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CONSTRUCTION OF THE DIGITAL SELF THROUGH AVATARS: IDENTITY AND PERFORMATIVITY

PATRICIA BARRON SAN BLAS
patricia.barron@ehu.eus
University of the Basque Country, Spain

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ABSTRACT

This research examines the interplay between avatar personalization, self-identification, and affective expression, emphasizing the performative dimensions of the digital self. Utilizing a quantitative, sociodemographically representative survey of Generation Z in the Basque Country (n = 412), the study interrogates the construction and configuration of visual subjectivity. The findings reveal that a greater degree of avatar personalization is associated with heightened levels of subjective identification, intensified affective expression, and elevated perceived social presence. Furthermore, the analysis underscores the role of avatars as performative instruments through which the self is enacted, mediating between embodied physicality and its visual articulation in metaverse environments.

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1. Introduction

Over the past two decades, the progressive digitalization of social experience has fostered new forms of mediated subjectivity (Zapatero Romero & Estrada Ruiz, 2022), in which identity is no longer confined exclusively to physical presence or to traditional forms of discursive self-representation (Martín-Ramallal et al., 2023). Within this framework, identity emerges as a continuous, dynamic, and interactive process, articulated through practices shaped by digital technologies that integrate deeply interrelated visual, performative, and affective dimensions (Martín-Ramallal et al., 2023).

This transformation is further intensified by the expansion of immersive virtual and metaversal environments, where social experiences are primarily structured through digital simulations and embodied representations (Ball, 2022; Burrows, 2022). Rather than implying the disappearance of corporeality, these environments facilitate its symbolic reconfiguration via digital representational devices that mediate self-perception and the perception of others (Gonzalez-Franco & Peck, 2018).

Against this backdrop, avatars have become central interfaces of self-expression and social interaction, serving both as graphical representations of the user and as extensions of the offline self (Roldán, 2014; Cheng et al., 2022; Park & Kim, 2022). Avatar-based mediation thus constitutes the primary means through which first-person experience is enacted in the metaverse, enabling flexible –and occasionally anonymous– forms of identity presentation (Heidicker et al., 2017; Burrows, 2022; Ilyina et al., 2022).

However, this identity flexibility is not without ambivalence. The possibility of experimenting with multiple configurations of the digital self "may generate dissonances with physical identity, affecting self-image and identity stability" (Barron San Blas et al., 2025, p. 74). These tensions underscore the importance of examining how avatar customization practices impact not only self-identification but also affective expression and the subjective experience of identity in the metaverse.

Moreover, although avatars actively participate in the construction of personal and social identity, their configuration is socially situated. Rather, it is embedded within contexts shaped through normative expectations, aesthetic pressures, and dynamics of external recognition, which influence forms of self-representation (Latoschik et al., 2017; Roldán, 2014). Accordingly, customization may be conceptualized as a space of symbolic negotiation among aspiration, authenticity, and desire (Hodson & O'Meara, 2023), in which selfhood is expressed in fluid, performative, and mutable ways (Baldwin, 2019).

While the academic literature has extensively addressed issues related to digital identity, self-presentation on social media, and the performativity of the self in mediated contexts, a significant gap remains in the empirical examination of avatar customization as a situated practice. In particular, there is a scarcity of studies that systematically examine its association with processes of subjective self-identification, affective expression, and perceived social presence. This gap becomes particularly important in light of evidence that avatar customization plays a central role in strengthening users' sense of embodiment, agency, and social presence within virtual environments (Jung et al., 2022; Suk & Laine, 2023). In fact, personalized avatars can be more impactful in this regard than highly realistic but generic representations (Waltemate et al., 2018). The relevance of this dynamic is further amplified when considering Generation Z, a cohort shaped by deeply visual and immersive digital contexts, for whom curating and expressing identity through digital aesthetics is a routine and meaningful practice (Ezquerra Fernández & Bonales Daimiel, 2024).

