self-esteem. For example, with more options of enhancement filters, Instagram users exhibit more tendency to select and exaggerate positive life scenarios than Facebook users (Bergagna & Tartaglia, 2018).

Different studies have shown that social media use is a good predictor of life satisfaction in female adolescents (Orben et al., 2019). It has also been shown that increased feelings of envy are significantly related to decreased feelings of life satisfaction and self-esteem for women who use social media (Orben et al., 2019). Also, it has been shown that social media use causes individuals to create negative social comparisons with the people that they follow or are friends with on social media websites, which leads to negative effects on self-report (Warrender & Milne, 2020).

Overall, studies made for the impact of overall Social Networking Services have contradicting outcomes. Positive interactions, social support, and social connectedness on SNSs were consistently related to lower levels of depression and anxiety, whereas negative interaction and social comparisons on SNSs were related to higher levels of depression and anxiety (O'Day & Heimberg, 2021). The systematic review revealed many mixed findings between depression, anxiety, and SNS use (O'Day & Heimberg, 2021). Understanding these relationships will lead to better utilization of SNSs in their potential to positively influence mental health. Computer-mediated communication (e.g., email, instant messaging) allows users to express and interpret emotion in a similar way to face-to-face interaction (Derks et al., 2008). As a whole, the SNSs environments may be just as complex as face-to-face interactions (Derks et al., 2008).

Based on the above, we test:

H1: Instagram supports its users in feeling satisfied with their lives.

2.5. Personality traits & Social Networking Sites (SNSs) use

Personality can be considered to be a highly relevant factor in determining human behaviour on SNS and it has been suggested by previous literature that different personality traits influence several factors such as online political engagement, early adoption of technologies, addictive tendencies and Internet-use disorders more generally (Quintelier & Theocharis, 2012). As different SNS have different affordances, they attract different types of users (Quintelier & Theocharis, 2012). Uses and gratifications theory suggests that various psychological and social factors affect individuals' preferences and social media use (Vinney, 2022). Individuals with different personality traits have different use motives and behaviour (Vinney, 2022). Research provides evidence that users of various SNS differ in their personality, therefore making it necessary to investigate the personality traits of the users of each individual SNS (Quintelier & Theocharis, 2012). Also, it has been shown, that Facebook users and non-users differ in their personality traits (Quintelier & Theocharis, 2012). However, the same was not observed with Instagram (Hossain, 2019). With one billion active users on Instagram, the visual content-based platform seems to attract a wide variety of different kinds of users and therefore is not only relevant for individuals with specific personality traits (Hossain, 2019).

Previous studies have mainly focused on the association between personality and problematic use of Internet and social media, as well as specific SNSs, such as Facebook and Twitter. It was shown that problematic Facebook use is most prevalent in individuals high in borderline personality traits and depressive and social anxiety symptoms compared with groups low in those symptoms or high in sensation seeking (Moreau et al., 2015). Facebook users have been shown to have significantly higher values in extroversion and lower values in conscientiousness compared to non-users. It has also been suggested a positive relationship between extroversion and the number of followers and followings a user has and a negative relationship between conscientiousness and visit duration on the platform. Additionally, users with private profiles seemed to be higher in agreeableness compared to users with public profiles (Moreau et al., 2015).

User behaviour on Instagram supports the view that extroverted people would not use their online activities as a substitute for their interaction in real life (Vinney, 2022). In an analytic review that has examined 12 different studies it was reported that all personality dimensions of the Big Five personality model had a significant effect on Internet behaviour (Kayis et al., 2016). In our study, an adaptation of the Myer-Briggs was used to evaluate the personality features. The Myers–Briggs Type Indicator (MBTI) is an introspective self-report personality typology questionnaire classifying individuals in four personality traits: introversion or extroversion, sensing or intuition, thinking or feeling and judging or perceiving.

Extrovert traits refer to preferring to direct one's energy towards people, situations and at the same time charge their energy by being with people. Introvert traits refer to deriving the energy from time spent alone; time spent around other people may be experienced as emotionally or psychologically draining (Drenth, n.d.) (Owens, 2019) (Schenck, 2017) (Alderson, 2022).

Sensing refers to being in contact with the immediate environment, being practical and realistic and learning through hands-on experience. Intuition refers to attention in impressions and patterns and learning through thinking (Drenth, n.d.) (Owens, 2019) (Schenck, 2017) (Alderson, 2022).

Thinker refers to being more mentally active in the sense of constantly questioning and discovering information and feeler refers to being more aware of one's and others' feelings and emotional nuances, rather than information (Drenth, n.d.) (Owens, 2019) (Schenck, 2017) (Alderson, 2022).

Judger refers to planning and organizing in advance and perceiver refers to flexibility, adaptation and spontaneity (Drenth, n.d.) (Owens, 2019) (Schenck, 2017) (Alderson, 2022).

Based on the above, we suggest that the impact of Instagram on users' happiness, measured through social comparison, life satisfaction, self-esteem and closeness of relationships, varies based on the different personality types.

Specifically, the hypotheses made are:

SCOS: H1a: The impact of Instagram on social comparison is not the same for users with different levels of introvert/ extrovert personality traits.

LSS: H1b: The impact of Instagram on life satisfaction is not the same for users with different levels of introvert/ extrovert personality traits.

RSES: H1c: The impact of Instagram on self-esteem is not the same for users with different levels of introvert/ extrovert personality traits.

URCS: H1d: The impact of Instagram on the closeness of relationships is not the same for users with different levels of introvert/ extrovert personality traits.

SCOS: H2a: The impact of Instagram on social comparison is not the same for users with different levels of sensing/ intuition personality traits.

LSS: H2b: The impact of Instagram on life satisfaction is not the same for users with different levels of sensing/ intuition personality traits.

RSES: H2c: The impact of Instagram on self-esteem is not the same for users with different levels of sensing/ intuition personality traits.

URCS: H2d: The impact of Instagram on the closeness of relationships is not the same for users with different levels of sensing/ intuition personality traits.

SCOS: H3a: The impact of Instagram on social comparison is not the same for users with different levels of thinker/ feeler personality traits.

LSS: H3b: The impact of Instagram on life satisfaction is not the same for users with different levels of thinker/ feeler personality traits.

RSES: H3c: The impact of Instagram on self-esteem is not the same for users with different levels of thinker/ feeler personality traits.

URCS: H3d: The impact of Instagram on the closeness of relationships is not the same for users with different levels of thinker/ feeler personality traits.

SCOS: H4a: The impact of Instagram on social comparison is not the same for users with different levels of judger/ perceiver personality traits.

LSS: H4b: The impact of Instagram on life satisfaction is not the same for users with different levels of judger/ perceiver personality traits.

RSES: H4c: The impact of Instagram on self-esteem is not the same for users with different levels of judger/ perceiver personality traits.

URCS: H4d: The impact of Instagram on the closeness of relationships is not the same for users with different levels of judger/ perceiver personality traits.

2.6. Self-esteem & Social Networking Sites (SNSs) use

A characteristic that is a pivotal part of the feelings of happiness is the individual's self-esteem. Self-esteem refers to the combination of self-liking and self-competence; seeing oneself competent, successful and skilful in achieving goals. Self-esteem is regarded as a key personality construct and it has been found to strongly relate with other personality traits (Skorek et al., 2014). Self-esteem is reported to be one of the important factors for the impact of SNSs and self-esteem is negatively associated with SNS use and social media addiction (Saiphoo et al., 2020). Studies show that individuals' SNS use affects their self-esteem. In adolescent girls, emotional investment in social networking has been linked to lower self-esteem and depressed mood and exposure to social media that emphasizes appearance, such as Instagram, has been linked to increased body image disturbance (Yang et al., 2020). Feelings of low self-esteem are related to edited self-presentation (Yu et al., 2022) and similarly receiving positive feedback in social media increases users' levels of self-esteem (Burrow & Rainone, 2017). It has also been shown that social media use is a good predictor of body dissatisfaction, eating disorder symptoms, and life satisfaction in adolescent girls (Ferguson et al., 2013). Increased feelings of envy are significantly related to decreased feelings of life satisfaction and self-esteem for women who use online blogs and social media (Cretti, 2015).

Based on the above, we test that:

H1: Instagram use has negative impact on self-esteem.

2.7. Social comparison & Social Networking Sites (SNSs) use

Social comparison theory was first proposed in 1954 by psychologist Leon Festinger and suggested that people have an innate drive (biological inclination) to evaluate themselves, their situation, skills, and

overall identity in comparison to others and based on information they receive about others (Cherry, 2022). People make all kinds of judgments about themselves, and one of the key ways to do this is through social comparison and analysing the self in relation to others (Cherry, 2022). Festinger believed that we engage in this comparison process as a way of establishing a benchmark by which we can make accurate evaluations of ourselves (Cherry, 2022). He believed that upward social comparison, meaning comparing with others who are perceived as better in a particular aspect, might lead to increased social anxiety and have negative impact on an individual's self-esteem (Cherry, 2022). At the same time social comparison can be a way of self-enhancement by downward social comparisons, meaning by looking to another individual or group that is considered to be worse off in order to feel better about oneself (Cherry, 2022). It was found that people with greater tendency toward either upward or downward social comparison were associated with greater concern about how one is being evaluated by others (Wheeler & Suls, 2019). Because of this concern, no matter whom they compare themselves with, they would make efforts to craft own behaviours to conform to certain standards or norms (Wheeler & Suls, 2019). Over time, this excessive self-consciousness as a result of social comparison could lead to one's perception of lack of social skills, and even fear of social interactions (Wheeler & Suls, 2019).

Facebook use related to a greater degree of negative social comparison, which related to negative self-perceived social competence and physical attractiveness (De Vries & Kühne, 2015). The researchers found that social networking site use was negatively related to self-perception through negative social comparison, especially among unhappy people (De Vries & Kühne, 2015). Participants high in social comparison had poorer self-perceptions, lower self-esteem, and more negative effect balance than their low social comparison counterparts after engaging in the brief social comparison on Facebook (De Vries & Kühne, 2015).

Many studies have also shown that social media use causes individuals to create negative social comparisons with the people that they follow or are friends with on social media websites, which leads to negative effects on self-report (Warrender & Milne, 2020). This constant comparing to others can lead to psychological issues such as depression, anxiety, and low self-esteem (Warrender & Milne, 2020) (The Jed Foundation, 2021).

Based on the above, we suggest that Instagram will follow the same pattern as other social media:

H1: Instagram use increases social comparison.

2.8. Closeness of relationships & Social Networking Sites (SNSs) use

A fundamental dimension along which all social and personal relationships vary is closeness. One of the biggest differences in the lives of current teenagers and young adults, compared to earlier generations, is that they spend much less time connecting with their peers in person and more time connecting electronically, principally through social media (Cipolletta et al., 2020). Communication strengthens personal relationships and connects people. However, users will not perceive all social media platforms to be equally "intimate," and these individual differences may account for differing effects on emotional well-being (Liu et al., 2019). A study concluded that the less people used social media, the less depressed and lonely they felt (Youssef, 2020). Another study also found that people

report feeling socially isolated when spending more time on social media however it is not clear if people spending more time on social media end up feeling isolated or if already more isolated people, spend more time on social media as a way of compensation (Rapaport, 2017). However, given the positive impact social media can have, we suggest that Instagram can strengthen the feelings of closeness in the relationships.

Based on the above, we suggest that:

H1: Instagram use supports the closeness of relationships.

3. METHODOLOGY

This study aims to understand if using Instagram has any impact on the user's happiness; to provide further insight as to any relation between Instagram use and feelings of happiness.

The majority of the existing documentation for the use of social media and Instagram in particular, focuses on the negative aspects of its interaction, such as addiction and social anxiety on individuals with tendency for social anxiety. However, could it at the same time promote positive aspects, such as self-acceptance and a positive outlook for life? Is there any influence of Instagram on how happy we feel? To measure happiness, we broke happiness down to self-esteem, social-comparison, life satisfaction and how close we consider our relationships to be.

Going a step further from the (at the time of this investigation) already published studies, the objective is to focus solely on Instagram and to try and gain understanding from a wider, more diverse, more dispersed population/target group, with different ages, education background, etc. and not specifically from one location/university. This will support in having an independent sample, with minimized risk for specific conditioned characteristics of the sample that cannot be evaluated (e.g. trend within a specific university/institution, location, etc.). In this study it was questioned whether Instagram has any positive effects on the individuals' reported happiness and in particular whether this has any effect on their self-acceptance, life satisfaction, social comparison and the closeness of their relationships. We also tried to understand the role the personality traits and the demographic variables, age and gender, play on this; to understand the profile of individuals being most/least affected.

For this study, a survey was built in order to collect feedback from Instagram users. The survey was anonymous and self-reported. Being self-reported entails the dangers of lack of objectivity in understanding the motives, contains biases, conscious, such as social desirability and personal view, and subconscious, such as memory and personal understanding. However, it is indeed a very strong approach on explaining one's feelings and ultimately such a personal topic such as happiness. The survey provided quantitative outcomes to support the identification of any correlation between the use of Instagram and its impact on our happiness, with happiness being expressed as self-esteem, life satisfaction and the closeness in our relationships. Previous studies made on similar topics took advantage of the survey methodology. However usually with a limited participant target.

The tool for creating the survey was Qualtrics in collaboration with Nova IMS University (https://novaims.eu.qualtrics.com). The survey, which was in English language, was then shared online on Amazon Mechanical Turk (www.mturk.com). This allowed for users from different geographic locations to provide their feedback. The results were analysed with IBM SPSS Statistics.

The survey was shared and made available on the 16th of November 2021 and closed on the 20th of November 2021 after having received a satisfactory number of replies. SPSS recorded 386 different response/users, out of which 348 were completed and 38 were not completed. The missing values were excluded/not considered. 236 (61.1%) were male and 32.1% female. All the participants were 21 years old and older, with 37% being between 21 and 30 years old, 37.8% between 31 and 45 years old, 15.3% 46 to 59 years old and 3.1% 60 years old or older.

At the beginning of the survey, it was requested that only people having Instagram accounts proceed and undertake the survey. In the process of the survey sharing and collecting the answers, no

unexpected event occurred. The survey contained no mandatory questions. The participants were invited to complete the online survey in exchange for credit through AWS Amazon Turk.

