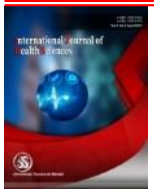

International Journal of Health Sciences

Available online at www.sciencescholar.us
Vol. 9 No. 2, August 2025, pages: 782-793
E-ISSN: 2550-696X
https://doi.org/10.53730/ijhs.v9n2.15705

Development and Validation of the Virtual Identity Integration Scale (VIIS) for Young Adults Aged 18–25

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Manuscript submitted: 09 April 2025, Manuscript revised: 18 May 2025, Accepted for publication: 27 June 2025

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Keywords

digital self;
identity integration;
scale development;
psychometrics;
virtual identity;
young adults;

Abstract

In the age of digitization, young adults frequently construct and engage with virtual identities on digital platforms. This study aimed to develop and validate the Virtual Identity Integration Scale (VIIS), a psychometrically robust tool to assess the degree of alignment between an individual's virtual and real-world identity. A mixed-methods approach was employed. An initial item pool was generated through literature review, expert consultation, and focus group discussions. The scale was tested on a sample of 600 young adults aged 18–25 years. Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted, and psychometric properties, including reliability and validity, were assessed. Results identified a five-factor structure: Consistency, Authenticity, Compartmentalization, Role Conflict, and Psychological Impact. The final 25-item VIIS demonstrated strong reliability and validity. This tool contributes significantly to digital identity research and provides a foundation for further psychological and sociological exploration of virtual identity integration.

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1 Introduction

The advent of the digital age has fundamentally reshaped the landscape of identity formation and self-perception. Individuals increasingly navigate virtual environments where their online presence contributes significantly to their overall sense of self. Social media platforms, online gaming communities, professional networking sites, and various digital forums now offer unprecedented opportunities for users to construct and maintain diverse digital identities. These virtual self-representations may exhibit varying degrees of alignment with an individual's real-world persona. This phenomenon is particularly salient for young adults, specifically those aged 18–25, who are often characterized as "digital natives". This demographic has grown up immersed in technology, where digital interactions are an integral and often inseparable component of their daily lives (Syed & McLean, 2016). Consequently, their identities are shaped not only by traditional face-to-face interactions but also profoundly by how they present themselves online and how they are perceived within digital spaces.

At the core of this study are two crucial concepts: virtual identity and virtual identity integration. Virtual identity refers to the deliberate self-representation an individual crafts and maintains across various digital platforms. Virtual identity integration, conversely, is defined as the extent to which one's online identity coherently aligns with their offline self. The spectrum of this integration is broad; some individuals cultivate highly congruent virtual identities that closely mirror their core personality, values, and traits in the real world. These individuals might experience a seamless transition between their online and offline selves, promoting a sense of internal consistency. In stark contrast, other individuals may develop highly compartmentalized, fragmented, or even contradictory online personas that diverge significantly from their real-world identities. This divergence can manifest as presenting an idealized self, a specialized professional persona, or even an anonymous or fictional identity (Cook & Beckman, 2006).

The potential implications of such divergence between digital and real-world identities are profound, extending to psychological and social well-being, influencing self-esteem, overall psychological adjustment, and the quality of interpersonal relationships. As digital platforms continue their rapid evolution and further permeate daily life, the psychological impact of virtual identity integration becomes increasingly relevant for understanding contemporary human experience. Emerging research suggests that individuals who achieve greater virtual identity integration often report higher levels of self-authenticity, which is crucial for psychological well-being. This authenticity is tied to a feeling of being true to oneself across different contexts, including digital ones. Conversely, individuals who struggle with identity fragmentation across their virtual and real-world selves may encounter significant challenges, including heightened role conflict, increased psychological stress, and diminished self-esteem. This internal conflict can lead to feelings of incongruence and dissatisfaction (Andreassen et al., 2012).