Accordingly, the present study aims to examine the relationship between avatar customization, self-identification, and affective expression. Based on a quantitative survey administered to a sociodemographically representative sample of Generation Z in the Basque Country (n = 412), the analysis explores how the visual configuration of avatars influences the construction of digital subjectivity and the experience of perceived social presence. By doing so, this study contributes

to an emerging field of research by providing updated empirical evidence that deepens our understanding of the role of avatars in shaping identity.

2. State of the art

The study of identity in digital environments has experienced significant growth in recent years, developing through approaches that integrate sociocultural theory, mediated communication, and studies of performativity. Within this framework, avatars have gained prominence as interfaces that materialize forms of presence, interaction, and self-expression in virtual spaces. However, the analysis of avatar customization has been addressed in a fragmented manner, generally subsumed within broader debates on digital identity or self-presentation, without the development of a specific analytical framework capable of accounting for its subjective, affective, and relational functions.

The literature thus reveals a tension between robust theoretical approaches –which conceptualize the avatar as a symbolic and performative artifact– and a relative scarcity of empirical research capable of operationalizing these notions in concrete social contexts. This gap is particularly significant for generations socialized within highly visual and immersive virtual environments, for whom avatar configuration constitutes an everyday practice of self-construction. Within this framework, the present state of the art first reviews the main theoretical approaches to the avatar as a device of subjectivation and, subsequently, the empirical studies that examine its relationship with affectivity and social presence.

2.1. The avatar as a performative device and a practice of subjectivation

From a performative perspective, the avatar operates as a central mediator in the articulation of digital subjectivity (Martín-Ramallal et al., 2023), enabling the construction of the self through visual, corporeal, and narrative mechanisms. Identity, conceived as a relational and situated process (Goffman, 1959), is produced through iterative practices of representation and recognition, in which the avatar renders the subject visible and socially legible in the absence of physical co-presence. Rather than functioning as a mere substitute image of the body, the avatar enables the experimentation with forms of symbolic self-inscription that integrate personal, aspirational, and normative dimensions. This dynamic of self-exploration is structured both by the technological affordances of the platform and by the sociocultural frameworks that regulate desirability, normalization, and the recognition of particular forms of self-expression (Barron San Blas, 2025).

Contemporary research on digital media and virtual environments indicates that the avatar not only represents the subject but actively participates in processes of subjectivation through dynamics of symbolic, affective, and relational incorporation. In addition, recent studies emphasize that sustained interaction with avatar representations contributes to the construction of a situated narrative of the self, in which the self emerges through the negotiation between self-expression, social norms, and expectations of recognition within the digital environment (Bonales-Daimiel et al., 2025).

More specifically, recent empirical studies in virtual reality and immersive platforms have demonstrated that the degree of identification, agency, and perceived control over the avatar directly influences self-perception and the regulation of user behaviour. Research such as that conducted by Li et al. (2024) shows that avatar identification intensifies the internalization of virtual experiences as part of the self, reinforcing processes of embodiment and subjective continuity. Likewise, recent work on psychological ownership and customization in digital environments suggests that the bond with the avatar produces persistent effects on identity perception and on the subject's emotional engagement (An & Lv, 2025).

Within this process, avatar customization occupies a central role, as through the selection and combination of visual, corporeal, and expressive attributes, the subject confers narrative coherence and affective meaning upon their virtual presence. These symbolic decisions transcend purely aesthetic or functional considerations and become intertwined with processes of self-identification, social image management, and the negotiation of recognition (Barron San Blas et

al., 2025), particularly when expressive capacities –such as gesture, bodily synchronization, or emotional expression– are incorporated; thereby expanding the performative potential of the avatar (An & Lv, 2025).

A growing body of research shows that highly personalized avatars, particularly so-called self-avatars, promote a stronger alignment between users' physical and digital selves, thereby enhancing embodiment, agency, and a sense of subjective continuity within virtual experience (Gonzalez-Franco & Peck, 2018; Waltemate et al., 2018). This alignment operates beyond simple visual similarity, extending to embodied perception, psychological identification, and narrative coherence. In doing so, it can function as a stabilizing mechanism for identity in environments marked by fluidity and the coexistence of multiple roles (Bonales-Daimiel et al., 2025).