Existing studies indicate that different personality traits might be affected differently by Instagram (Lampropoulos et al., 2022), so we initially aimed for understanding the personality profile/ personality traits of each respondent. To do so, a short personality test was introduced. It contained 4 Likert style questions, with 7-point scales, from strongly disagree to strongly agree.

The personality test was found online and is an adaptation of the Myers-Briggs personality types. In personality typology, the Myers–Briggs Type Indicator (MBTI) is an introspective self-report questionnaire attempting to assign four personality traits: introversion or extroversion, sensing or intuition, thinking or feeling and judging or perceiving.

For the first question, with 7 sub-questions, it was intended to identify extrovert or introvert traits. The higher the level of agreement in these questions, the more extroverted traits the individual appears to have.

For the second question, with 7 sub-questions, it was intended to identify sensing or intuition traits. The higher the level of agreement in these questions, the more sensing, than intuition, traits the individual appears to have.

For the third question, with 4 sub-questions, it was indented to identify thinker over feeler personality traits. The higher the level of agreement in these questions, the more thinker, over feeler, traits the individual appears to have.

For the fourth question, with 5 sub-questions, it was intended to identify judger over perceiver personality traits. The higher the level of agreement in these questions, the more judger traits the individual appears to have.

Following, a Likert style question with 3 sub-questions was introduced measuring how happy the respondent feels, independently of Instagram. These questions were based on the Subjective Happiness scale. The Subjective Happiness Scale (SHS) is a 4-item self-report measure developed to assess an individual's overall happiness as measured through self-evaluation (Alquwez et al., 2021). The response format is a 7-point Likert-type scale. The SHS has a strong correlation with multidimensional wellbeing measures, such as positive and negative affect and satisfaction. Available studies indicate that the SHS can provide valid information about individuals' happiness, wellbeing, and living standards (Alquwez et al., 2021).

Next, the use of Instagram was checked: how many profiles each respondent follows, if they follow only people they know personally, how many followers they have, if their Instagram profile is private or public and why, how often they connect, like or comment and post on Instagram, how much time they spend on Instagram, if they have more than one Instagram profile, why they use Instagram, if they obtain income from Instagram and how important is Instagram for them.

To increase the reliability and validity of the survey, questionnaires already developed and tested for achieving their objective were used, after being adapted for the scope of this study and specifically for the use of Instagram. As mentioned, happiness was broken down to self-esteem, life satisfaction, social comparison and relationship closeness.

Therefore, scales reliable for measuring these factors were adapted with the use of Instagram and included in our survey.

The Rosenberg Self-Esteem Scale (RSES)

The Rosenberg self-esteem scale (RSES), developed by the sociologist Morris Rosenberg, is a self-esteem measure extensively used in social science research (Rosenberg, 1965). It is a self-report scale which measures the individual's feelings of self-worth. The participants have to report the extent to which they agree with statements of general feelings about themselves on a Likert-type scale. The Rosenberg self-esteem scale is considered a reliable and valid quantitative tool for self-esteem assessment (Rosenberg, 1965).

For the purpose of this study and in order to evaluate if Instagram impacts our self-esteem, the Rosenberg Self-Esteem Scale was adapted to Instagram use and included in our questionnaire. At the time of the analysis, the questions with negative connotation, sub questions 2, 5, 6, 8, and 9, were reversed in order for all questions to be comparable. After this transformation, higher scores represent higher self-esteem supported by Instagram.

The Life Satisfaction scale (LSS)

The Satisfaction with Life Scale (SWLS), called Life satisfaction in this study, is a Likert scale instrument designed to measure satisfaction with one's life (Diener, Emmons, Larsen & Griffin 1985). Diener, Emmons, Larsen and Griffith have conducted a series of validation studies showing that the SWLS is reliable and content appropriate for a wide range of groups (Diener, Emmons, Larsen & Griffin 1985).

In order to evaluate if Instagram impacts life satisfaction, the Life Satisfaction Scale was adapted to Instagram used and included in our questionnaire. Higher scores represent higher life satisfaction supported by Instagram.

The Social Comparison Orientation scale (SCOS)

The Iowa-Netherlands Comparison Orientation Measure, or called for convenience Social Comparison Orientation scale in this study, is a Likert scale measuring one's tendency to make social comparisons (Schneider, Schupp, 2011) (Schneider & Schupp, 2013). Gibbons and Buunk created an instrument that measures the tendency to engage in social comparison and captures central aspects of the self, the other, and the psychological interaction between the two (Schneider, Schupp, 2011) (Schneider & Schupp, 2013). The 2010 SOEP (Socio-Economic Panel Study) paper analysed the validity of the INCOM scale and confirmed the measurement instrument as valid and effective. It was also shown that even

shortened version of the questionnaire is an excellent model fit and proved to be a reliable and efficient indicator to evaluate the individual disposition towards social comparison (Schneider, Schupp, 2011) (Schneider & Schupp, 2013).

In order to evaluate if Instagram promotes or not social comparison, the Social Comparison Orientation Scale was adapted for Instagram use and included in our questionnaire. At the time of the analysis, the questions with negative connotation (negative towards the increase of social comparison), sub questions 3 and 7, were reversed in order for all questions to be comparable. After this transformation, higher scores represent higher levels of social comparison through Instagram.

The Unidimensional Relationship Closeness Scale (URCS)

The Unidimensional Relationship Closeness Scale (URCS) is a self-report scale measuring the closeness of social and personal relationships (Dibble et al., 2012). A fundamental dimension along which all social and personal relationships vary is closeness. There are suggestions that the connections social media users form electronically are less emotionally satisfying, leaving them feeling socially isolated. The results of existing studies show that the scale is unidimensional, with high reliability and validity evidence across relationship types (Dibble et al., 2012).

In order to evaluate if Instagram promotes how close we feel in our relationships, the Unidimensional relationship closeness scale (URCS) was adapted for Instagram use and included in our questionnaire. At the time of the analysis, the questions with negative connotation, sub questions 6 and 8, were reversed in order for all questions to be comparable. After this transformation, higher scores represent higher relationship closeness supported by Instagram.

To facilitate the analysis, the Likert-type scales of the Instagram use questions were all fitted to a range on a 7-point Likert-type scale, from Strongly Disagree to Strongly Agree, where the participants were asked to rate the degree of agreement. Then, the possible answers for the Likert-type questions were transformed to a numerical scale from 1 to 7, with the “strongly disagree” option being assigned to 1 and “strongly agree” to 7. All tests were performed at 95% confidence level (significance level $\alpha = 0,05$) and are two-tailed (region of rejection is on both the sides).

At the end of the survey, the demographic characteristics of the participants were measured; gender, age, education level, employment status and country of residence.

A copy of the full questionnaire can be found in the Appendix.

As a first step for the analysis, the median of each of the subsections of the questionnaire were calculated. It was used in order to represent each set of data of each of the Likert-style sub questionnaires by a single number. There is some disagreement in education and research about whether parametric tests work on Likert-scale data. Some researchers argue that there is no significant difference between the results for parametric and non-parametric tests, except for skewed, peaked, or multimodal distributions (Vickers, 2005). As a general guideline, for a series of individual questions with Likert responses, the data are handled as ordinal variables. The median is considered as “robust

against outliers“, in comparison to the mean, and thus better representative of skewed distributions, such as the ones observed in this survey and the median generally gives a more appropriate idea of the data distribution (Schremmer, 2019). Additionally, it is also argued that if you have big sample size, Likert type data can be considered for statistical operations and the mean can be calculated. For Likert scale items, using the mean is not indicated because the mean of two nominal statements cannot be calculated, and the most appropriate method as measure of central tendency is the median. For this study, we followed a more conservative approach and the Likert scale data were treated as ordinal data.

The first step to understand the analysis methodology that we could use based on our data, was to test the normality for the different variables. For this, the Kolmogorov-Smirnov test for normality was performed and the results showed that the variables handled in this study do not follow a normal distribution (Geert van den Berg, n.d.). Due to disagreement in literature, and given the importance of certainty regarding the variables' distribution for the following tests, the Shapiro-Wilk test was also checked, confirming that the distributions of the variables in question are not normal. This was also confirmed by the graphical representations (histograms). The results can be found in the Appendix. Normality was tested for all variables used (not only the dependent).

The subsequent analysis methodology respected the outcome of the normality tests.

The one-sample Wilcoxon signed rank test was used to determine whether the adapted scales, SCOS, LSS, RSES and URCS, indicate impact between social closeness, life satisfaction, self-esteem and relationship closeness respectively and Instagram use. The one-sample Wilcoxon signed rank test is a non-parametric alternative to one-sample t-test when the data cannot be assumed to be normally distributed. As this test is a two-tailed test, no direction is specified in its outcome, which was confirmed by the graphs (and the respective p-value divided in half).

Given the indications from the literature review, it was intended to study any correlation between the different personality traits and the effect of Instagram use on our happiness, meaning, how different personality traits respond to using Instagram. For this, and after analysing the type of data we collected, the Spearman's Rank correlation coefficient, Spearman's correlation for short, technique was applied to measure the association between each pair of variables. The Spearman's correlation is a nonparametric measure of the strength and direction of association that exists between two variables measured on ordinal, interval or ratio scale. It is used for data that have failed the assumptions necessary for conducting the Pearson's correlation (Spearman's Rank-Order Correlation - a Guide to When to Use It, What It Does and What the Assumptions Are., n.d.).

Following on the analysis, the Kruskal-Wallis H test and the Mann–Whitney U test were applied. Both tests work as alternative for ANOVA when the assumptions of the latter are violated, as in our case. The Kruskal-Wallis H test was applied for 3 or more levels and the Mann-Whitney U test was used for 2 levels. Both tests require independence, between subjects, and use summed rank scores to determine the results.

Additionally, it was evaluated if there is a significant difference on how Instagram impacts the individuals in the 4 adapted scales, SCOS, LSS, RSES and URCS, depending on 4 different personality traits, by how important one considers Instagram and by how happy one considers oneself.

4. RESULTS AND DISCUSSION

In the personality traits sub questions, with scales from 1, being assigned to strongly disagree, to 7, being assigned to strongly agree, in subsequent order, the participants (N=358) in our sample demonstrated high results in all tested personality traits; high level of extroversion (M=5.65, SD=0.915), high level of sensing (M=5.84, SD=0.749), high level of thinker traits (M=5.77, SD=0.737) and high level of judger personality traits (M=5.69, SD=0.82). In regards to the overall happiness, the participants reported high levels of happiness (M=5.74, SD=0.878). For the importance of Instagram, the participants indicated to finding it mildly important (M=3.91, SD=0.75).

Normality

The first step, and in order to understand which are the appropriate tests for the analysis, the normality of the variables was tested. All of the tested variables presented a significance level less than 0,05 and thus, based on the Kolmogorov-Smirnov test for normality and the Shapiro-Wilk test, we concluded that they do not follow a normal distribution.

Impact of Instagram on happiness

In order to understand if Instagram has impact on happiness, and specifically on social comparison, life satisfaction, self-esteem and relationship closeness, we continued the analysis by performing the one-sample Wilcoxon signed rank tests on the median of each of the scales.

The available options for reply were from strongly disagree to strongly agree, being assigned from 1 to 7 respectively, with the option “neither agree nor disagree” being assigned the number 4. When Instagram has no impact, the participants of the respective adapted scale select the option from “neither agree nor disagree” to strongly disagree; thus, the scale median is equal to or less than 4. For the sub-questionnaires that were transformed due to questions with negative connotations, the SCOS, RSES and URCS, the new average was calculated in each case, taking into consideration how many transformations were made in each sub-questionnaire.

Social comparison (Social Comparison Orientation Scale)

H1: Instagram use increases social comparison.

Results: The null hypothesis was rejected; the observed value MH1=5.04 (SD=1.021), in comparison to MH0≤2.86, suggest a positive impact of Instagram in social comparison. Thus, it is indicated that Instagram is a tool that enables and facilitates social comparison.

Life satisfaction (Life Satisfaction Scale)

H1: Instagram supports its users in feeling satisfied with their lives.

Results: The null hypothesis was rejected; the observed value MH1=5.51 (SD=1.044), in comparison to MH0≤4, suggest a positive impact of Instagram in life satisfaction.

Self-esteem (Rosenberg Self-Esteem Scale)

H1: Instagram use has negative impact on self-esteem.

Results: The null hypothesis was rejected; the observed value MH1=-5 (SD=1.655), in comparison to MH0≥0, suggest a negative impact of Instagram on self-esteem.

Closeness of relationships (Unidimensional Relationship Closeness Scale)

H1: Instagram use supports the closeness of the relationships.

Results: The null hypothesis was rejected; the observed value MH1=5 (SD=0.971), in comparison to MH0≤2, suggest a positive impact of Instagram to the closeness of the relationships.

These above findings give an indication that Instagram might play contradictory role in impacting its users' happiness. Instagram seems to facilitate social comparison and have negative impact on self-esteem. At the same time, Instagram use seems to be increasing the relationship's closeness and life satisfaction.

Relation of personality traits and impact of Instagram on happiness

Correlation Coefficient

The Spearman's rank correlation was used to measure how the different scales co-vary by pair. There were no correlations observed in any of the tests. Specifically, for each of the 4 pairs of personality traits, introversion/ extroversion, sensing/ intuition, thinking/ feeling and judging/ perceiving, with each of the SCOS, LSS, RSES and URCS, the Spearman's correlation showed significant but with correlation coefficient approximately zero.

The same results were observed with the Happiness, Importance of Instagram and each of the SCOS, LSS, RSES and URCS. How many followers and how many profiles one follows did not demonstrate significant correlation with the adapted scales. Also, the amount of time spent on Instagram shows significant result, with zero correlation for the SCOS, LSS and URCS.

Following the lack of evidence of correlation, we proceeded with the non-parametrical Kruskal Wallis H test.