Despite a growing body of academic research dedicated to understanding digital identity and its various facets, a significant gap persists in the availability of standardized, psychometrically sound measures specifically designed to assess the multifaceted phenomenon of virtual identity integration. Existing assessment tools often focus on narrower aspects of online behavior, such as specific patterns of online self-presentation, or are primarily concerned with issues like social media addiction. While valuable, these instruments fail to capture the broader, holistic phenomenon of identity coherence and alignment across an individual's multiple digital presences and their offline self (Bliuc et al., 2007).

This study directly addresses this critical measurement gap by aiming to develop and rigorously validate the Virtual Identity Integration Scale (VIIS). The VIIS is conceptualized as a psychometrically robust and multidimensional measure specifically designed to assess how young adults integrate their virtual and real-world identities. The scale is meticulously developed to examine key dimensions that previous research and theoretical frameworks suggest are central to this integration, including authenticity, consistency, compartmentalization, role conflict, and psychological impact. By providing a much-needed standardized and validated measure, this research aspires to make a substantial contribution to the fields of psychology, digital

sociology, and media studies. The VIIS will offer invaluable empirical insights into the complex ways in which individuals navigate, negotiate, and integrate their evolving digital identities within the broader context of their personal development and societal interactions.

Review of Literature

The concept of identity formation has long been a cornerstone of psychological and sociological inquiry. Erik Erikson's (1968) Identity Development Theory remains a foundational framework, positing that adolescence and young adulthood represent a critical psychosocial stage characterized by intensive identity exploration and the eventual integration of various self-perceptions into a coherent whole. In the contemporary digital age, this fundamental process of identity exploration and integration is no longer confined solely to physical interactions but extends profoundly into online spaces. Digital environments provide novel arenas for individuals to experiment with different personas, receive feedback, and ultimately construct and maintain their digital selves. This interplay between offline and online identity is a central theme in modern identity research.

Building upon classical theories, Self-Discrepancy Theory (Higgins, 1987) offers a particularly pertinent lens through which to understand potential challenges in virtual identity integration. This theory posits that individuals experience psychological distress when there are perceived discrepancies between their actual self (who they believe they are), their ideal self (who they wish to be), and their ought self (who they feel they should be). In the digital realm, this theory gains amplified relevance. Users often can meticulously curate and present an idealized version of themselves online, showcasing only their most desirable traits or experiences. While this can serve adaptive functions, it also carries the potential for significant self-discrepancy, as the presented ideal self may starkly contrast with the actual self. This internal misalignment can lead to various forms of emotional distress, including anxiety, shame, and dissatisfaction, particularly when the effort to maintain an idealized online persona becomes burdensome or unattainable.

Furthermore, Social Identity Theory (Tajfel & Turner, 1979) highlights the crucial role of group affiliations in shaping an individual's self-concept. In the digital age, this theory extends to digital communities, which have become powerful forces in shaping virtual identities. Online social media groups, forums, fan communities, and professional networks provide platforms for individuals to connect with like-minded others, adopt shared norms, and internalize group identities. These digital affiliations significantly influence users' self-perception, their behavior within these communities, and how they present themselves to others. The degree to which these digital social identities align with an individual's broader self-concept contributes to their overall virtual identity integration.

Numerous studies have begun to explore the intricate balance individuals strike between their online and offline selves. Gonzales & Hancock (2008) conducted influential research examining the effects of self-presentation on social media platforms on self-perception. Their findings indicated that digital environments provide unique opportunities for strategic self-enhancement, allowing users to selectively present information and manage impressions in ways that might be more challenging in face-to-face interactions. This strategic presentation, while often driven by social motivations, can contribute to discrepancies between online and offline identities. Similarly, Ellison et al. (2007), investigated the motivations behind college students' use of online social networking sites. They found that users actively curate their online presence to enhance social connections and build social capital. This deliberate curation, though beneficial for social networking, frequently results in observable discrepancies between their digital self-presentations and their real-world selves. These studies collectively underscore the active and often strategic nature of virtual identity construction.

