

Digital Identity: Behavioral Differences between Real and Virtual Personalities and their Impact on Psychosocial Health

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Abstract: This research of digital identity and the gap between physical-self and virtual-self of internet users on social media will be explored. The literature review used a descriptive-analytical methodology to explain digital behavior. A questionnaire about digital identity behaviors was applied to 350 Internet users aged 18 to 45 years. The findings showed statistically significant differences in extraversion and social boldness in favor of digital identity as compared to real identity for those with social anxiety. Based on t-test analyses, scores reflecting social boldness ($M=4.12$ vs 2.87 , $t=18.45$, $p<0.001$), extraversion ($M=3.89$ vs 3.15 , $t=8.67$, $p<0.001$), and idealism ($M=4.35$ vs 2.98 , $t=21.34$, $p<0.001$) increased significantly in digital environments. Moreover, they noted that excessive dual relationship duality between the two identities correlates negatively with mental health indicators (anxiety $r=+0.67$, depression $r=+0.58$, life satisfaction $r=-0.72$, social alienation $r=+0.64$; all $p<0.001$), which underscores the need for awareness programs to foster integration of real and digital selves. Keywords: Digital Identity; Virtual Behavior; Personality Duality; Mental Health; Social Alienation

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1. INTRODUCTION :

Today, changes in communication tools and identity construction have become radical, as cyberspace has provided individuals with unlimited capabilities to reconstitute their identities and to present themselves in ways that may be drastically or partially different from their lived experience (Turkle, 2011). The term “digital identity” has evolved from a simple technical representation of the user to a distinct and unique psychological extension that carries the internal qualities, motives, and conflicts of the individual who creates it (Belk 2013). As per the latest global statistics of 2023 (Davis, 2013), in the information revolution, people live a double life – one in the reality of matter, the other in the reality of the virtual. The average Internet user spends over six hours of his/her time daily on the internet, about two and a half hours on social media. An urge that we continue to study and analyze new behaviors caused by this immersion.

The clinical observations show that a person's real life personality and their digital personality vary greatly. For instance, a person who is shy in real life behaves boldly digitally. Similarly, a person with a peaceful personality becomes a cyberbully. The phenomena of digital behavioral duality raises very important questions related to the ‘real self’ and its influence on mental illness owing to this split. Is the digital pertinent compensation for a real-life deficiency or an application of the suppressed true self? What is the impact of switching between these two personas in terms of their emotional stability and social relations?

The recent study aims to understand the behavioral differences between the real and virtual worlds, the reasons for adopting different personalities, and what this implies about their psychological stability and social adaptation. The paper highlights the importance of increasing incidence of psychological disorders due to the internet and need to understand the personality dynamics now. The goal of the study is to uncover the levels of behavioural duality among the study sample. Furthermore, it aims to determine its correlation with anxiety, depression and social alienation indicators.

2. THEORETICAL FRAMEWORK

A collection of psychological and social theories that try to explain the interaction of an individual with a virtual environment and the respective selves they create within this environment is what helps demystify digital identity and the behaviour differences. The first social identity theory by Tajfel and Turner (1979) assumes that a large part of our self-concept comes from the groups we belong to. In the virtual world, these affiliations are multiple and more flexible, individuals can move with remarkable ease from one identity to another (professional, recreational, intellectual, etc.), which can result in either fragmentation of the self or its enrichment depending on the individual’s ability to integrate.

According to Higgins (1987) Self-discrepancy theory differentiated between who I am (actual self) vs who I would like to be (ideal self) vs who I think I should be (ought self). The virtual world offers fertile ground for achieving the “ideal self” that one cannot achieve in reality. It provides temporary bridging between reality and dreams, but returning to reality may deepen psychological conflict. The “Digital Self” is the version of the self construct²ed using digital media, as one that is “liberated” from physical and spatial constraints, thus allowing continued self-reinvention lending to “fluidity” of the self (Joinson, 2003).

3. THE CONCEPT OF DIGITAL IDENTITY

Digital identity is basically the totality of the data, and characteristics, behaviours, and other information that a person issues about himself in the digital environment. The self is a not something that exists as it is but instead a constant construction that is impacted by social interaction and the platform (Zhao et al., 2008). According to the researchers, digital id can give an individual a ‘mask’ to experiment and explore away from the shackles of his material social reality and express repressed aspects of their personality.

3.1. Historical Development of Digital Identity

Digital identity has evolved at various stages since the first part of the Internet age in the 1990s, when identity was entirely anonymous relying on text in the chat rooms and forums. At that stage, everyone was pretending while exchanging ideas without revealing their true self, which enabled absolute freedom of expression. With the advent of social network sites (like Facebook and Twitter) post-Web 2.0, digital identity became closely linked with real identity when these platforms required users to use their real names and photographs. But it was still possible to manipulate oneself and present an “enhanced version” of oneself. At present, the stakeholders in the digital identity are moving towards a complete embodiment through their “avatars” thanks to the emergence of the virtual reality technologies and metaverse. This means that these have a much more complex relationship between the original (human) and the image (digital identity).