Kruskal-Wallis H test

As it was verified that the variables do not follow normal distribution, the ANOVA assumptions were not met. Thus, the Kruskal-Wallis H test, the rank-based nonparametric alternative to ANOVA, was used to determine if there are statistically significant differences between the different groups/ categories. Meaning, it was tested whether the impact of Instagram is the same for the different levels of each personality trait or if users with different personality traits use and are impacted differently by Instagram.

The null hypothesis H0 is that the population medians are equal and that there is no difference between categories.

Each of the scales SCOS, LSS, RSES and URCS were tested with each of the different personality traits, introversion/ extroversion, sensing/ intuition, thinking/ feeling and judging/ perceiving.

Specifically, we tested the following hypothesis:

Regarding how more extroverted traits influence the impact of Instagram on the individual:

SCOS: H1a: The impact of Instagram on social comparison is not the same for users with different levels of introvert/ extrovert personality traits.

LSS: H1b: The impact of Instagram on life satisfaction is not the same for users with different levels of introvert/ extrovert personality traits.

RSES: H1c: The impact of Instagram on self-esteem is not the same for users with different levels of introvert/ extrovert personality traits.

URCS: H1d: The impact of Instagram on the closeness of relationships is not the same for users with different levels of introvert/ extrovert personality traits.

Results

For all of the above tests, the p-value was less than the significance level, so the sample indicated rejection of the null hypothesis. This suggest that individuals with different levels of extroversion traits are impacted by Instagram differently in regards to social comparison, to its impact on their self-esteem and life satisfaction and the promotion of closeness in their relationships.

Regarding how more sensing traits influence the impact of Instagram on the individual:

SCOS: H2a: The impact of Instagram on social comparison is not the same for users with different levels of sensing/ intuition personality traits.

LSS: H2b: The impact of Instagram on life satisfaction is not the same for users with different levels of sensing/ intuition personality traits.

RSES: H2c: The impact of Instagram on self-esteem is not the same for users with different levels of sensing/ intuition personality traits.

URCS: H2d: The impact of Instagram on the closeness of relationships is not the same for users with different levels of sensing/ intuition personality traits.

Results

For all of the above tests, the p-value was less than the significance level, so the sample indicated rejection of the null hypothesis. This suggest that individuals with different levels of sensing traits are impacted by Instagram differently in regards to social comparison, to its impact on their self-esteem and life satisfaction and the promotion of closeness in their relationships.

Regarding how more thinking personality traits influence the impact of Instagram on the individual:

SCOS: H3a: The impact of Instagram on social comparison is not the same for users with different levels of thinker/ feeler personality traits.

LSS: H3b: The impact of Instagram on life satisfaction is not the same for users with different levels of thinker/ feeler personality traits.

RSES: H3c: The impact of Instagram on self-esteem is not the same for users with different levels of thinker/ feeler personality traits.

URCS: H3d: The impact of Instagram on the closeness of relationships is not the same for users with different levels of thinker/ feeler personality traits.

Results

For all of the above tests, the p-value was less than the significance level, so the sample indicated rejection of the null hypothesis. This suggest that individuals with different levels of thinking/ feeling personality traits are impacted by Instagram differently in regards to social comparison, to its impact on their self-esteem and life satisfaction and the promotion of closeness in their relationships.

Regarding how more judging personality traits influence the impact of Instagram on the individual:

SCOS: H4a: The impact of Instagram on social comparison is not the same for users with different levels of judger/ perceiver personality traits.

LSS: H4b: The impact of Instagram on life satisfaction is not the same for users with different levels of judger/ perceiver personality traits.

RSES: H4c: The impact of Instagram on self-esteem is not the same for users with different levels of judger/ perceiver personality traits.

URCS: H4d: The impact of Instagram on the closeness of relationships is not the same for users with different levels of judger/ perceiver personality traits.

Results

For all of the above tests, the p-value was less than the significance level, so the sample indicated rejection of the null hypothesis. This suggest that individuals with different levels of judging/ perceiving personality traits are impacted by Instagram differently in regards to social comparison, to its impact on their self-esteem and life satisfaction and the promotion of closeness in their relationships.

Additionally, we also tested the importance an individual gives to Instagram and how happy an individual self-reports independently of Instagram, through the scales SCOS, LSS, RSES and URCS. The p-values for all tests were less than the significance level, so the results indicated rejection of the null hypothesis. This suggests that how important an individual considers Instagram mediates the impact Instagram will have on their happiness. Similarly, how happy an individual feels independently of Instagram is reflected on how Instagram impacts their happiness in return.

The above results suggest that Instagram seems to be influencing the happiness of their users, through facilitating social comparison, impacting the self-esteem and life satisfaction and promoting the closeness of relationship, however this impact depends on the personality traits of the individual.

The above tests do not specify which testing groups were different, for which further analysis was performed.

Graphical review analysis

Having evidence that the individuals with different results on the 4 evaluated personality traits seem to be impacted differently by the use of Instagram, we proceeded with further analysis to understand which personality traits seem to be more prone to which effect of Instagram.

The following observations were made:

Higher levels of the 4 evaluated personality traits of extrovert, sensor, thinker and judger seem to be associated with increased impact by the use of Instagram in all scales: increased social comparison, life satisfaction, closeness of relationships and decreased self-esteem.

Based on this, we understand that individuals with these personality traits demonstrate a tendency to perform more social comparisons while on Instagram, which could be related with the observed decreased self-esteem. However, it is suggested that Instagram supports these individuals appreciate more their lives, as they report higher levels of life satisfaction after using Instagram. Additionally, individuals with these personality traits seem to be using Instagram to increase the closeness of their relationships.

The same is observed with individuals rating Instagram as more important and with individuals rating higher on happiness.

From the graphical representations of the above, the most distinctive differences seem to be:

Higher extroversion traits seem to be associated with higher impact of Instagram on life satisfaction and the closeness of relationships.

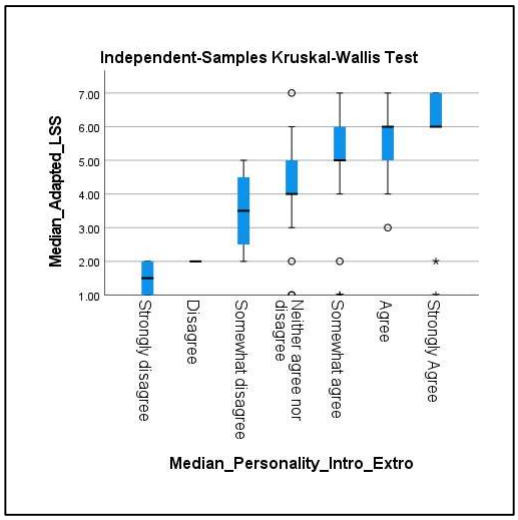


Figure 1.1

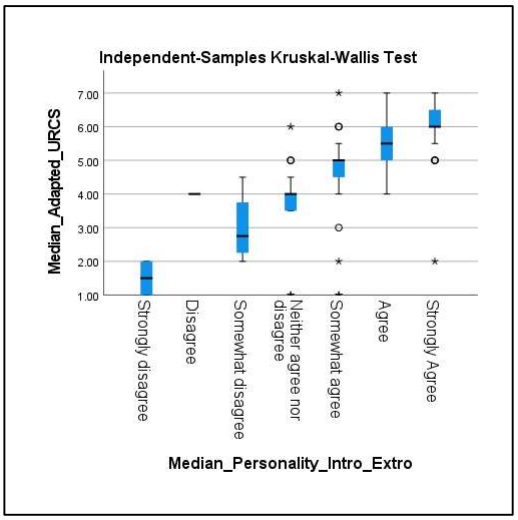


Figure 1.2

Higher sensor traits seem to be associated with higher impact of Instagram on social comparison and the closeness of relationships.

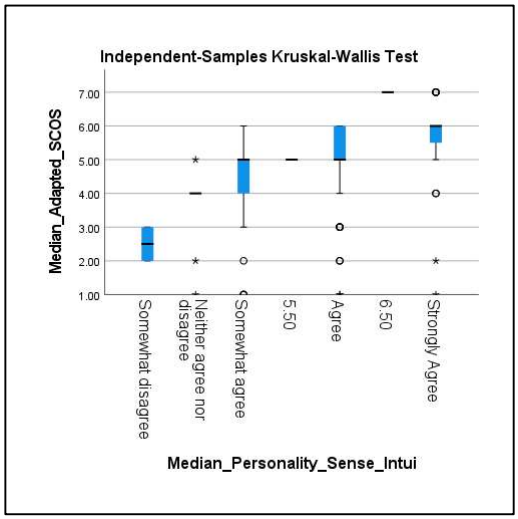


Figure 4.2

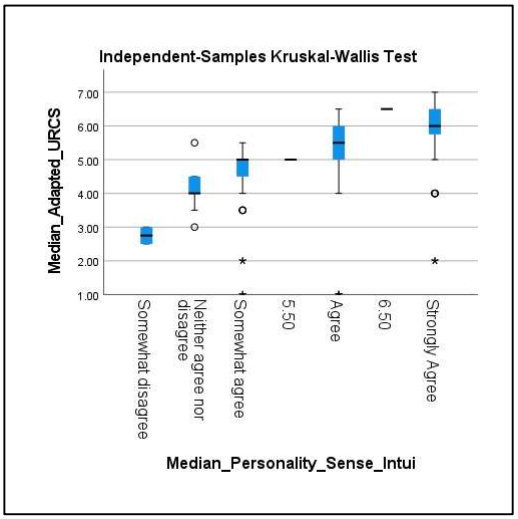


Figure 4.2

Higher thinker traits seem to be associated with higher impact of Instagram on life satisfaction and the closeness of relationships.

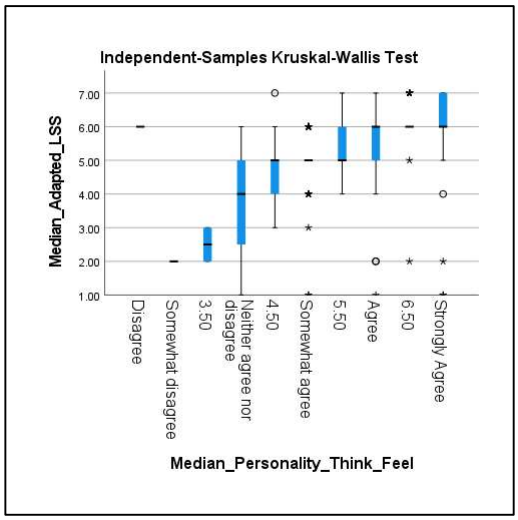


Figure 3.3

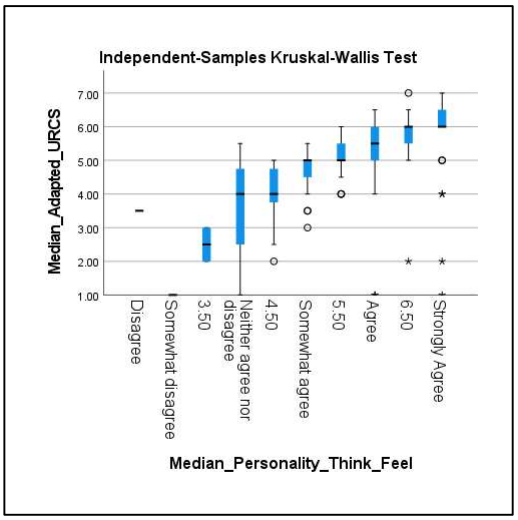


Figure 3.2

Higher judger traits seem to be associated with higher impact of Instagram on life satisfaction and the closeness of relationships.

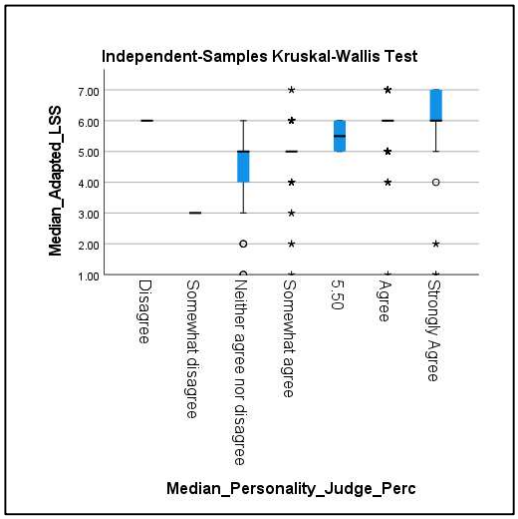


Figure 4.4

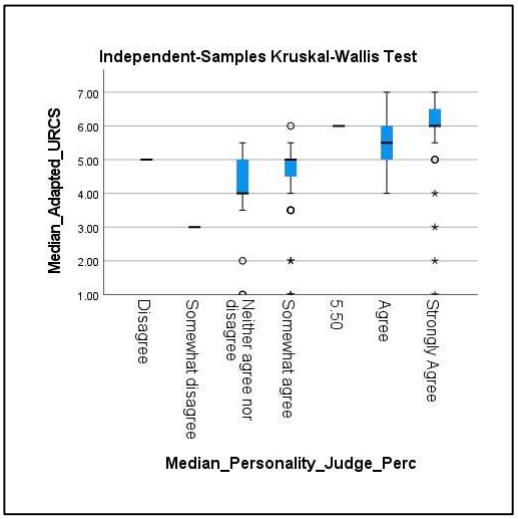


Figure 4.2

Users reporting higher levels of happiness also report bigger impact from Instagram on their life satisfaction and the closeness of relationships.