More directly relevant to identity integration, a seminal study by Michikyan et al. (2014) investigated identity integration among adolescents and young adults. Their research revealed a significant relationship between the degree of virtual identity fragmentation and psychological well-being. Specifically, individuals who exhibited highly fragmented virtual identities—meaning a notable disconnect or inconsistency between their online and offline selves—reported higher levels of psychological distress and lower self-esteem. This suggests that maintaining disparate identities can be psychologically taxing. In stark contrast, participants who reported well-integrated identities, characterized by a coherent and consistent self across digital and

real-world contexts, reported greater psychological well-being and a stronger sense of authenticity. This highlights the adaptive benefits of identity coherence.

Further research corroborates these findings. Waterman (2004) proposed that high levels of identity integration are strongly correlated with greater authenticity and overall psychological well-being. Authenticity, in this context, refers to the congruence between one's internal experiences and external expressions. Przybylski et al. (2012) found compelling evidence that individuals who perceive a high degree of consistency between their online and offline selves tend to experience lower levels of social anxiety and greater life satisfaction. This suggests that a unified self-concept, spanning digital and physical realms, acts as a protective factor against psychological distress.

Conversely, the consequences of identity non-integration have also been explored. Mehdizadeh (2010) examined the relationship between online self-presentation and psychological outcomes, finding that individuals who consistently present a highly idealized or exaggerated version of themselves on social media often experience fluctuations in self-esteem and increased tendencies for social comparison. This perpetual comparison to idealized versions of others, or even one's idealized online self, can lead to heightened anxiety and symptoms of depression. Similarly, Barker (2009) investigated the relationship between virtual identity and emotional well-being, concluding that individuals who possess greater digital self-awareness and maintain coherence between their online and offline identities tend to experience more positive emotions and foster stronger, more meaningful interpersonal relationships. This body of literature consistently points to the psychological benefits of integrated identity.

Despite these significant insights into the dynamics of digital identity and its impact on well-being, a critical methodological gap persists. Existing scales and measures predominantly focus on specific aspects of digital behavior, such as social media usage patterns, online self-disclosure, or digital literacy, rather than directly assessing the broader, more encompassing phenomenon of virtual identity integration. While these instruments are valuable for their specific purposes, they do not provide a holistic measure of how individuals integrate their online and offline identities into a unified self-concept. This absence of a standardized, comprehensive measure hinders systematic research into the antecedents, processes, and outcomes of virtual identity integration. This study aims to precisely address this crucial gap by developing and rigorously validating the Virtual Identity Integration Scale (VIIS), which is specifically designed to assess multiple dimensions of identity integration among young adults, thereby facilitating more nuanced and empirical investigations into this complex psychological process.

2 Materials and Methods

Research Design

This study employed a comprehensive mixed-methods research design, strategically integrating both qualitative and quantitative methodologies to ensure the robust development and rigorous validation of the Virtual Identity Integration Scale (VIIS). The research was structured into three distinct, sequential phases, each contributing uniquely to the scale's construction and psychometric evaluation:

- *Qualitative Phase: Item Generation.* This initial phase focused on generating a comprehensive pool of potential scale items through a systematic and multi-pronged approach. This involved an extensive literature review to identify existing theoretical constructs and empirical findings related to digital identity and identity integration. Expert consultations with leading researchers in the fields of psychology and digital media provided critical insights and ensured conceptual clarity and relevance. Finally, focus group discussions were conducted to gather nuanced perspectives from the target population, ensuring that items were culturally and linguistically appropriate and resonated with their lived experiences.
- *Quantitative Phase 1: Exploratory Factor Analysis (EFA).* The first quantitative phase utilized EFA to empirically identify the underlying factor structure of the newly generated item pool. This statistical technique is crucial for parsimoniously reducing a large number of items into meaningful, coherent dimensions or factors, thereby establishing the initial structural validity of the scale.

- *Quantitative Phase 2: Confirmatory Factor Analysis (CFA).* The second quantitative phase involved CFA to rigorously test and confirm the factor structure identified in the EFA. CFA is a hypothesis-driven statistical method used to assess how well the proposed factor structure fits the observed data, thereby providing a more stringent test of the scale's structural validity. This phase also involved a comprehensive assessment of the scale's reliability and further validation of its construct validity.