Table 1. Avatar customization elements and their effects on digital subjectivity

Customization	Identity function	Example	Perceived effect
Virtual attire	Self-representation, narrative coherence	Change of clothing, hairstyle selection	Social recognition, alignment with the "ideal self"
Gestures and expressions	Affective communication	Smiling, bodily movements	Intensification of the sense of co-presence
Narrative attributes	Avatar backstory and contextualization	Biography, in-game role	Enhanced sense of belonging and subjective meaning
Avatar overall	Subjective continuity and embodiment	Avatar resembling the physical-world self	Increased agency and coherence of digital identity

Source: Compiled by the author from Barron San Blas (2025); Bonales-Daimiel et al., (2025); Gonzalez-Franco & Peck (2018); Longobardi et al. (2020); and, Waltemate et al. (2018).

2.2. Affectivity, social presence, and generational dynamics in avatar-mediated environments

From an affective perspective, avatar-mediated interaction introduces specific forms of emotional engagement characterized by increased reflexivity and control over self-expression (Sandua, 2024). Avatar mediation enables the regulation of emotional exposure, facilitating social participation even in potentially evaluative or emotionally demanding situations, thereby expanding the possibilities for affective involvement in virtual environments (Sghaier et al., 2022; Visconti et al., 2023).

These dynamics are especially pronounced in environments where social interaction is mediated primarily through digital embodiments of the self, and where the absence of physical nonverbal cues requires alternative channels for affective communication (Sandua, 2024). Accordingly, identification with one's avatar can foster a greater sense of comfort and psychological safety in self-expression. Moreover, this identification has been linked to increased social self-efficacy, heightened confidence in one's ability to engage effectively with others, and improved emotional well-being, factors that, in turn, help mitigate experiences of loneliness, social anxiety, and social isolation (Oh et al., 2023).

However, the intensification of identification with the avatar may also give rise to ambivalent affective dynamics. While customization can foster emotional well-being and social engagement, it may simultaneously reinforce processes of social comparison, aesthetic self-demand, and emotional surveillance (Taylor, 2022; Hodson & O'Meara, 2023). In such cases, the avatar may operate as a projection of the "ideal self," whose divergence from the offline self intensifies feelings of self-dissonance, frustration, or dependence on external validation (Longobardi et al., 2020).

With regard to "social presence" (Heidicker et al., 2017), the consistency between the avatar's appearance, behaviour, and interactive responsiveness proves crucial for sustaining social interaction (Oh et al., 2023). Social presence should not be understood solely as an individual sensation, but rather as an emergent effect of ongoing interaction, in which avatars function as symbolic anchors of agency, intentionality, and social availability (Taylor, 2022). These perceptions of presence and affective recognition are, in turn, mediated by the sociotechnical architectures of virtual platforms. Avatar customization systems embed technical constraints and normative assumptions that shape which forms of embodiment, emotional expression, and identity styles are possible, visible, or socially validated (Longobardi et al., 2020). Consequently,

affectivity is not only expressed through the avatar but is also shaped by algorithmic logics and social feedback dynamics that influence self-evaluation, emotional regulation, and the perception of belonging (Latoschik et al., 2017; Baldwin, 2019).

In particular, Generation Z demonstrates a marked sensitivity to the aesthetic, expressive, and symbolic dimensions of the avatar, employing it as a central tool for self-expression and identity exploration (Giovanetti et al., 2023). This plasticity enables identity to be conceived as a non-fixed process, allowing for experimentation with expressions of gender, style, and embodiment (Giovanetti et al., 2023; Nokia, 2022). In this sense, the avatar functions as a mediating structure that articulates both continuity and self-experimentation in relation to diverse social frameworks and normative expectations (Shuvalova & Tanaka, 2022).