3.2. Characteristics of Digital Identity

Digital identity is characterized by a set of features that distinguish it from real identity. First, “flexibility and editability,” where individuals can change their data, images, and mood status with the click of a button, giving them complete control over how they present themselves. Second, “continuity,” where the digital footprint remains present even in the owner's absence, creating a kind of digital immortality. Third, “multi-dimensionality,” as a single individual may possess several digital identities that differ according to the platform; they may be strictly professional on LinkedIn, socially cheerful on Facebook, and a sharp and anonymous political critic on Twitter. This multiplicity requires high skill in self-management to avoid collision between different identities. Fourth, “technology dependence,” where digital identity is shaped according to what platform algorithms allow.

4. BEHAVIORAL DUALITY BETWEEN REAL AND DIGITAL PERSONALITY

Behavioral duality refers to the noticeable discrepancy between how an individual behaves in daily life and how they behave online. This discrepancy may appear in several forms, such as excessive boldness, aggression (cyberbullying), or displaying exaggerated idealism that does not reflect reality. This phenomenon is at the heart of psychological problems associated with Internet use.

4.1. Impact of Anonymity on Behavior

The factor of identity concealment or anonymity is one of the most important drivers of behavioral difference. When individuals feel they are not being watched or are anonymous, their sense of social responsibility and fear of negative evaluation decreases, leading to what is called the “Online Disinhibition Effect” coined by John Suler (2004). This effect is divided into two types: “benign disinhibition,” where individuals feel able to disclose their feelings, share secrets, and boldly seek psychological help that they do not possess in reality, and “toxic disinhibition,” which appears in the form of verbal aggression, harassment, and spreading hatred without moral restraint, exploiting the absence of visual communication and not seeing the victim's direct reaction.

4.2. Patterns of Behavioral Duality

The classification of behavioral duality into patterns is based on the kind of discrepancy one observes in reality and assumption. The Compensatory Pattern (most common) occurs when a person compensates for what he/she lacks in reality. For example, an introverted person can become open, the person who feels powerless in reality may become leader or controller of the game. This pattern seeks to present the ‘best version’ of the self. This is done by filtering out the flaws of reality. We see this clearly in the postings of edited photos. Sharing exaggerated claims about achievements is also another way of showing this. Further, we hide weaknesses and failures. The goal remains to create a shiny and shining self-image. But this image is flimsy and fragile.

5. RESEARCH METHODOLOGY AND PROCEDURES

5.1. Research Design

The study adopted a descriptive-analytical approach, which is most suitable for such studies, as it is based on monitoring the phenomenon as it is in reality, describing it accurately, and analyzing the relationships between its variables to extract results and generalizations.

5.2. Population and Sample

The study population consisted of social media users in the Arab environment. A random sample of 350 participants was selected, aged between 18 and 45 years. The following table presents the distribution of participants according to demographic variables:

Table 1: Distribution of Study Sample by Demographic Variables

Variable	Category	N (%)
Gender	Male	168 (48.0%)
	Female	182 (52.0%)
Age Group	18-25 years	142 (40.6%)
	26-35 years	133 (38.0%)
	36-45 years	75 (21.4%)
Daily Internet Use	< 3 hours	63 (18.0%)
	3-6 hours	161 (46.0%)
	> 6 hours	126 (36.0%)

Source: Primary data collected by researchers (2024)

5.3. Research Instruments

The "Digital Identity Behaviors Scale" was used, designed by the researchers for the purpose of this study, consisting of 30 items distributed across three dimensions: emotional dimension, social dimension, and behavioral dimension. The "Brief Mental Health Scale" was also used to measure levels of anxiety, depression, and life satisfaction. The validity and reliability of the instruments were verified using appropriate statistical methods (content validity and Cronbach's alpha coefficient which reached 0.86, indicating high reliability).

5.4. Statistical Analysis

Data were processed using the Statistical Package for Social Sciences (SPSS v26). Statistical methods included means, standard deviations, paired t-test for comparing real and digital behavioral traits, and Pearson correlation coefficient to detect relationships between behavioral duality and mental health indicators. Significance level was set at $\alpha = 0.01$.