Sample and Participants

A total of 600 young adults, specifically aged 18–25 years, were recruited for participation in this study. A purposive sampling strategy was employed to ensure the inclusion of participants from diverse yet relevant contexts, including universities, various online communities, and popular social media platforms. This approach aimed to capture a broad range of experiences with virtual identity among the target demographic. The overall sample was systematically divided into two distinct groups to facilitate the multi-stage quantitative analysis:

- **Phase 1 (EFA Sample):** Comprised 300 participants.
- **Phase 2 (CFA Sample):** Comprised a separate group of 300 participants, ensuring independence between the exploratory and confirmatory analyses.

Inclusion Criteria: To ensure the relevance and applicability of the study's findings, participants were required to meet the following criteria:

- Be between 18 and 25 years of age.
- Be active users of at least two distinct digital platforms (e.g., social media, online gaming, professional networking sites), indicating a significant digital presence.
- Provide informed consent, voluntarily agreeing to participate in the study.

Exclusion Criteria: To maintain the integrity of the data and focus on the general population, participants were excluded if they met the following criteria:

- Had a diagnosed severe psychiatric condition that could potentially influence their self-perception or responses.
- Did not have any demonstrable digital presence, as the study specifically focused on virtual identity integration.

Phase 1: Item Development The item development process was meticulously structured. An extensive and iterative literature review was conducted to systematically identify theoretical constructs and empirical findings related to virtual identity, identity formation, self-presentation, and psychological well-being in digital contexts. This review served as the foundation for conceptualizing five core dimensions pertinent to virtual identity integration: Consistency, Authenticity, Compartmentalization, Role Conflict, and Psychological Impact. These dimensions were chosen based on their recurring prominence in existing literature and their conceptual relevance to the degree of alignment between online and offline selves.

An initial pool of 40 items, formulated to capture these five conceptual dimensions, was subsequently generated. This pool was then subjected to a rigorous content validation process. A panel comprising five experts in the fields of psychology, media studies, and psychometrics independently reviewed each item for clarity, relevance, and conceptual coverage. Their feedback led to refinements in item wording and the removal of ambiguous or redundant items.

To ensure cultural and linguistic appropriateness, two separate focus group discussions were convened, each consisting of 15 participants from the target demographic (N = 15 each, total N=30). These discussions provided valuable qualitative insights into how young adults conceptualize and experience virtual identity, helping to refine item phrasing, identify potential misunderstandings, and ensure the items resonated with the lived experiences of the target population. Following these revisions, a finalized pool of 35 items was prepared for empirical testing in the subsequent quantitative phases.

Phase 2: Exploratory Factor Analysis (EFA) Data collected from the EFA sample of 300 participants were subjected to Exploratory Factor Analysis. Principal Component Analysis (PCA) with Varimax rotation was

chosen as the extraction method. Varimax rotation was selected because it promotes a clear factor structure by maximizing the variance of the squared loadings of each factor, making the interpretation of factors more straightforward. Factor retention decisions were primarily guided by eigenvalues greater than 1.0, coupled with an examination of the scree plot to identify the point of inflection, and consideration of theoretical interpretability of the factors. Items were retained if they exhibited a factor loading of 0.40 or greater on a single factor. Items demonstrating significant cross-loadings (i.e., loading above 0.40 on more than one factor) were carefully reviewed and subsequently removed to enhance factor purity and interpretability. The EFA results revealed a clear and interpretable five-factor structure, which collectively accounted for approximately 72% of the total variance in the dataset. After removing cross-loading items, a refined 25-item scale remained for the subsequent confirmatory phase.