3. Theoretical Framework

3.1. The avatar as a performative technology of the self

The analysis of the avatar as a performative technology of the self is grounded in the theoretical framework of the metaverse, understood as a set of persistent, immersive, and interconnected virtual environments (Dionisio et al., 2013; Ball, 2022). Beyond a purely technical domain, the metaverse can be conceptualized as a sociotechnical infrastructure in which digital platforms, cultural norms, economic logics, and social practices converge, shaping new conditions for experience and subjectivity (Burrows, 2022; Cheng et al., 2022). From this perspective, the metaverse does not constitute a parallel reality detached from the social world; instead, it operates as a mediated extension of it, where social relations and forms of self-presentation are rearticulated, granting the avatar a central role as a mediator between the subject and the virtual environment (Heidicker et al., 2017; Ilyina et al., 2022).

Theoretically, the avatar can be conceptualized as a performative technology of the self insofar as it operates as a mediating mechanism that enables the production, regulation, and visualization of subjectivity in online environments (Cheng et al., 2022). This conception is embedded within a post-essentialist tradition of identity, which understands the self not as a stable entity or one that precedes interaction, but as the outcome of reiterated practices of representation, recognition, and social positioning (Goffman, 1959; Butler, 1990). In this sense, identity is produced within relational settings in which individuals actively manage the impressions they project to others, adjusting their behaviour and appearance in accordance with social expectations (Goffman, 1959). At the same time, Butler (1990) emphasizes that such practices are neither free nor arbitrary, but are embedded within normative frameworks that regulate which forms of expression become recognizable; thus, performative reiteration does not merely express identity, but constitutes it.

This technological mediation introduces a specific form of reflexivity of the self. Drawing on the Foucauldian notion of "technologies of the self" (Foucault, 1988), the avatar can be understood as a device that allows individuals to observe, evaluate, and adjust themselves through their visual projection. This reflexivity not only enables practices of self-exploration, but also entails processes of self-surveillance and normalization, through which subjects internalize social criteria of value, adequacy, and recognition while managing their own digital visibility. The capacity to modify one's digital body, to experiment with different identity configurations, and to anticipate the gaze of others transforms the avatar into a space of symbolic self-regulation (Nakamura, 2020).

Moreover, this avatar-based performativity is embedded within sociocultural and technical frameworks that delimit what is representable and recognizable (Gandini, 2016). Design options, available styles, and interaction logics incorporate normative assumptions regarding embodiment, gender, expressivity, and social desirability (Taylor, 2022; Hodson & O'Meara, 2023), thereby configuring a field of subjective possibilities that individuals inhabit and negotiate (Giddens, 2015; Lee et al., 2024). In other words, this reflexivity is not devoid of tension, as the standardization of customization resources may foster dynamics of self-homogenization. As noted in the study by Barron San Blas et al. (2025, p. 74), "our real bodies distinguish us from one

another, and if we could all choose our image and conform to social canons, we would lose all diversity and each individual would cease to believe in themselves", highlighting the risk that self-regulation may lead to the reproduction of normative aesthetic models.

3.2. Avatar customization and self-identification as processes of embodiment

Avatar customization constitutes a central practice in the production of the digital self, as it enables the subject to inscribe themselves within the virtual environment through visual and expressive decisions. This practice encompasses both material aspects –such as the avatar's visual design– and symbolic aspects –such as the selection of identity-relevant traits– and goes beyond merely "configuring" a digital body, involving instead active engagement in a process of narrative construction (Jung et al., 2022; Radiah et al., 2023).