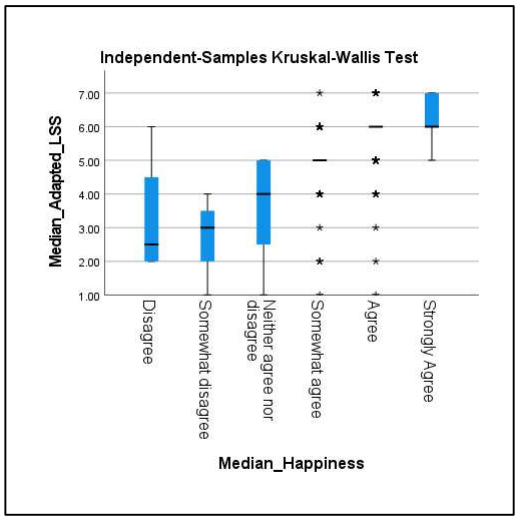


Figure 5.5

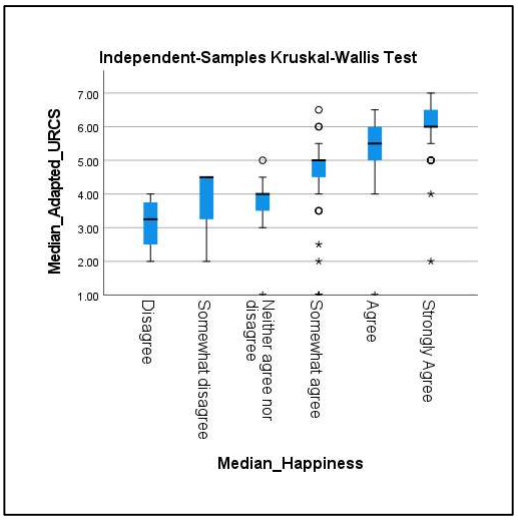


Figure 5.2

Demographic information and impact of Instagram

Regarding the different age groups and the impact of Instagram, the Kruskal-Wallis H test did not show significant results and thus we cannot reject the null hypothesis that the impact of Instagram on social comparison, life satisfaction, self-esteem and the closeness of relationships is the same across the different age categories, meaning that age does not alter the impact of Instagram on the individual.

The same results were observed for the gender groups.

All the results and tables can be found in the Appendix.

5. CONCLUSIONS

The performed tests suggest that Instagram can impact its users' happiness. This was indicated by evaluating the impact of Instagram on 4 measures: social comparison, self-esteem, life satisfaction and closeness of relationship. The results suggest that Instagram is a platform that facilitates social comparison and might be contributing negatively to self-esteem. At the same time, there are indications that Instagram supports the closeness of relationships and life satisfaction. However, whether the impact of Instagram is indeed positive, negative or insignificant is mediated by the personality traits of the users themselves.

The overall outcome of this study regarding the impact of Instagram comes in alignment with existing literature for the impact of SNS in general. Similar to the other SNSs, Instagram also seems to be serving as a tool enabling social comparison. Increased social comparison was accompanied by decreased self-esteem. It was additionally suggested that life satisfaction seems to be improving by using Instagram. In regards to the closeness of relationships, Instagram seems to be confirming the literature review of the social media in general. Users reported that Instagram supports them in increasing the closeness of their relationships. This finding was consistent across all personality types.

It was also shown that users with different personality traits, as defined by an adaptation of the Myers-Briggs test, seem to be reacting differently to Instagram use. Individuals higher on extrovert, sensor, thinker and judger personality traits report higher on all scales and so, it is understood that their happiness is influenced positively by using Instagram, despite the negative impact on self-esteem.

This study also contributes with insight over the impact of Instagram on adults; an age group that has been examined less for its SNSs use and impact. The results demonstrated that age is not a differentiating factor for the impact of Instagram on happiness amongst adults. This finding allows for expanding and applying the knowledge obtained from studies with limited age groups to wider populations.

As this study suggests that the use of Instagram indeed influences happiness, through social comparison, self-esteem, life satisfaction and closeness of the relationships, depending on the personality traits of the individual, it is interesting not to label the tool itself but in fact take into consideration our individual inclinations and what is appropriate usage for each individual. Understanding these relationships will lead to better utilization of Instagram and use of their potential to positively influence happiness.

6. LIMITATIONS AND RECOMMENDATIONS FOR FUTURE WORKS

This study is not without limitations. The data were self-report and therefore can have been impacted by intentional or unintentional biases, as well as differences in perception, understanding and evaluation between individuals (Bauhoff, 2014). In addition, the cross-sectional nature of the study did not allow the drawing of causal relationships among the variables examined. Future studies could be longitudinal and use more in-depth qualitative methods, such as interviews, for more detailed insights. Also, for a comparative study of this kind, a more complex personality inventory might be more appropriate to find differences (Bäckström, 2020). Additionally, it should be stressed that subgroup analyses come with a high chance of false positive results (Walsh, 2021).

The relationship between Instagram use and happiness is varied and complex. For such a multidimensional topic, such as happiness, there are many other variables that affect it in a more significant way than Instagram, which were not included in this study (Lomas & VanderWeele, 2021) (Ferrara, 2015). Thus, the impact showed magnified in comparison to its representation in reality. Despite these limitations, it was indicated that Instagram can promote our happiness depending on our approach and view towards it.

Finally, it is worth mentioning that the questionnaire for this survey was shared at a time where the confinement and overall restrictions due to COVID-19 and its impact were already ongoing for more than a year at a global level. Major result of the confinement was the lack of physical social contact. SNSs overall, and Instagram in particular as indicated by the current study, support the closeness of the relationships, something undoubtedly more appreciated during the confinement period. Therefore, the overall positive impact of Instagram on users' happiness suggested in this study could have been influenced by this.

BIBLIOGRAPHICAL REFERENCES

Boyd, D. M., & Ellison, N. B. (2007). Social Network Sites: Definition, History, and Scholarship. Journal of Computer-Mediated Communication, 13(1), 210–230. https://doi.org/10.1111/j.1083-6101.2007.00393.x

Ortiz-Ospina, E. (2019). The rise of social media. Our World in Data. https://ourworldindata.org/rise-of-social-media

Kircaburun, K., & Griffiths, M. D. (2018). Instagram addiction and the Big Five of personality: The mediating role of self-liking. Journal of Behavioral Addictions, 7(1), 158–170. https://doi.org/10.1556/2006.7.2018.15

Shahbaznezhad, H., Dolan, R., & Rashidirad, M. (2021). The Role of Social Media Content Format and Platform in Users' Engagement Behavior. Journal of Interactive Marketing, 53, 47–65. https://doi.org/10.1016/j.intmar.2020.05.001

Sharma, G. (2022, March 9). Why do Brands Prefer Instagram over Other Social Media Platforms? SocialPilot. https://www.socialpilot.co/blog/instagram-over-other-social-media-platform

Lunden, I. (2014). TechCrunch is part of the Yahoo family of brands. https://techcrunch.com/2014/01/21/instagram-is-the-fastest-growing-social-site-globally-mobile-devices-rule-over-pcs-for-social-access/?guccounter=1

Mansoor, I. (2022). Instagram Revenue and Usage Statistics. Business of Apps. https://www.businessofapps.com/data/instagram-statistics/

Statista. (2022, July 27). Number of monthly active Instagram users 2013-2021. https://www.statista.com/statistics/253577/number-of-monthly-active-instagram-users/

Coulthard, N. (2018, November 30). Cyberpsychology. https://cyberpsychology.eu/article/view/10788

Mammoser, G. (2018, December 10). The FOMO Is Real: How Social Media Increases Depression and Loneliness. Healthline. https://www.healthline.com/health-news/social-media-use-increases-depression-and-loneliness

Banyai, F., Zsila, G., Király, O., Maraz, A., Elekes, Z., Griffiths, M. D., Andreassen, C. S., & Demetrovics, Z. (2017). Problematic Social Media Use: Results from a Large-Scale Nationally Representative Adolescent Sample. PLOS ONE, 12(1), e0169839. https://doi.org/10.1371/journal.pone.0169839

Kross, E., Verduyn, P., Demiralp, E., Park, J., Lee, D. S., Lin, N., Shablack, H., Jonides, J., & Ybarra, O. (2013). Facebook Use Predicts Declines in Subjective Well-Being in Young Adults. PLoS ONE, 8(8), e69841. https://doi.org/10.1371/journal.pone.0069841

Miller, C., Bubrick, J., PhD, & Hamlet, A. P. (2022, December 19). Does Social Media Use Cause Depression? Child Mind Institute. https://childmind.org/article/is-social-media-use-causing-depression/

Stewart, O. G. (2015). A critical review of the literature of social media's affordances in the classroom. E-Learning and Digital Media, 12(5–6), 481–501. https://doi.org/10.1177/2042753016672895

Kim, H., Schlicht, R., Schardt, M., & Florack, A. (2021). The contributions of social comparison to social network site addiction. PLOS ONE, 16(10), e0257795. https://doi.org/10.1371/journal.pone.0257795

Koutamanis, M., Vossen, H. G., & Valkenburg, P. M. (2015). Adolescents' comments in social media: Why do adolescents receive negative feedback and who is most at risk? Computers in Human Behavior, 53, 486–494. https://doi.org/10.1016/j.chb.2015.07.016

Valkenburg, P. M., Koutamanis, M., & Vossen, H. G. (2017). The concurrent and longitudinal relationships between adolescents' use of social network sites and their social self-esteem. Computers in Human Behavior, 76, 35–41. https://doi.org/10.1016/j.chb.2017.07.008

Rekman, L. (2022). 4 Psychological Reasons Why Visuals Matter on Instagram. Lethal Digital. https://www.lethal.com.au/4-psychological-reasons-why-visuals-matter-on-instagram/

Faelens, L., Hoorelbeke, K., Cambier, R., Van Put, J., Van De Putte, E., De Raedt, R., & Koster, E. H. (2021). The relationship between Instagram use and indicators of mental health: A systematic review. Computers in Human Behavior Reports, 4, 100121. https://doi.org/10.1016/j.chbr.2021.100121

Baker, D. A., & Algorta, G. P. (2016). The Relationship Between Online Social Networking and Depression: A Systematic Review of Quantitative Studies. Cyberpsychology, Behavior, and Social Networking, 19(11), 638–648. https://doi.org/10.1089/cyber.2016.0206

Jennewein, C., Baumann, A., & Lessmann, S. (2020). TO USE OR NOT TO USE: THE RELATIONSHIP BETWEEN PERSONALITY TRAITS AND INSTAGRAM USAGE. WI2020 Zentrale Tracks, 1561–1576. https://doi.org/10.30844/wi_2020_o3-jennewein

McAndrew, Frank. (2018). When Do personality Traits Predict Behavior?. Psychology today. https://www.researchgate.net/publication/328431975_When_Do_personality_Traits_Predict_Behavior

Global Social Media Statistics. (n.d.). DataReportal – Global Digital Insights. https://datareportal.com/social-media-users

Kircaburun, K., Alhabash, S., Tosuntaş, U. B., & Griffiths, M. D. (2018). Uses and Gratifications of Problematic Social Media Use Among University Students: a Simultaneous Examination of the Big Five of Personality Traits, Social Media Platforms, and Social Media Use Motives. International Journal of Mental Health and Addiction, 18(3), 525–547. https://doi.org/10.1007/s11469-018-9940-6

Kircaburun, K., Griffiths, M. (2018) "Instagram addiction and the Big Five of personality: The mediating role of self-liking." Journal of Behavioral Addictions, vol. 7, no. 1, Mar. 2018, pp. 158+. Gale OneFile: Health and Medicine, https://go.gale.com/ps/i.do?id=GALE%7CA534488420&sid=googleScholar&v=2.1&it=r&linkaccess=abs&issn=20625871&p=HRCA&sw=w&userGroupName=anon%7E3d4586a2

MacMillan, A. (2017, May 25). Why Instagram Is the Worst Social Media for Mental Health. Time. https://time.com/4793331/instagram-social-media-mental-health/

MEC-Media Education Centre (2010) https://oit.williams.edu/files/2010/02/using-images-effectively.pdf

De Paola, J., Hakoköngäs, E. J., & Hakanen, J. J. (2020). #Happy: Constructing and Sharing Everyday Understandings of Happiness on Instagram. Human Arenas, 5(3), 469–487. https://doi.org/10.1007/s42087-020-00149-z

Cherry, K. (2022). How Do Psychologists Define Happiness? (2022, November 7). Verywell Mind. https://www.verywellmind.com/what-is-happiness-4869755

Ackerman, C. E., MA. (2022, September 10). What Is Happiness and Why Is It Important? (+ Definition). PositivePsychology.com. https://positivepsychology.com/what-is-happiness/

Holak, B., & McLaughlin, E. (2017, May 26). Instagram. CIO. https://www.techtarget.com/searchcio/definition/Instagram

Seabrook, E. M., Kern, M. L., & Rickard, N. S. (2016). Social Networking Sites, Depression, and Anxiety: A Systematic Review. JMIR Mental Health, 3(4), e50. https://doi.org/10.2196/mental.5842

Krasnova, H., Wenninger, H., Widjaja, T. & Buxmann, P. (2013). Envy on Facebook: A Hidden Threat to Users' Life Satisfaction? International Conference on Wirtschaftsinformatik (WI) / Business Information Systems. https://www.researchgate.net/publication/256712913_Envy_on_Facebook_A_Hidden_Threat_to_Users%27_Life_Satisfaction

Pit, I. L., Veling, H., & Karremans, J. C. (2022). Does Passive Facebook Use Promote Feelings of Social Connectedness? Media and Communication, 10(2), 119–129. https://doi.org/10.17645/mac.v10i2.5004

Nesi, J., & Prinstein, M. J. (2015). Using Social Media for Social Comparison and Feedback-Seeking: Gender and Popularity Moderate Associations with Depressive Symptoms. Journal of Abnormal Child Psychology, 43(8), 1427–1438. https://doi.org/10.1007/s10802-015-0020-0

Hiltibran, N. (2021, August 19). Social Networking Sites, Depression, and Anxiety. Online CEUs – Aspira Continuing Education. https://aspirace.com/social-networking-sites-depression-and-anxiety/

Capurro, D., Cole, K., Echavarría, M. I., Joe, J., Neogi, T., & Turner, A. M. (2014). The Use of Social Networking Sites for Public Health Practice and Research: A Systematic Review. Journal of Medical Internet Research, 16(3), e79. https://doi.org/10.2196/jmir.2679

Rogowska, A. M., & Libera, P. (2022). Life Satisfaction and Instagram Addiction among University Students during the COVID-19 Pandemic: The Bidirectional Mediating Role of Loneliness. International Journal of Environmental Research and Public Health, 19(14), 8414. https://doi.org/10.3390/ijerph19148414

Hu, X. (2017, January 31). The Facebook Paradox: Effects of Facebooking on Individuals' Social Relationships and Psychological Well-Being. Frontiers. https://www.frontiersin.org/articles/10.3389/fpsyg.2017.00087/full