Phase 3: Confirmatory Factor Analysis (CFA) A separate sample of 300 participants, distinct from the EFA sample, was utilized for Confirmatory Factor Analysis. CFA was performed using AMOS 26.0 statistical software to test the goodness-of-fit of the five-factor model identified in the EFA phase. Several common model fit indices were assessed to determine the adequacy of the proposed factor structure:

- *Chi-square to degrees of freedom ratio ($\chi 2/df$):* The obtained ratio of 2.85 was acceptable, falling within the recommended range of 2-5 for good model fit.
- *Comparative Fit Index (CFI):* A CFI value of 0.91 was achieved, exceeding the conventional threshold of 0.90, indicating good incremental fit.
- *Tucker-Lewis Index (TLI):* A TLI value of 0.89 was obtained, which is close to the acceptable threshold of 0.90, suggesting a reasonable fit.
- *Root Mean Square Error of Approximation (RMSEA):* The RMSEA value of 0.05 was well within the acceptable range (typically < 0.08), indicating a close fit between the hypothesized model and the observed data. These collective fit indices provided strong empirical support, confirming the robust five-factor structure originally identified through the EFA.

Reliability and Validity Assessment Following the confirmation of the factor structure, a comprehensive assessment of the VIIS's reliability and validity was conducted:

- *Internal Consistency Reliability:* The internal consistency of the overall 25-item VIIS was assessed using Cronbach's alpha (α). The scale demonstrated strong internal consistency, with an overall α coefficient of 0.87. The reliability of each of the five subscales was also evaluated: Consistency (α=0.85), Authenticity (α=0.82), Compartmentalization (α=0.78), Role Conflict (α=0.80), and Psychological Impact (α=0.83). All subscale alpha coefficients were above the acceptable threshold of 0.70, indicating good to strong internal consistency for each dimension.
- *Test-retest Reliability:* To assess the stability of the VIIS over time, test-retest reliability was calculated using a subsample of participants who completed the scale on two separate occasions, approximately two weeks apart. A high test-retest correlation coefficient (r=0.82) was observed, demonstrating excellent temporal stability of the scale.
- *Construct Validity:* Construct validity was established through two primary methods:
    - *Convergent Validity:* This was assessed by examining the correlation between the VIIS and the Online Identity Consistency Scale. A significant positive correlation (r=0.64) was found, indicating that the VIIS converges with another measure theoretically expected to capture similar aspects of identity congruence. This provides strong evidence that the VIIS measures what it intends to measure about similar constructs.

Discriminant Validity: To ensure the VIIS is distinct from unrelated constructs, its correlation with the Social Desirability Scale was examined. A low correlation (r=0.22) was observed, suggesting that responses on the VIIS are not significantly influenced by participants' tendency to present themselves in a socially desirable light. This low correlation provides evidence for the discriminant validity of the VIIS, confirming it measures a distinct construct.

3 Results and Discussions

3.1 Results

The comprehensive statistical analyses undertaken in this study confirm the robust psychometric properties of the Virtual Identity Integration Scale (VIIS) as a measure of virtual identity integration among young adults aged 18–25. The sequential application of Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) provided strong empirical evidence for a clear, interpretable, and stable five-factor structure for the VIIS.

Exploratory Factor Analysis (EFA) Findings: The EFA, conducted on data from 300 participants, initially began with a 35-item pool. Using Principal Component Analysis with Varimax rotation, the analysis revealed a compelling five-factor solution. This five-factor model accounted for a substantial 72% of the total variance in the items, indicating that these factors capture a significant proportion of the underlying construct of virtual identity integration. Factor retention criteria, including eigenvalues greater than 1.0 and examination of the scree plot, consistently supported this five-factor structure. Following the initial extraction, items with cross-loadings greater than 0.40 on multiple factors were systematically removed to enhance the distinctiveness and interpretability of each factor. This rigorous pruning process resulted in a final 25-item scale, with each item loading onto one of the five identified factors.