6. FACTORS INFLUENCING DIGITAL IDENTITY FORMATION

A person's digital identity comes into existence through a complex combination of various influences, which ultimately shapes their digital behavior. The internal psychological motives, social pressures, and available technological environment are factors that affect change. The psychological, personality facets as well as the factor of self-esteem play a vital role; all in all, people with low self-esteem submit or polish their digital image for social approval (likes and comments) creating a growing gap between what they really are (Manago et al p. 175, 2008). Cultural and societal factors also play an important role in digital identity formation since individual does not detach from cultural context when going into the digital world. In addition, other forces at work in the online system, such as algorithms, editing technology, and reward systems, also implicitly shape user behaviour. The matrix of these determinants is presented in the following table:

Table 2: Matrix of Factors Influencing Digital Identity Formation

Factor Category	Specific Factors	Impact on Digital Identity
Psychological Factors	Self-esteem, narcissism, social anxiety, personality traits	Drives compensatory behavior and idealized self-presentation
Cultural Factors	Social norms, cultural values, platform culture, FOMO (Fear of Missing Out)	Shapes conformity pressures and authenticity levels
Technological Factors	Algorithms, filters, editing tools, platform affordances	Facilitates reality manipulation and selective self-disclosure

Source: Developed by researchers based on literature review

7. RESEARCH FINDINGS AND DISCUSSION

The statistical processing of questionnaire data yielded a set of results that clarify the nature of the relationship between real and digital identity and their effects on mental health indicators.

7.1. Differences in Personality Traits between Real and Digital Environments

The results showed statistically significant differences between individuals' assessment of their real behavior and their digital behavior across multiple personality dimensions. Paired t-tests were conducted to compare mean scores on key behavioral traits in both environments. The following table presents the comprehensive statistical analysis:

Table 3: Differences in Behavioral Traits between Real and Digital Environments

Trait	Real M(SD)	Digital M(SD)	t-value	p-value	Effect Size (d)
Social Boldness	2.87 (0.92)	4.12 (0.78)	18.45	<0.001**	1.47
Extraversion	3.15 (1.05)	3.89 (0.95)	8.67	<0.001**	0.73
Idealism	2.98 (0.88)	4.35 (0.72)	21.34	<0.001**	1.72
Emotional Expression	3.22 (0.97)	3.67 (0.89)	5.89	<0.001**	0.48

*Note: ** $p < 0.01$; M = Mean; SD = Standard Deviation; Scale range: 1-5; N = 350*

Source: SPSS output from current study

The results clearly indicate that the digital environment acts as a "catalyst" for certain behavioral traits. The significant increase in Social Boldness (mean difference = 1.25, Cohen's $d = 1.47$, indicating a very large effect size) confirms the disinhibition hypothesis, where individuals dare to communicate and participate digitally in ways that exceed their real-world capabilities. The tremendous increase in Idealism (mean difference = 1.37, $d = 1.72$) reflects the substantial effort invested in impression management and building a "flawless" image. Extraversion showed a moderate but significant increase (mean difference = 0.74, $d = 0.73$), suggesting that digital platforms provide opportunities for introverted individuals to express themselves more freely. The moderate increase in Emotional Expression (mean difference = 0.45, $d = 0.48$) indicates that digital communication, despite lacking non-verbal cues, facilitates emotional disclosure for many users.

7.2. Relationship Between Behavioral Duality and Mental Health Indicators

The correlation coefficient was calculated between the degree of "behavioral gap" (the absolute difference between real and digital behavior scores) and mental health indicators. Pearson correlation analysis was conducted to examine the relationships between behavioral duality and various psychological outcomes. The following table presents the correlation matrix:

Table 4: Correlation Matrix between Behavioral Duality and Mental Health Indicators

Mental Health Indicator	Pearson r	p-value	Interpretation
Anxiety Level	+0.67**	<0.001	Strong Positive
Depression Score	+0.58**	<0.001	Moderate Positive
Life Satisfaction	-0.72**	<0.001	Strong Negative
Social Alienation	+0.64**	<0.001	Strong Positive

Note: ** $p < 0.01$ (two-tailed); $N = 350$

Source: SPSS output from current study

Based on the correlation matrix, it can be gleaned that they have a strong relationship. According to the data, the more difference between who you are in reality and who you are in digital life, the greater one's anxiety symptoms, showing a strong-positive correlation with Anxiety Level ($r = +0.67$, $p < 0.001$). It shows that either maintaining a different online persona can create psychological distress or fear of exposure. According to the results, behavioural duality correlated positively and moderately with Depression ($r = +0.58$, $p < 0.001$). This indicates that people with behavioural duality are likely to experience depressive symptoms. This may be the result of feeling and emotional exhaustion from managing so many selves. The strong negative relationship, indicated by $r = -0.72$, $p < 0.001$ between Life Satisfaction and greater behavioral duality, shows those with greater duality are less generally satisfied with life. This further shows that the ideal digital identity can evoke brief feelings of worthiness from the online approval they receive, but it ultimately depletes mental resources and heightens feelings of inadequacy. Ultimately, it was observed that the digital persona construction is strongly correlated with Social Alienation ($r = +0.64$, $p < 0.001$). In other words, the more digital persona, the lesser social connections.