Chusniah, T., Wildyarti, R. Y., Danyalin, A. M., & Shodiq, A. (2021). Social Comparison as a Predictor of Self-Esteem Amongst Instagram-Using Students during the Covid-19 Pandemic. KnE Social Sciences. https://doi.org/10.18502/kss.v4i15.8203

Bergagna, E., & Tartaglia, S. (2018). Self-esteem, social comparison, and Facebook use. Europe's Journal of Psychology, 14(4), 831–845. https://doi.org/10.5964/ejop.v14i4.1592

Orben, A., Dienlin, T., & Przybylski, A. K. (2019). Social media's enduring effect on adolescent life satisfaction. Proceedings of the National Academy of Sciences, 116(21), 10226–10228. https://doi.org/10.1073/pnas.1902058116

Warrender, D., & Milne, R. (2020). How use of social media and social comparison affect mental health. Nursing Times [online]; 116: 3, 56-59. https://www.nursingtimes.net/news/mental-health/how-use-of-social-media-and-social-comparison-affect-mental-health-24-02-2020/

O'Day, E. B., & Heimberg, R. G. (2021). Social media use, social anxiety, and loneliness: A systematic review. Computers in Human Behavior Reports, 3, 100070. https://doi.org/10.1016/j.chbr.2021.100070

Derks, D., Fischer, A. H., & Bos, A. E. (2008). The role of emotion in computer-mediated communication: A review. Computers in Human Behavior, 24(3), 766–785. https://doi.org/10.1016/j.chb.2007.04.004

Quintelier, E., & Theocharis, Y. (2012). Online Political Engagement, Facebook, and Personality Traits. Social Science Computer Review, 31(3), 280–290. https://doi.org/10.1177/0894439312462802

Vinney, C. (2022). What Is Uses and Gratifications Theory in Media Psychology? (2022, February 7). Verywell Mind. https://www.verywellmind.com/what-is-uses-and-gratifications-theory-in-media-psychology-5217572

Hossain, M. A. (2019). Effects of uses and gratifications on social media use. PSU Research Review, 3(1), 16–28. https://doi.org/10.1108/prr-07-2018-0023

Moreau, A., Laconi, S., Delfour, M., & Chabrol, H. (2015). Psychopathological profiles of adolescent and young adult problematic Facebook users. Computers in Human Behavior, 44, 64–69. https://doi.org/10.1016/j.chb.2014.11.045

Kayis, A. R., Satici, S. A., Yilmaz, M. F., Şimşek, D., Ceyhan, E., & Bakioğlu, F. (2016). Big five-personality trait and internet addiction: A meta-analytic review. Computers in Human Behavior, 63, 35–40. https://doi.org/10.1016/j.chb.2016.05.012

Drenth, A. J. (n.d.). Thinking, Feeling, Sensing & Intuition: A Closer Look at Jung's Functions. Personality Junkie. https://personalityjunkie.com/04/thinking-feeling-sensing-intuition-jung/

Owens, M. (2019, August 19). Sensing vs. Intuition. Truity. https://www.truity.com/myers-briggs/sensing-vs-intuition

Schenck, L. (2017, September 11). Myers-Briggs: 8 Introverted Personality Types. Mindfulness Muse. https://www.mindfulnessmuse.com/individual-differences/myers-briggs-8-introverted-personality-types

Alderson, J. (2022, October 31). Judging vs Perceiving: A Deep Dive into the Differences. So Syncd - Personality Dating. https://www.sosyncd.com/judging-vs-perceiving/

Skorek, M., Song, A. V., & Dunham, Y. (2014). Self-Esteem as a Mediator between Personality Traits and Body Esteem: Path Analyses across Gender and Race/Ethnicity. PLoS ONE, 9(11), e112086. https://doi.org/10.1371/journal.pone.0112086

Saiphoo, A. N., Dahoah Halevi, L., & Vahedi, Z. (2020). Social networking site use and self-esteem: A meta-analytic review. Personality and Individual Differences, 153, 109639. https://doi.org/10.1016/j.paid.2019.109639

Yang, H., Wang, J. J., Tng, G. Y. Q., & Yang, S. (2020). Effects of Social Media and Smartphone Use on Body Esteem in Female Adolescents: Testing a Cognitive and Affective Model. Children, 7(9), 148. https://doi.org/10.3390/children7090148

Yu, Y., Zhang, J., & Liu, J. (2022). The effect of online self-presentation on self-esteem of sensory impairments students: Mediation of social support. Journal of Affective Disorders Reports, 10, 100392. https://doi.org/10.1016/j.jadr.2022.100392

Burrow, A. L., & Rainone, N. (2017). How many likes did I get?: Purpose moderates links between positive social media feedback and self-esteem. Journal of Experimental Social Psychology, 69, 232–236. https://doi.org/10.1016/j.jesp.2016.09.005

Ferguson, C. J., Muñoz, M. E., Garza, A., & Galindo, M. (2013). Concurrent and Prospective Analyses of Peer, Television and Social Media Influences on Body Dissatisfaction, Eating Disorder Symptoms and Life Satisfaction in Adolescent Girls. Journal of Youth and Adolescence, 43(1), 1–14. https://doi.org/10.1007/s10964-012-9898-9

Cretti, C. (2015). The relationship between envy, life-satisfaction, and self-esteem for female readers of women's online personal lifestyle blogs | Semantic Scholar. https://www.semanticscholar.org/paper/The-relationship-between-envy,-life-satisfaction,-Cretti/82f3db65db95f9423cbce57f9a02169cf08a0273

Cherry, K. (2022). How Social Comparison Theory Influences Our Views on Ourselves. Verywell Mind. https://www.verywellmind.com/what-is-the-social-comparison-process-2795872

Wheeler, L., & Suls, J. (2019). A History of Social Comparison Theory. Social Comparison, Judgment, and Behavior, 5–31. https://doi.org/10.1093/oso/9780190629113.003.0001

De Vries, D. A., & Kühne, R. (2015). Facebook and self-perception: Individual susceptibility to negative social comparison on Facebook. Personality and Individual Differences, 86, 217–221. https://doi.org/10.1016/j.paid.2015.05.029

The Jed Foundation. (2021, July 30). Understanding social comparison on social media | JED. https://jedfoundation.org/resource/understanding-social-comparison-on-social-media/

Cipolletta, S., Malighetti, C., Cenedese, C., & Spoto, A. (2020). How Can Adolescents Benefit from the Use of Social Networks? The iGeneration on Instagram. International Journal of Environmental Research and Public Health, 17(19), 6952. https://doi.org/10.3390/ijerph17196952

Liu, D., Baumeister, R. F., Yang, C. C., & Hu, B. (2019). Digital Communication Media Use and Psychological Well-Being: A Meta-Analysis. Journal of Computer-Mediated Communication, 24(5), 259–273. https://doi.org/10.1093/jcmc/zmz013

Youssef, L. (2020, July 8). Social media use disorder and loneliness: any association between the two? Results of a cross-sectional study among Lebanese adults - BMC Psychology. BioMed Central. https://bmcpsychology.biomedcentral.com/articles/10.1186/s40359-020-00421-5

Rapaport, L. (2017, March 13). Social media linked to feelings of isolation in real life. U.S. https://www.reuters.com/article/us-health-isolation-social-media-idUSKBN16K2IN

Lampropoulos, G., Anastasiadis, T., Siakas, K., & Siakas, E. (2022). The Impact of Personality Traits on Social Media Use and Engagement: An Overview. International Journal on Social and Education Sciences, 4(1), 34–51. https://doi.org/10.46328/ijonses.264

Alquwez, N., Cruz, J. P., Alotaibi, N. S., & Alshammari, F. (2021). Validity and reliability of the Subjective Happiness Scale Arabic version among Saudi working women. Journal of Taibah University Medical Sciences, 16(6), 835–842. https://doi.org/10.1016/j.jtumed.2021.05.010

Rosenberg, M. (1965). Society and the adolescent self-image. Princeton, NJ: Princeton University Press. https://fetzer.org/sites/default/files/images/stories/pdf/selfmeasures/Self_Measures_for_Self-Esteem_ROSENBERG_SELF-ESTEEM.pdf.

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. Journal of Personality Assessment, 49, 71-75 https://fetzer.org/sites/default/files/images/stories/pdf/selfmeasures/SATISFACTION-SatisfactionWithLife.pdf

Schneider, S., Schupp, J. (2011). The Social Comparison Scale: Testing the Validity, Reliability, and Applicability of the Iowa-Netherlands Comparison Orientation Measure (INCOM) on the German Population, SOEPpapers on Multidisciplinary Panel Data, Research, No. 360, Deutsches Institut für Wirtschaftsforschung (DIW), Berlin. https://www.econstor.eu/bitstream/10419/150905/1/diw_sp0360.pdf

Schneider, S. M., & Schupp, J. (2013). Individual Differences in Social Comparison and its Consequences for Life Satisfaction: Introducing a Short Scale of the Iowa–Netherlands Comparison Orientation Measure. Social Indicators Research, 115(2), 767–789. https://doi.org/10.1007/s11205-012-0227-1

Dibble, J. L., Levine, T. R., & Park, H. S. (2012). The Unidimensional Relationship Closeness Scale (URCS): Reliability and validity evidence for a new measure of relationship closeness. Psychological Assessment, 24(3), 565–572. https://doi.org/10.1037/a0026265

Vickers, A. J. (2005). Parametric versus non-parametric statistics in the analysis of randomized trials with non-normally distributed data. BMC Medical Research Methodology, 5(1). https://doi.org/10.1186/1471-2288-5-35

Schremmer, D. (2019, July 24). Stuck in the middle – mean vs. median: when to use which? CliNFo.EU - Ideas, Tools, Knowledge & Best Practices in Clinical Research. https://www.clinfo.eu/mean-median/

Geert van den Berg, R. (2022). SPSS Kolmogorov-Smirnov Test - The Ultimate Guide. https://www.spss-tutorials.com/spss-kolmogorov-smirnov-test-for-normality/

Spearman's Rank-Order Correlation - A guide to when to use it, what it does and what the assumptions are. (n.d.-c). https://statistics.laerd.com/statistical-guides/spearmans-rank-order-correlation-statistical-guide.php

Bauhoff, S. (2014). Self-Report Bias in Estimating Cross-Sectional and Treatment Effects. SpringerLink. https://link.springer.com/referenceworkentry/10.1007/978-94-007-0753-5_4046?error=cookies_not_supported&code=672a2a1a-cfec-4551-a352-8479c0d5db5f

Bäckström, M. (2020, November 26). Five-Factor Personality Inventories Have a Competence-Related Higher-Order Factor Due to Item Phrasing. Frontiers. https://www.frontiersin.org/articles/10.3389/fpsyg.2020.557544/full

Walsh, E. (2021, August 3). Subgroup analyses may be misleading. Students 4 Best Evidence. https://s4be.cochrane.org/blog/2018/02/09/subgroup-analyses-may-be-misleading/

Lomas, T., & VanderWeele, T. J. (2021). The complex creation of happiness: Multidimensional conditionality in the drivers of happy people and societies. The Journal of Positive Psychology, 18(1), 15–33. https://doi.org/10.1080/17439760.2021.1991453

Ferrara, A. (2015). Happiness and the multidimensional nature of well-being https://www.siecon.org/sites/siecon.org/files/oldfiles/uploads/2015/10/Ferrara2.pdf

APPENDIX A

Copy of questionnaire:

Short Personality Test

Q1

With which of the following phrases do you identify yourself? Please select all applicable answers.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I am generally sociable.	○	○	○	○	○	○	○
I am usually focused on the outer world rathen than my inner world.	○	○	○	○	○	○	○
I get energy by spending time with others.	○	○	○	○	○	○	○
I talk a lot and start conversations.	○	○	○	○	○	○	○
I speak first, then think.	○	○	○	○	○	○	○
I am quick to take action.	○	○	○	○	○	○	○
I have many friends & many interests.	○	○	○	○	○	○	○

Q2

How do you see the world and gather information?

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I pay attention to the details.	○	○	○	○	○	○	○
I focus on the facts of the present.	○	○	○	○	○	○	○
I think in concrete terms.	○	○	○	○	○	○	○
I like practical things.	○	○	○	○	○	○	○
I am an active person.	○	○	○	○	○	○	○
I am accurate and observant.	○	○	○	○	○	○	○
I prefer to do things the established/ tested way.	○	○	○	○	○	○	○

Q3

How do you make your decisions?

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I make decisions based on facts and logic.	○	○	○	○	○	○	○
I am more interested in things and ideas than people and emotions.	○	○	○	○	○	○	○
I treat everyone the same, independently of their personal situation.	○	○	○	○	○	○	○
I am more scientific in describing the world.	○	○	○	○	○	○	○

Q4

Regarding planning:

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I am organized and structured.	○	○	○	○	○	○	○
I make plans in advance.	○	○	○	○	○	○	○
I do not enjoy not following the initial plan.	○	○	○	○	○	○	○
I am in control of my life and do not simply letting life happen.	○	○	○	○	○	○	○
I am good at finalizing decisions; "closing" topics and moving on.	○	○	○	○	○	○	○

Q5

Please rate how much each phrase is applicable to you: (Subjective Happiness Scale)

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
In general, I consider myself a very happy person.	○	○	○	○	○	○	○
Compared to most of my peers, I consider myself more happy.	○	○	○	○	○	○	○
I enjoy life regardless of what is going on, getting the most out of everything.	○	○	○	○	○	○	○

Use of instagram

Q6

How many Instagram profiles do you follow?

- ≤100
- 101 - 300
- 301 - 500
- 501 - 1000
- ≥1001

Q7

Do you follow only people you know personally?

- No
- Yes

Q8

How many followers do you have?

- ≤100
- 101 - 300
- 301 - 500
- 501 - 1000
- ≥1001

Q9

Is your Instagram profile private or public?

- Private
- Public

Q10

Based on your answer in the previous question, why did you chose to have private/ public Instagram profile?

Q11

How often ... ?