Confirmatory Factor Analysis (CFA) Findings: The hypothesized five-factor model derived from the EFA was subsequently tested using CFA on a separate sample of 300 participants. The fit indices obtained from the CFA strongly supported the proposed model:

- $\chi 2/df=2.85$, which is well within the acceptable range, indicating a good fit of the model to the observed data.
- CFI = 0.91, exceeding the common threshold of 0.90, signifying an excellent incremental fit.
- TLI = 0.89, which is close to the acceptable threshold, further supporting a reasonable fit.
- RMSEA = 0.05, demonstrating a very good absolute fit and indicating that the model accounts for most of the variance in the observed covariance matrix.

These robust fit indices conclusively confirm that the five-factor structure identified in the EFA accurately represents the underlying dimensions of virtual identity integration captured by the VIIS. The strong fit suggests that the theoretical conceptualization of the scale is empirically supported.

Identified Five-Factor Structure and Sample Item Examples: The five empirically identified factors, which represent distinct dimensions of virtual identity integration, are:

1) *Consistency:* This factor captures the extent to which an individual's online persona is perceived as similar and congruent with their offline self. Items loading on this factor would reflect the degree of uniformity in personality, values, and behavior across digital and real-world contexts. For example, a sample item might be: "My online personality is very similar to my offline personality."
2) *Authenticity:* This dimension reflects the degree to which individuals feel genuine to themselves in their virtual self-presentations. Items would address the feeling of being oneself, without pretense or significant alteration, when engaging in digital spaces. For example, a sample item might be: "I feel like my true self when I interact online."
3) *Compartmentalization:* This factor measures the degree to which individuals maintain distinct and separate virtual identities that are largely independent of their real-world identity or other online personas. High scores here would indicate a tendency to keep different aspects of identity separate, potentially to manage different social roles or expectations. For example, a sample item might be: "I have different online personas that don't overlap."
4) *Role Conflict:* This dimension assesses the psychological tension or difficulty experienced when an individual's virtual identity clashes with their real-world roles or expectations. Items would gauge the stress or difficulty arising from managing conflicting demands between online and offline identities. For example, a sample item might be: "I sometimes feel conflicted between who I am online and who I am offline."

5) *Psychological Impact:* This factor captures the emotional and psychological consequences, both positive and negative, associated with the degree of virtual identity integration or fragmentation. Items would reflect feelings of well-being, stress, self-esteem, or anxiety related to their integrated or disintegrated virtual identities. For example, a sample item might be: "My online experiences make me feel more confident about myself."

Reliability Assessment: The overall internal consistency of the 25-item VIIS was very high, with a Cronbach's alpha coefficient of 0.87, indicating excellent reliability. The subscales also demonstrated adequate to strong internal consistency: Consistency (α=0.85), Authenticity (α=0.82), Compartmentalization (α=0.78), Role Conflict (α=0.80), and Psychological Impact (α=0.83). These alpha values consistently exceed the generally accepted threshold of 0.70, affirming the internal consistency of each dimension of the VIIS. Furthermore, the test-retest reliability (r=0.82) confirmed the temporal stability of the scale, indicating that the VIIS provides consistent measurements over time.

Validity Assessment: Construct validity was further supported by the significant positive correlation with the Online Identity Consistency Scale (r=0.64), providing strong evidence for convergent validity. This indicates that the VIIS measures a construct that aligns with other established measures of identity coherence in online contexts. Crucially, the low correlation with the Social Desirability Scale (r=0.22) demonstrated good discriminant validity, suggesting that the VIIS is not unduly influenced by participants' tendency to provide socially desirable responses. This strengthens confidence that the VIIS is indeed measuring virtual identity integration and not merely a generalized desire to present oneself favorably.

In summary, the results from both EFA and CFA, coupled with the robust reliability and validity analyses, firmly establish the VIIS as a psychometrically sound and multidimensional instrument for assessing virtual identity integration in young adults.

3.2 Discussion

The present study successfully achieved its primary objective: the development and rigorous validation of the Virtual Identity Integration Scale (VIIS). This new instrument provides a much-needed standardized and psychometrically robust measure to assess the complex interplay between young adults' virtual and real-world identities. The empirical findings from the multi-stage factor analyses consistently identified and confirmed a robust five-factor structure: Consistency, Authenticity, Compartmentalization, Role Conflict, and Psychological Impact. These factors align well with existing theoretical conceptualizations of identity and self-presentation in digital contexts, offering a nuanced and comprehensive framework for understanding virtual identity integration.