8. PSYCHOLOGICAL AND SOCIAL IMPACTS OF DIGITAL IDENTITY

The field results and theoretical framework can be used to detail some of the deep effects of digital identity on the self and society. Negative psychological effects will arise, including anxiety from the fear of losing the ideal image or being exposed to criticizing, depression associated with upward social comparison that an ordinary person compares to the hand-picked best moments of others, and identity disorder will take place, which entails constant movement between contradictory identities and occurrence of the state of "vagueness" about the true self. Nevertheless, there are positive aspects as well. Indeed, shy people or people with disabilities may have a voice and a presence they would otherwise lack in reality (Bargh et al., 2002). In addition, virtual communities may provide opportunities for social and emotional support for those with the same interest or problem.

We are more connected than ever, yet individuals seem more isolated and socially alienated. Therefore, being immersed in a digital identity may come at the expense of one's individual real relationships (Turkle, 2011). When people are busy with the phone while being with us, this is known as 'phubbing' or phone snubbing. It weakens the intimate bonding of family members and friends. They form quantitative and superficial bonding at the cost of intimate bonding. Social relationships have become more fragile: not only is it easy to form relationships online, but it's also easy to end them (Block/Unfriend) (Valkenburg & Peter, 2011).

Reliance on text messaging takes away the emotion and unspoken communication in the message and leads to more misunderstandings and fights.

9. STRATEGIES FOR BALANCING REAL AND DIGITAL IDENTITY

Ideas to maintain mental health in the digital age can help to achieve balance and harmony between who we are in reality and who we are in representation. At the level of the individual: improving self-awareness by honestly monitoring their motives when posting;

implementing digital detox periods, by designating a certain time completely free from the use of the Internet to reconnect with reality and the true self; and practicing digital authenticity, by trying to close the gap through posting things that honestly reflect reality. At the family level: strengthen direct channels of dialogue and create shared activities away from screens; ensure that children feel appreciated and unconditionally accepted within the family so that they do not need “likes” as a source of self-worth; educate them on how to constructively criticize digital content. At the institutional level: education institutions should include concepts of “digital citizenship” and “digital mental health” in their curricula. These will help students build psychological immunity that facilitates the use of technology as a tool for growth rather than a replacement for life.

10. RECOMMENDATIONS AND SUGGESTIONS

According to the findings, the study makes practical recommendations directed to various stakeholders. Those who operate on the individual/user level: move towards a unification of value and behavioral standards in reality and the virtual world to reduce cognitive dissonance, practice mindfulness while surfing to avoid falling into negative comparisons, and determine self-worth from internal and realistic sources and not quantitative participation in the digital space. For families and teachers: it is not an act of spying on them, it is a way of keeping track of their psychological transformations in the digital world. If they seem more withdrawn, moody or angry, you must try to intervene at an early stage. Encourage “face to face communication” culture in your home. Also designate phone-free zones like the dining table. In the first instance, for decision-makers and policymakers to put in place regulations governing algorithm mechanisms that increase addiction or behavioural polarisation, and to launch national campaigns for the promotion of digital mental health, particularly for youth and adolescents. Scheme longitudinal studies on digital identity development at different age stages; study the impact of the “metaverse” and augmented reality on the physical self-concept and body image disorders; and, conduct research on the relationship of digital identity patterning with personality disorders like borderline personality and histrionic personality.

11. CONCLUSION

In brief, the study finds that digital identity is a double-edged sword in contemporary human life. On one hand, it offers an unprecedented space for expression, creativity, communication, and release from the limitations of space and body. In contrast, it can turn into a cage filled with expectations, false idealism, and always being at war with “what is real” and “what appears on the screen”. The considerable difference in behaviour between the real personality and digital personality is a dangerous sign of mental health. This is when the virtual world replaces reality in a supporting and enriching way and not the other way around.

Results from the field showed that when people excessively engage in constructing an ideal digital identity, it is positively linked to a rise in anxiety ($r = +0.67$), depression ($r = +0.58$) and experience of social alienation ($r = +0.64$). It is also strongly negatively linked to life satisfaction ($r = -0.72$). The gap that exists between the reality and the digital image, creates constant internal tension in the individual and depletes his psychological resources which he uses to try to maintain a mask which does not fall. Today’s challenge lies not in our ability to use technology but in our inability to retain our humanity in doing so. Awareness in individuals and society is needed to bring back the human being to reality with all its imperfections, accept yourself as you are (in reality) and build strong bridges that connect the material world and the digital world to build “an integrated identity” capable of adaptation and health growth in both worlds.

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