	Never	Few times per month	Once every few days	Once per day	Multiple times per day
How often do you connect to Instagram?	○	○	○	○	○
How often do you like/ comment on other people's posts?	○	○	○	○	○
How often do you post new content (photos/ videos) on Instagram?	○	○	○	○	○

Q12

How much time, approximately, do you spend on Instagram daily (in minutes):

Q13

Do you have more than one Instagram account?

- No
- Yes; How many profiles do you have?

Q14

Why do you use Instagram? Please choose all applicable answers.

	Tick if applicable
To connect with my friends	☐
To see news of celebrities	☐
To follow-up on sports	☐
For culinary inspiration	☐
For travel inspiration	☐
For decor inspiration	☐
For fashion/ make-up inspiration	☐
Other, please specify:	☐

Q15

Do you usually engage (like/ comment) on the posts you see?

- ○ No
- ○ Yes
- ○ Depends; please specify

Q16

Can the feedback you get on a post you made (number of likes, comments) change your feelings towards that post?

- ○ No
- ○ Yes
- ○ Depends; Please specify:

Q17

	Not at all important	Slightly important	Moderately important	Very important	Extremely important
Do you consider Instagram an important tool of your every day life?	○	○	○	○	○
Does Instagram play an important role in your connection/ communication with others?	○	○	○	○	○
Overall, how important is Instagram for you?	○	○	○	○	○

Q18

Do you obtain income from Instagram?

- ○ No
- ○ Yes
- ○ I prefer not to answer

Adapted Social Comparison Orientation Scale

Q19

Please rate how much you agree with each phrase:

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
On Instagram, I often compare how my loved ones (boy/girlfriend, family members, etc.) are doing with how others are doing.	○	○	○	○	○	○	○
On Instagram I always pay a lot of attention to how I do things compared with how others do things.	○	○	○	○	○	○	○
I am not the type of person who compares often with others on Instagram.	○	○	○	○	○	○	○
I often like to talk with others on Instagram about mutual opinions and experiences.	○	○	○	○	○	○	○
I often try to find out on Instagram what others think who face similar problems as I face.	○	○	○	○	○	○	○
If I want to learn more about something, I try to find out on Instagram what others think about it.	○	○	○	○	○	○	○
I never consider my situation in life relative to that of other people on Instagram.	○	○	○	○	○	○	○

Adapted Life Satisfaction Scale

Q20

Please rate how much you agree with each phrase:

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Instagram helps me feel that in most ways my life is close to my ideal.	○	○	○	○	○	○	○
Instagram helps me feel that the conditions of my life are excellent.	○	○	○	○	○	○	○
Instagram helps me feel that I am satisfied with my life.	○	○	○	○	○	○	○
Instagram helps me feel that so far I have gotten the important things I want in life.	○	○	○	○	○	○	○

Adapted Rosenberg Self-Esteem Scale

Q21

Please rate how much you agree with each phrase:

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Using Instagram helps me feel satisfied with myself.	○	○	○	○	○	○	○
At times, after using Instagram, I think I am no good at all.	○	○	○	○	○	○	○
After using Instagram, I feel that I have a number of good qualities.	○	○	○	○	○	○	○
After using Instagram, I feel, I am able to do things as well as most other people.	○	○	○	○	○	○	○
After using Instagram, I feel I do not have much to be proud of.	○	○	○	○	○	○	○
Sometimes, after using Instagram, I feel useless.	○	○	○	○	○	○	○
After using Instagram, I feel that I'm a person of worth, at least on an equal plane with others.	○	○	○	○	○	○	○
After using Instagram, I wish I could have more respect for myself.	○	○	○	○	○	○	○
All in all, I am inclined to feel negative about myself after using Instagram.	○	○	○	○	○	○	○
After using Instagram, I feel positive towards myself.	○	○	○	○	○	○	○

Adapted URCS

Q22

Considering the people closest to you (partner, friends, etc.), please rate how much you agree with each phrase:

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Instagram helps the closeness with my partner and/ or friends increase.	○	○	○	○	○	○	○
When we are apart, interacting through Instagram helps me not be missing my partner and/ or friends.	○	○	○	○	○	○	○
My partner and/ or friends and I share important personal things with each other through Instagram.	○	○	○	○	○	○	○
I believe that Instagram supports my partner and/ or friends and I to have a strong connection.	○	○	○	○	○	○	○
My partner and/ or friends and I like spending time interacting on Instagram.	○	○	○	○	○	○	○
I prefer interacting face-to-face with my partner and/ or friends rather than on Instagram.	○	○	○	○	○	○	○
I use Instagram a lot to communicate with my partner and/ or friends.	○	○	○	○	○	○	○
Communicating with my partner and/ or friends via Instagram is as good as in real life.	○	○	○	○	○	○	○

Demographic

Q23

What is your gender?

- Male
- Female
- I prefer not to answer

Q24

What is your age?

- ≤20
- 21 - 30
- 31 - 45
- 46 - 59
- ≥60

Q25

What is the highest degree or level of education you have completed?

- High school/ Equivalent
- Bachelor degree/ Equivalent
- Master's degree/ Equivalent
- PhD or higher
- Trade/ Technical studies
- I prefer not to answer

Q26

Are you currently employed?

- No
- Yes
- I prefer not to answer

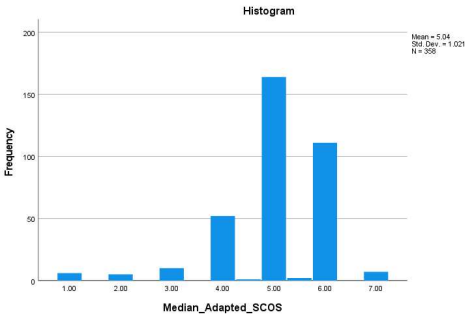
Q27

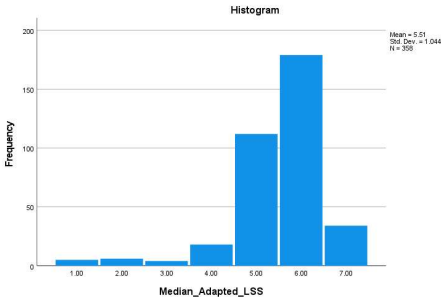
Which is the country you are currently living?

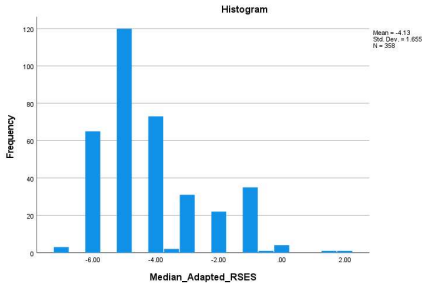
Tests of Normality

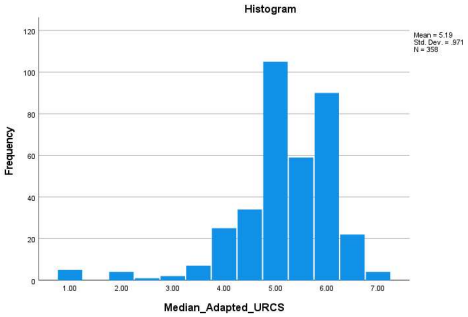
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Median_Adapted_SCOS	.277	358	<.001	.820	358	<.001
Median_Adapted_LSS	.275	358	<.001	.772	358	<.001
Median_Adapted_RSES	.225	358	<.001	.883	358	<.001
Median_Adapted_URCS	.203	358	<.001	.863	358	<.001
Median_Personality_Intro_Extro	.279	358	<.001	.831	358	<.001
Median_Personality_Sense_Intui	.299	358	<.001	.835	358	<.001
Median_Personality_Think_Feel	.180	358	<.001	.926	358	<.001
Median_Personality_Judge_Perc	.298	358	<.001	.848	358	<.001
Median_Importance_Instagram	.341	358	<.001	.776	358	<.001
Median_Happiness	.266	358	<.001	.828	358	<.001

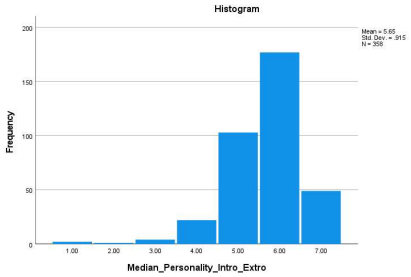
a. Lilliefors Significance Correction

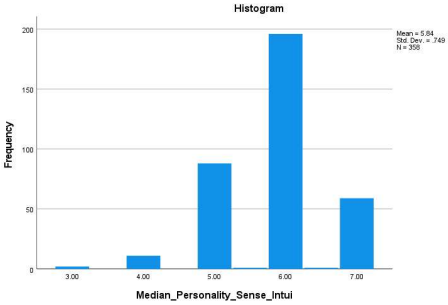

Histogram
Mean = 5.04
Std. Dev. = 1.021
N = 358
Frequency
Median_Adapted_SCOS

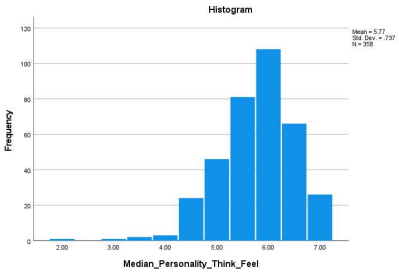

Histogram
Mean = 5.51
Std. Dev. = 1.044
N = 358
Frequency
Median_Adapted_LSS

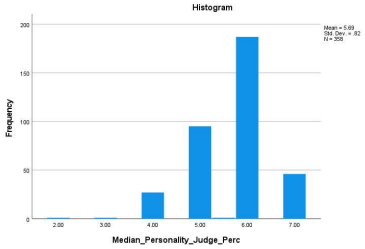

Histogram
Mean = -4.13
Std. Dev. = 1.655
N = 358
Frequency
Median_Adapted_RSES

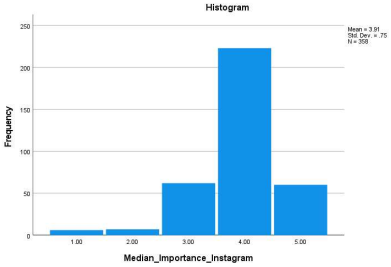

Histogram
Mean = 5.19
Std. Dev. = .871
N = 358
Frequency
Median_Adapted_URCS

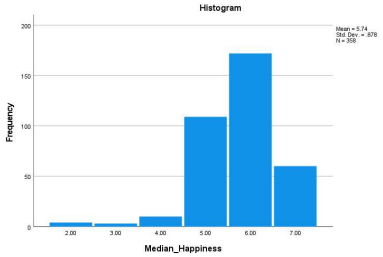

Histogram
Mean = 5.65
Std. Dev. = .915
N = 358
Frequency
Median_Personality_Intro_Extro


Histogram
Mean = 5.84
Std. Dev. = .749
N = 358
Frequency
Median_Personality_Sense_Intui


Histogram
Mean = 5.77
Std. Dev. = .737
N = 358
Frequency
Median_Personality_Think_Feel


Histogram
Mean = 5.69
Std. Dev. = .82
N = 358
Frequency
Median_Personality_Judge_Perc


Histogram
Mean = 3.91
Std. Dev. = .75
N = 358
Frequency
Median_Importance_Instagram

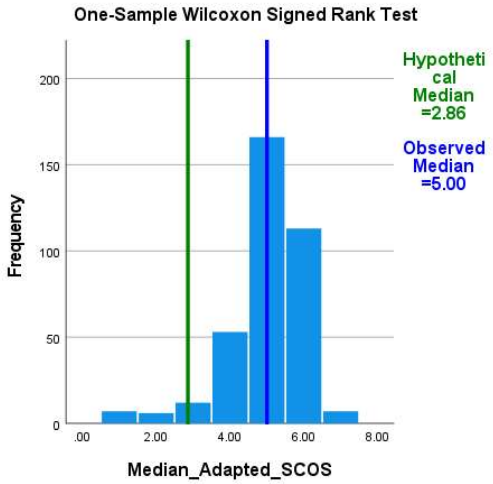

Histogram
Mean = 5.74
Std. Dev. = .878
N = 358
Frequency
Median_Happiness

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]	Decision
1	The median of Median_Adapted_SCOS equals 2.86.	One-Sample Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

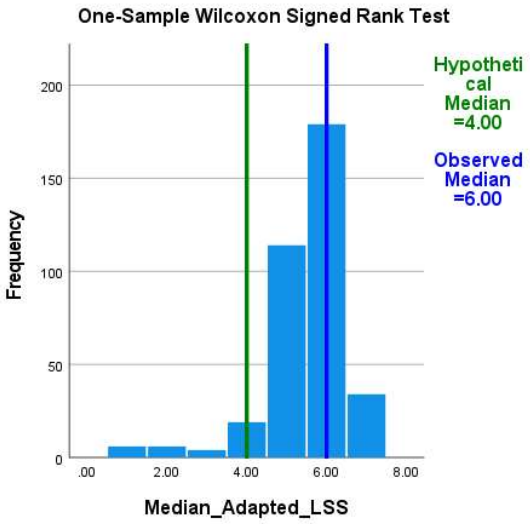


Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]	Decision
1	The median of Median_Adapted_LSS equals 4.00.	One-Sample Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

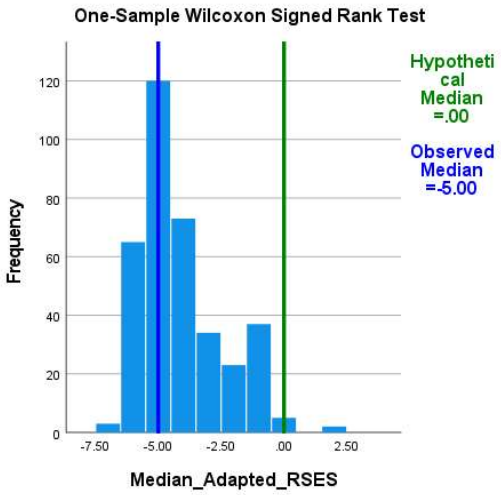


Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]	Decision
1	The median of Median_Adapted_RSES equals .00.	One-Sample Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

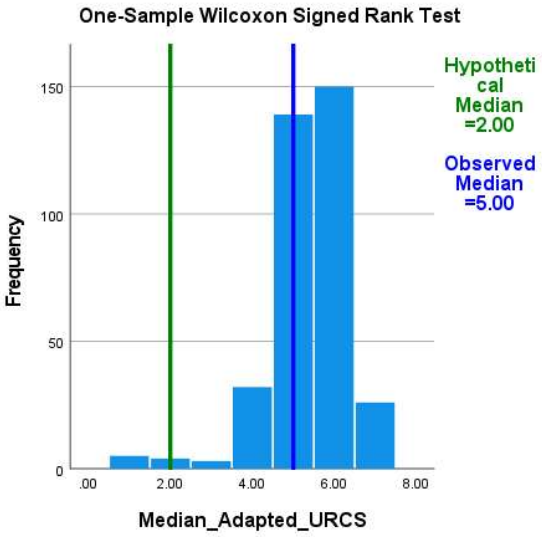


Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]	Decision
1	The median of Median_Adapted_URCS equals 2.00.	One-Sample Wilcoxon Signed Rank Test	.000	Reject the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.



Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]	Decision
1	The distribution of Median_Adapted_SCOS is the same across categories of Median_Personality_Intro_Extro.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
2	The distribution of Median_Adapted_LSS is the same across categories of Median_Personality_Intro_Extro.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
3	The distribution of Median_Adapted_RSES is the same across categories of Median_Personality_Intro_Extro.	Independent-Samples Kruskal-Wallis Test	<.001	Reject the null hypothesis.
4	The distribution of Median_Adapted_URCS is the same across categories of Median_Personality_Intro_Extro.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]	Decision
1	The distribution of Median_Adapted_SCOS is the same across categories of Median_Personality_Sense_Intui.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
2	The distribution of Median_Adapted_LSS is the same across categories of Median_Personality_Sense_Intui.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
3	The distribution of Median_Adapted_RSES is the same across categories of Median_Personality_Sense_Intui.	Independent-Samples Kruskal-Wallis Test	.003	Reject the null hypothesis.
4	The distribution of Median_Adapted_URCS is the same across categories of Median_Personality_Sense_Intui.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]	Decision
1	The distribution of Median_Adapted_SCOS is the same across categories of Median_Personality_Think_Feel.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
2	The distribution of Median_Adapted_LSS is the same across categories of Median_Personality_Think_Feel.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
3	The distribution of Median_Adapted_RSES is the same across categories of Median_Personality_Think_Feel.	Independent-Samples Kruskal-Wallis Test	<.001	Reject the null hypothesis.
4	The distribution of Median_Adapted_URCS is the same across categories of Median_Personality_Think_Feel.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]	Decision
1	The distribution of Median_Adapted_SCOS is the same across categories of Median_Personality_Judge_Perc.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
2	The distribution of Median_Adapted_LSS is the same across categories of Median_Personality_Judge_Perc.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
3	The distribution of Median_Adapted_RSES is the same across categories of Median_Personality_Judge_Perc.	Independent-Samples Kruskal-Wallis Test	<.001	Reject the null hypothesis.
4	The distribution of Median_Adapted_URCS is the same across categories of Median_Personality_Judge_Perc.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]	Decision
1	The distribution of Median_Adapted_SCOS is the same across categories of Median_Importance_Instagram.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
2	The distribution of Median_Adapted_LSS is the same across categories of Median_Importance_Instagram.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
3	The distribution of Median_Adapted_RSES is the same across categories of Median_Importance_Instagram.	Independent-Samples Kruskal-Wallis Test	<.001	Reject the null hypothesis.
4	The distribution of Median_Adapted_URCS is the same across categories of Median_Importance_Instagram.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.

a. The significance level is .050.

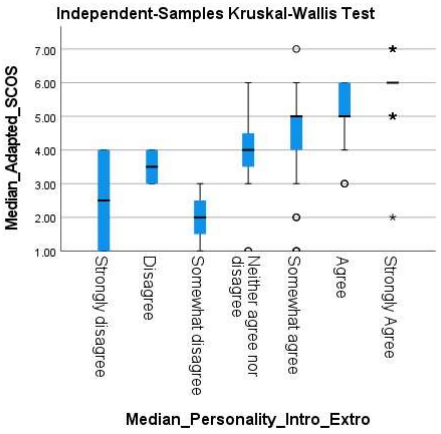
b. Asymptotic significance is displayed.

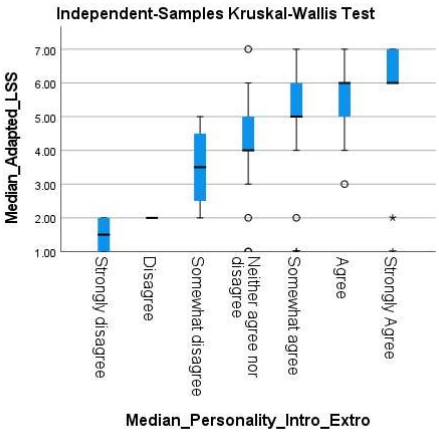
Hypothesis Test Summary

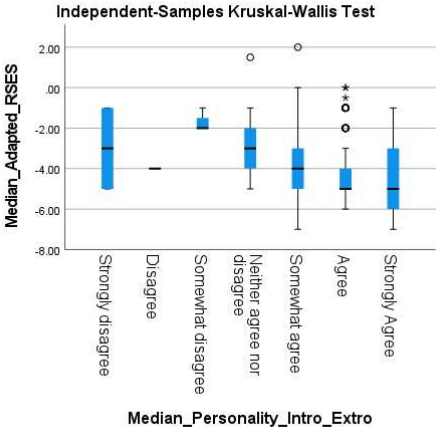
	Null Hypothesis	Test	Sig.[a,b]	Decision
1	The distribution of Median_Adapted_SCOS is the same across categories of Median_Happiness.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
2	The distribution of Median_Adapted_LSS is the same across categories of Median_Happiness.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
3	The distribution of Median_Adapted_RSES is the same across categories of Median_Happiness.	Independent-Samples Kruskal-Wallis Test	<.001	Reject the null hypothesis.
4	The distribution of Median_Adapted_URCS is the same across categories of Median_Happiness.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.

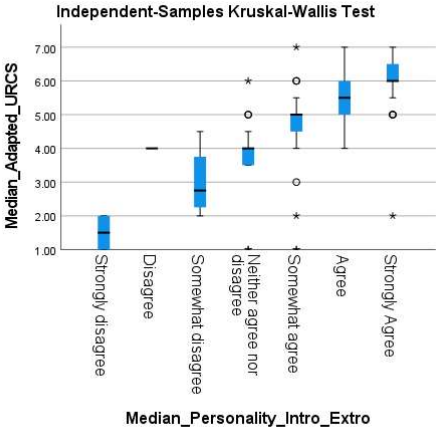
a. The significance level is .050.

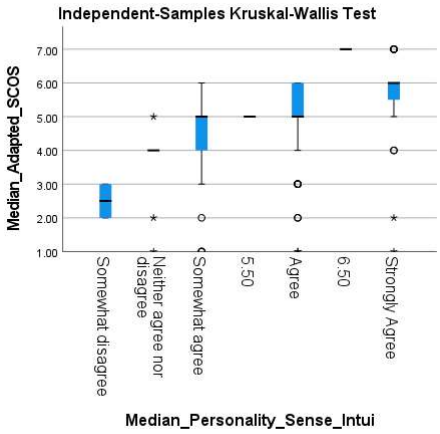
b. Asymptotic significance is displayed.

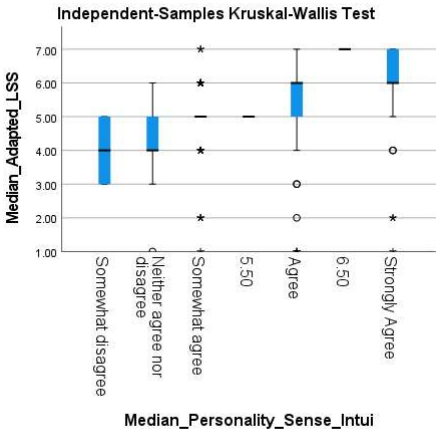

Independent-Samples Kruskal-Wallis Test
Median_Adapted_SCOS
7.00
6.00
5.00
4.00
3.00
2.00
1.00
Strongly disagree
Disagree
Somewhat disagree
Neither agree nor disagree
Somewhat agree
Agree
Strongly Agree
Median_Personality_Intro_Extro

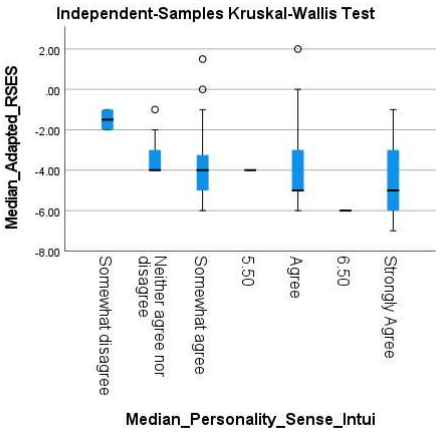

Independent-Samples Kruskal-Wallis Test
Median_Adapted_LSS
7.00
6.00
5.00
4.00
3.00
2.00
1.00
Strongly disagree
Disagree
Somewhat disagree
Neither agree nor disagree
Somewhat agree
Agree
Strongly Agree
Median_Personality_Intro_Extro

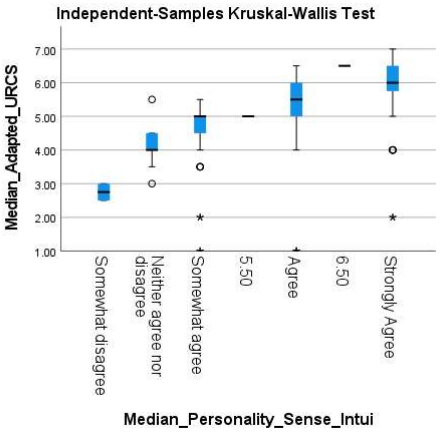

Independent-Samples Kruskal-Wallis Test
Median_Adapted_RSES
2.00
.00
-2.00
-4.00
-6.00
-8.00
Strongly disagree
Disagree
Somewhat disagree
Neither agree nor disagree
Somewhat agree
Agree
Strongly Agree
Median_Personality_Intro_Extro

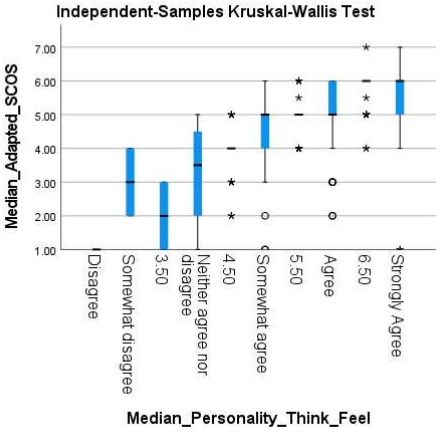

Independent-Samples Kruskal-Wallis Test
Median_Adapted_URCS
7.00
6.00
5.00
4.00
3.00
2.00
1.00
Strongly disagree
Disagree
Somewhat disagree
Neither agree nor disagree
Somewhat agree
Agree
Strongly Agree
Median_Personality_Intro_Extro

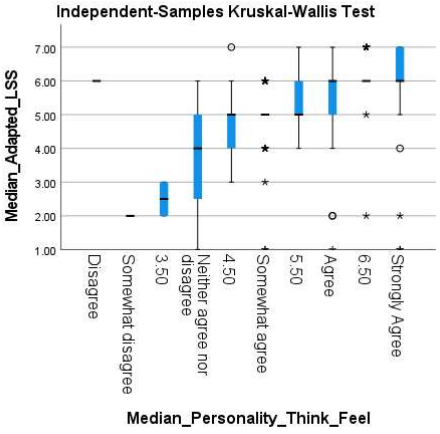

Independent-Samples Kruskal-Wallis Test
Median_Adapted_SCOS
7.00
6.00
5.00
4.00
3.00
2.00
1.00
Somewhat disagree
Neither agree nor disagree
Somewhat agree
5.50
Agree
6.50
Strongly Agree
Median_Personality_Sense_Intui

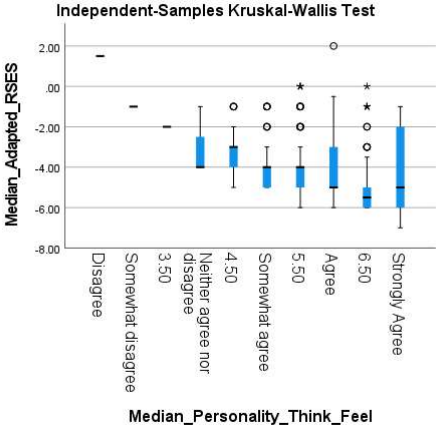

Independent-Samples Kruskal-Wallis Test
Median_Adapted_LSS
7.00
6.00
5.00
4.00
3.00
2.00
1.00
Somewhat disagree
Neither agree nor disagree
Somewhat agree
5.50
Agree
6.50
Strongly Agree
Median_Personality_Sense_Intui

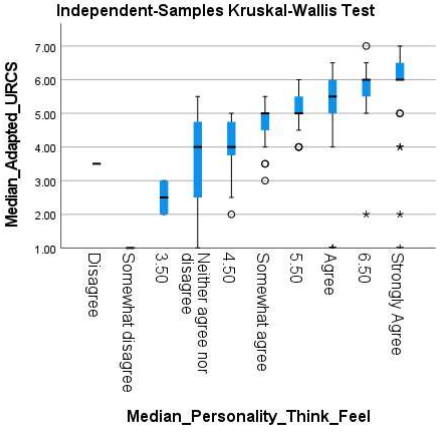

Independent-Samples Kruskal-Wallis Test
Median_Adapted_RSES
2.00
.00
-2.00
-4.00
-6.00
-8.00
Somewhat disagree
Neither agree nor disagree
Somewhat agree
5.50
Agree
6.50
Strongly Agree
Median_Personality_Sense_Intui