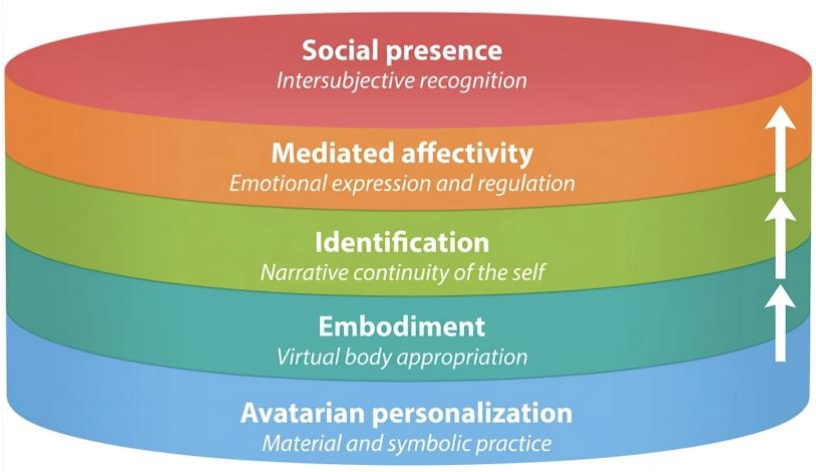
Self-identification with the avatar emerges when this visual configuration is perceived as a legitimate extension of the self (Roldán, 2014; Sánchez-López et al., 2023). From the perspective of embodiment theory, this phenomenon can be conceptualized as a process of symbolic embodiment, in which subjective experience is projected onto the digital body without losing its sense of continuity (Gonzalez-Franco & Peck, 2018). The relationship between customization and embodied experience has been empirically substantiated:

> First, personalized avatars significantly increase virtual body ownership, virtual presence, and dominance compared to generic counterparts, even if the latter were generated by the same photogrammetry process and hence could be valued as equal in terms of the degree of realism and graphical quality. Second, the degree of immersion significantly increases virtual body ownership and agency, and we could confirm its impact on the feeling of presence (Waltemate et al., 2018, p. 1651).

On this basis, the affective dimension is articulated as an intersubjective process, sustained through practices of mutual recognition and performative coherence (Dufresne et al., 2024). Identification with the avatar provides a symbolic framework that facilitates emotional engagement and the regulation of affective expression, integrating subjective experience with social interaction (Radiah et al., 2023; Waltemate et al., 2018).

From this perspective, social presence emerges as a relational outcome resulting from the interaction between customization, embodiment, identification, and mediated affectivity (Heidicker et al., 2017; Oh et al., 2023). Instead of being understood merely as a sensation of co-presence, it encompasses the experience of being perceived and recognized as an intentional and emotionally available subject. In this way, the convergence of these dimensions enables intersubjective recognition, completing the process through which the digital self is constituted and validated within the virtual environment.

Figure 1. Stages of avatar customization



Source: Compiled by the author from Bejan, (2023); Gonzalez-Franco & Peck, (2018); Heidicker et al., (2017); Radiah et al., (2023); and, Waltemate et al. (2018).

4. Objectives

The general objective of this study is to analyse the construction of the digital self through avatar customization in metaversal environments, with particular attention to its association with self-identification, affective expression, and perceived social presence among Generation Z. Specifically, the study seeks to:

- Examine the relationship between the extent of avatar customization and subjective self-identification, considering the avatar as a symbolic and embodied extension of the digital self.

- **Investigate the influence of avatar customization on affective expression and on the emotional experience of mediated social interaction.**

- **Explore the role of the avatar as a performative device of the digital self and its contribution to the perception of social presence.**

5. Methodology

This study adopts a quantitative, non-experimental, and cross-sectional research design aimed at analysing the relationship between avatar customization, subjective self-identification, affective expression, and the perceived social presence in virtual environments. This approach enables the examination of associations between variables without experimental manipulation, focusing on subjective experiences mediated by avatars in metaversal contexts. The study is situated within a descriptive-correlational framework, appropriate for identifying significant patterns in the construction of the digital self.

The sample consists of 412 participants belonging to Generation Z (born between 1994 and 2006) and residing in the Autonomous Community of the Basque Country (Spain). A sociodemographically stratified sampling strategy was employed, considering variables such as age, gender, and historical territory, in order to ensure the external validity of the findings. Inclusion criteria required participants to fall within the defined age range for Generation Z and to have used digital avatars in at least one virtual environment, video game, or metaverse platform. Participation was voluntary and anonymous, in accordance with ethical principles governing social research.