The emergence of **Consistency** and **Authenticity** as critical components of healthy identity alignment is particularly noteworthy and aligns strongly with extant psychological literature on identity formation and well-being. Consistency, as a factor, reflects the degree to which an individual's online and offline selves are perceived as similar and coherent. This resonates with Erikson's (1968) emphasis on identity coherence as a developmental outcome, where individuals strive to integrate various self-aspects into a unified whole. In the digital age, this coherence extends to the virtual realm. Authenticity, on the other hand, speaks to the feeling of being true to oneself across different contexts. Research by Waterman (2004) has consistently linked authenticity to higher levels of psychological well-being and self-actualization. Our findings reinforce the idea that for young adults, feeling genuine in their online interactions and perceiving a consistency between their digital and real-world selves are fundamental to positive self-perception and healthy psychological functioning. When individuals experience high levels of consistency and authenticity, they are likely to feel more integrated and less fragmented, which can reduce cognitive dissonance and promote a stronger sense of self.

Conversely, the factors of **Compartmentalization** and **Role Conflict** were empirically validated as key indicators of identity fragmentation or dissonance. Compartmentalization describes the tendency to maintain distinct and often separate online personas. While some degree of role differentiation can be adaptive, excessive compartmentalization, where online identities are vastly different from offline ones, can signify a lack of integration. This can lead to cognitive load and a sense of incongruence, where individuals must

constantly switch between different "selves." Role Conflict, as identified, directly captures the psychological tension and difficulties experienced when an individual's virtual identity clashes with their real-world roles, responsibilities, or expectations. This finding is highly consistent with Self-Discrepancy Theory (Higgins, 1987), which posits that discrepancies between different self-states (e.g., actual vs. ideal self) lead to emotional distress. Michikyan et al. (2014) similarly found that fragmented virtual identities were associated with higher levels of distress and lower self-esteem, providing further empirical support for the detrimental effects of high compartmentalization and role conflict. The VIIS effectively captures these two distinct, yet related, aspects of identity non-integration, providing a granular understanding of the challenges young adults face.

The inclusion and empirical validation of the **Psychological Impact** factor underscore the profound emotional and mental health consequences directly linked to the degree of virtual identity coherence or dissonance. This factor acknowledges that how individuals integrate their virtual identities is not merely a cognitive process but has tangible effects on their well-being. Positive psychological impact would be associated with high consistency and authenticity, leading to increased self-esteem, reduced anxiety, and greater overall life satisfaction, as suggested by Przybylski et al. (2012) and Barker (2009). Conversely, negative psychological impact would manifest in distress, self-esteem fluctuations, and increased self-comparison, as observed in Mehdizadeh's (2010) research on idealized online self-presentation. The VIIS, by explicitly including this dimension, provides a comprehensive assessment that extends beyond mere structural integration to capture the subjective experience and emotional fallout associated with it.

The development of the VIIS represents a significant novel contribution to the existing body of digital identity research. Previous measures often focused on specific online behaviors or pathologies, such as online self-presentation strategies or social media addiction. While valuable, these tools did not adequately capture the broader, multidimensional phenomenon of how individuals integrate their entire online presence with their offline self. The VIIS fills this critical gap by offering a psychometrically sound, multidimensional tool that simultaneously captures both the structural aspects of identity congruence (Consistency, Compartmentalization, Role Conflict) and the affective and personal significance of this integration (Authenticity, Psychological Impact). This comprehensive approach allows researchers to move beyond fragmented analyses to explore the holistic process of virtual identity integration.

The strong psychometric properties of the VIIS—including high internal consistency across all factors and the overall scale, robust test-retest reliability, and strong evidence of both convergent and discriminant validity—affirm its utility as a reliable and valid research instrument. Its ability to distinguish virtual identity integration from related but distinct constructs, such as social desirability, further enhances its credibility.