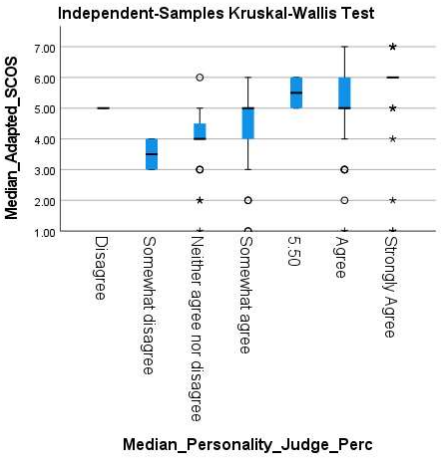

Independent-Samples Kruskal-Wallis Test
Median_Adapted_URCS
7.00
6.00
5.00
4.00
3.00
2.00
1.00
Somewhat disagree
Neither agree nor disagree
Somewhat agree
5.50
Agree
6.50
Strongly Agree
Median_Personality_Sense_Intui

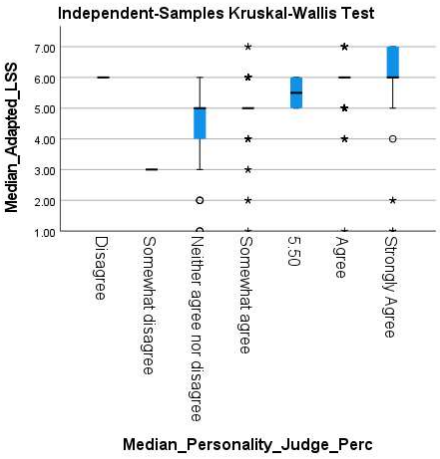

Independent-Samples Kruskal-Wallis Test
Median_Adapted_SCOS
7.00
6.00
5.00
4.00
3.00
2.00
1.00
Disagree
Somewhat disagree
3.50
Neither agree nor disagree
4.50
Somewhat agree
5.50
Agree
6.50
Strongly Agree
Median_Personality_Think_Feel

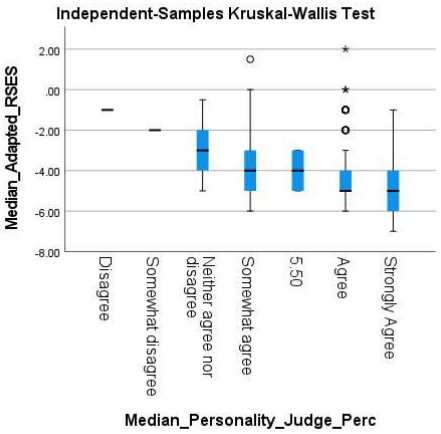

Independent-Samples Kruskal-Wallis Test
Median_Adapted_LSS
7.00
6.00
5.00
4.00
3.00
2.00
1.00
Disagree
Somewhat disagree
3.50
Neither agree nor disagree
4.50
Somewhat agree
5.50
Agree
6.50
Strongly Agree
Median_Personality_Think_Feel

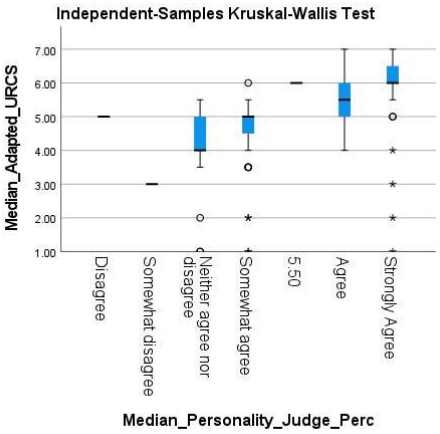

Independent-Samples Kruskal-Wallis Test
Median_Adapted_RSES
2.00
.00
-2.00
-4.00
-6.00
-8.00
Disagree
Somewhat disagree
3.50
Neither agree nor disagree
4.50
Somewhat agree
5.50
Agree
6.50
Strongly Agree
Median_Personality_Think_Feel

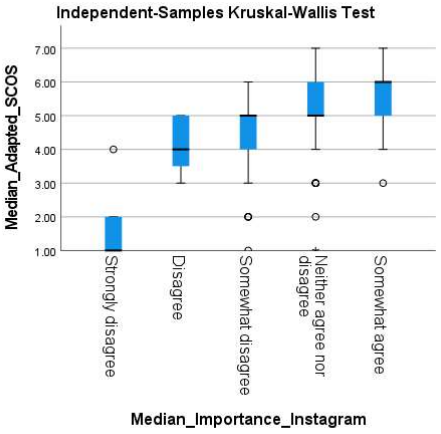

Independent-Samples Kruskal-Wallis Test
Median_Adapted_URCS
7.00
6.00
5.00
4.00
3.00
2.00
1.00
Disagree
Somewhat disagree
3.50
Neither agree nor disagree
4.50
Somewhat agree
5.50
Agree
6.50
Strongly Agree
Median_Personality_Think_Feel

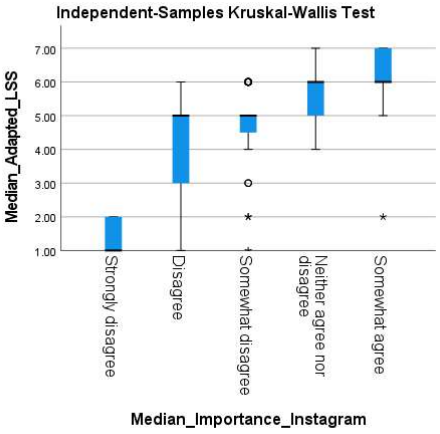

Independent-Samples Kruskal-Wallis Test
Median_Adapted_SCOS
7.00
6.00
5.00
4.00
3.00
2.00
1.00
Disagree
Somewhat disagree
Neither agree nor disagree
Somewhat agree
5.50
Agree
Strongly Agree
Median_Personality_Judge_Perc

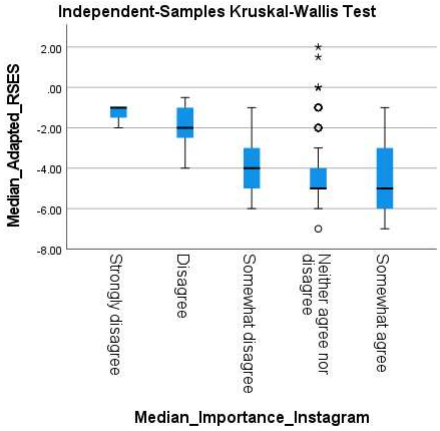

Independent-Samples Kruskal-Wallis Test
Median_Adapted_LSS
7.00
6.00
5.00
4.00
3.00
2.00
1.00
Disagree
Somewhat disagree
Neither agree nor disagree
Somewhat agree
5.50
Agree
Strongly Agree
Median_Personality_Judge_Perc

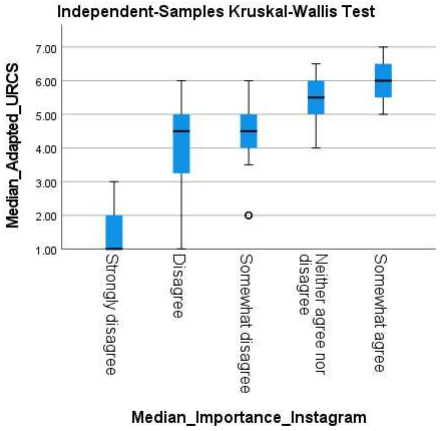

Independent-Samples Kruskal-Wallis Test
Median_Adapted_RSES
2.00
.00
-2.00
-4.00
-6.00
-8.00
Disagree
Somewhat disagree
Neither agree nor disagree
Somewhat agree
5.50
Agree
Strongly Agree
Median_Personality_Judge_Perc

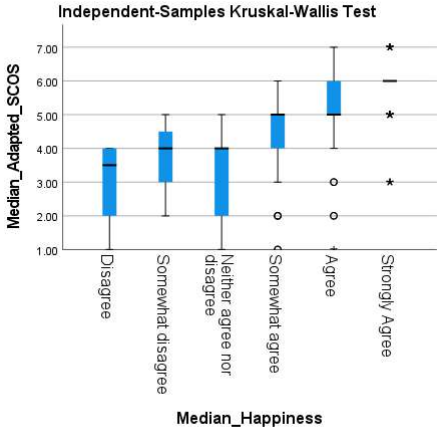

Independent-Samples Kruskal-Wallis Test
Median_Adapted_URCS
7.00
6.00
5.00
4.00
3.00
2.00
1.00
Disagree
Somewhat disagree
Neither agree nor disagree
Somewhat agree
5.50
Agree
Strongly Agree
Median_Personality_Judge_Perc

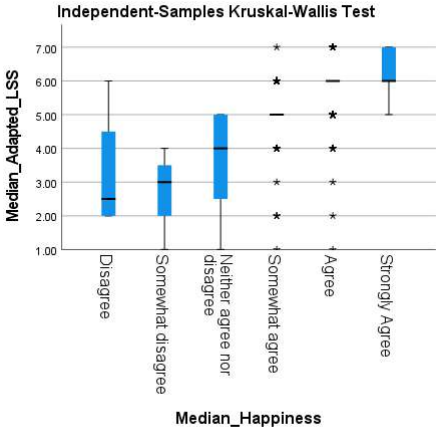

Independent-Samples Kruskal-Wallis Test
Median_Adapted_SCOS
7.00
6.00
5.00
4.00
3.00
2.00
1.00
Strongly disagree
Disagree
Somewhat disagree
Neither agree nor disagree
Somewhat agree
Median_Importance_Instagram

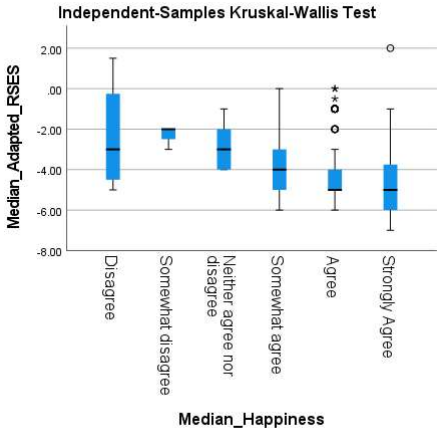

Independent-Samples Kruskal-Wallis Test
Median_Adapted_LSS
7.00
6.00
5.00
4.00
3.00
2.00
1.00
Strongly disagree
Disagree
Somewhat disagree
Neither agree nor disagree
Somewhat agree
Median_Importance_Instagram

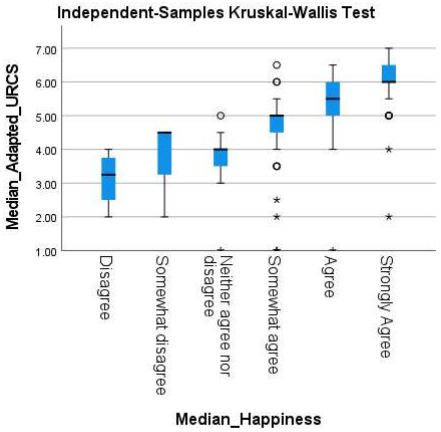

Independent-Samples Kruskal-Wallis Test
Median_Adapted_RSES
2.00
.00
-2.00
-4.00
-6.00
-8.00
Strongly disagree
Disagree
Somewhat disagree
Neither agree nor disagree
Somewhat agree
Median_Importance_Instagram


Independent-Samples Kruskal-Wallis Test
Median_Adapted_URCS
7.00
6.00
5.00
4.00
3.00
2.00
1.00
Strongly disagree
Disagree
Somewhat disagree
Neither agree nor disagree
Somewhat agree
Median_Importance_Instagram


Independent-Samples Kruskal-Wallis Test
Median_Adapted_SCOS
7.00
6.00
5.00
4.00
3.00
2.00
1.00
Disagree
Somewhat disagree
Neither agree nor disagree
Somewhat agree
Agree
Strongly Agree
Median_Happiness


Independent-Samples Kruskal-Wallis Test
Median_Adapted_LSS
7.00
6.00
5.00
4.00
3.00
2.00
1.00
Disagree
Somewhat disagree
Neither agree nor disagree
Somewhat agree
Agree
Strongly Agree
Median_Happiness


Independent-Samples Kruskal-Wallis Test
Median_Adapted_RSES
2.00
.00
-2.00
-4.00
-6.00
-8.00
Disagree
Somewhat disagree
Neither agree nor disagree
Somewhat agree
Agree
Strongly Agree
Median_Happiness


Independent-Samples Kruskal-Wallis Test
Median_Adapted_URCS
7.00
6.00
5.00
4.00
3.00
2.00
1.00
Disagree
Somewhat disagree
Neither agree nor disagree
Somewhat agree
Agree
Strongly Agree
Median_Happiness

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]	Decision
1	The distribution of Median_Adapted_SCOS is the same across categories of Q24 - What is your age?.	Independent-Samples Kruskal-Wallis Test	.202	Retain the null hypothesis.
2	The distribution of Median_Adapted_LSS is the same across categories of Q24 - What is your age?.	Independent-Samples Kruskal-Wallis Test	.728	Retain the null hypothesis.
3	The distribution of Median_Adapted_RSES is the same across categories of Q24 - What is your age?.	Independent-Samples Kruskal-Wallis Test	.252	Retain the null hypothesis.
4	The distribution of Median_Adapted_URCS is the same across categories of Q24 - What is your age?.	Independent-Samples Kruskal-Wallis Test	.120	Retain the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]	Decision
1	The distribution of Median_Adapted_SCOS is the same across categories of Q23 - What is your gender?.	Independent-Samples Kruskal-Wallis Test	.881	Retain the null hypothesis.
2	The distribution of Median_Adapted_LSS is the same across categories of Q23 - What is your gender?.	Independent-Samples Kruskal-Wallis Test	.524	Retain the null hypothesis.
3	The distribution of Median_Adapted_RSES is the same across categories of Q23 - What is your gender?.	Independent-Samples Kruskal-Wallis Test	.198	Retain the null hypothesis.
4	The distribution of Median_Adapted_URCS is the same across categories of Q23 - What is your gender?.	Independent-Samples Kruskal-Wallis Test	.460	Retain the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.