The implications of the VIIS extend beyond academic research. This scale holds considerable promise for practical application in various settings. In clinical psychology, it can be used to identify young adults who may be experiencing distress or mental health challenges related to identity fragmentation in the digital sphere, facilitating targeted interventions. For example, a therapist could use the VIIS to gauge a client's level of role conflict or compartmentalization to better understand the sources of their anxiety or low self-esteem. In academic settings, the VIIS provides a standardized measure that will enable more systematic and comparative studies on the antecedents and consequences of virtual identity integration across different populations, digital platforms, and cultural contexts. For policy-makers, understanding the psychological impact of digital identity integration, particularly for digital natives, can inform the development of educational programs or digital literacy initiatives aimed at promoting healthier online self-management and well-being.

In conclusion, the VIIS stands as a vital new tool for exploring the multifaceted nature of digital identity in the 21st century. Its robust psychometric properties and multidimensional structure make it an invaluable asset for future research in psychology, digital sociology, communication studies, and mental health.

4 Conclusion

The Virtual Identity Integration Scale (VIIS) has been successfully developed and rigorously validated as a reliable and valid instrument for measuring the complex phenomenon of virtual identity integration among young adults. This research effectively addresses a significant gap in the existing literature by providing a

standardized, multidimensional tool where previous measures often focused on narrower aspects of digital behavior. The identified five-factor structure—Consistency, Authenticity, Compartmentalization, Role Conflict, and Psychological Impact—offers a comprehensive and nuanced understanding of how individuals align their online and offline selves, and the resultant psychological implications.

The strong psychometric properties of the VIIS, including high reliability and robust validity, underscore its utility for both academic and practical applications. This scale provides a crucial foundation for future research endeavors in digital identity, mental health in the digital age, and the broader psychological processes of technology-mediated self-construction. Moving forward, it will be essential for subsequent studies to further examine the cross-cultural applicability and generalizability of the VIIS across diverse cultural contexts and across different age groups to ensure its widespread utility. The VIIS represents a significant step forward in understanding the evolving nature of human identity in an increasingly digitized world.

Acknowledgments
The authors are grateful to all who participated in this study.

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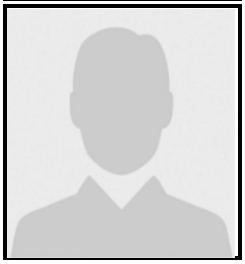
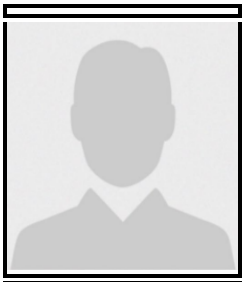
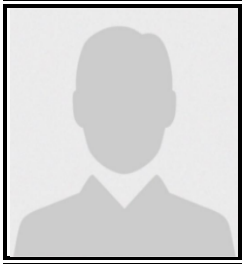
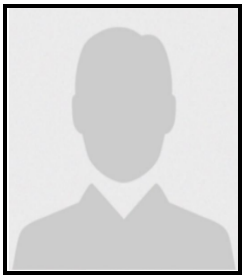
Biography of Authors

	**Dr. Rajeev Misra** (Corresponding Author) Assistant Professor in the Department of Community Medicine and Public Health, King George's Medical University, Lucknow, Uttar Pradesh, India *Email: drrajeevmisraspm@kgmcindia.edu*
	**Ms. Divyanshi Singh** Research Scholar in the Department of Psychology, National Post Graduate College, Lucknow, Uttar Pradesh, India *Email: singhdivyansi296@gmail.com*
	**Ms. Akanksha Mishra** Research Scholar in the Department of Nutrition, Isabella Thoburn College, Uttar Pradesh, India *Email: akankshamishrakgmu@gmail.com*
	**Dr. Rajgopal Reddy** Director Clinical Operations, Chandan Hospital, Lucknow, Uttar Pradesh, India *Email: raj@drrajgopal.com*