Data collection was conducted over a three-month period through an online structured questionnaire, specifically designed based on prior literature on digital identity, avatar customization, affectivity, and social presence. The instrument included sociodemographic

variables and four main analytical dimensions: degree of avatar customization, subjective self-identification, affective expression, and perceived social presence. The questionnaire underwent a content validation process involving 30 experts contacted via email and demonstrated adequate levels of internal consistency across all analysed dimensions.

Data analysis was carried out using descriptive and inferential statistical techniques. In the initial phase, descriptive measures were calculated to characterize the sample and the study variables. Subsequently, correlational analyses and multivariate models were applied in order to examine the relationships between avatar customization, identification with the avatar, affective expression, and perceived social presence. The level of statistical significance was set at $p < 0.05$.

6. Results

6.1. Avatar use and levels of customization

The findings indicate that customization constitutes a widespread and socially normalized practice. A total of 87.6% of users report having modified their avatar beyond default settings, whereas only 12.4% indicate the use of generic avatars or those with minimal personalization. This distribution suggests that avatar creation and adjustment represent a central dimension of user experience in digital environments based on embodied representations.

A detailed analysis of the degree of customization reveals three clearly differentiated user profiles. A total of 41.2% of participants exhibit a high level of customization, characterized by the systematic modification of multiple avatar dimensions, including facial features, body structure, clothing, accessories, and expressive elements. This group tends to conceptualize the avatar as a carefully curated and meaningful representation, in which each configuration decision holds significance. In contrast, 46.4% fall within a medium level of customization, primarily focused on basic aesthetic attributes such as clothing style, hairstyle, or avatar colour, without substantial intervention in more complex aspects of embodiment or expressiveness. Finally, the remaining 12.4% correspond to users with low levels of customization, who limit their intervention to minimal adjustments or accept the platform's default options.

This distribution suggests that, although most users engage in avatar personalization, there are varying degrees of involvement: high levels of customization are associated with a more intense and self-reflexive relationship with digital representation, whereas medium and low levels appear to reflect more pragmatic or context-dependent uses of the avatar. In other words, customization is not homogeneous but reflects diverse modes of engagement with the avatar; nevertheless, even among users with moderate customization, basic aesthetic modifications indicate an explicit intention toward differentiation and minimal appropriation of the digital body.

The data further indicate that personalization is not confined to the initial moment of avatar creation. A total of 58.7% of participants report modifying their avatar on a recurrent basis, compared to 41.3% who maintain a relatively stable configuration. Among those who engage in frequent modifications, there is a tendency to adjust the avatar according to the type of platform used, the social context of interaction, or changes in personal preferences. This behaviour highlights the extent to which the avatar is conceived as a dynamic and adaptable representation, rather than as a fixed identity.

Moreover, the data reveal significant differences in the types of elements subject to customization. The most frequently modified attributes are clothing and accessories (79.4%), followed by facial features (64.8%) and hairstyle (61.3%). By contrast, modifications related to body structure (e.g., height, build, or proportions) and expressive elements (e.g., gestures, posture, or emotional expressions) appear at lower rates (38.6% and 34.1%, respectively). This distribution suggests that participants prioritize those elements that are more immediately visible and socially interpretable in interaction, whereas more complex expressive dimensions are explored more selectively.

Finally, cross-analysis between the degree of customization and the frequency of avatar use reveals a significant relationship. Participants who engage intensively with avatars display higher levels of customization and a greater propensity to modify their avatars over time. Conversely,

those who use avatars sporadically tend to maintain more stable and less elaborated configurations. This pattern suggests that customization is reinforced by accumulated experience and by the centrality of the avatar within everyday digital practices. In other words, the findings indicate that customization is not solely driven by individual aesthetic preferences, but is also shaped by social and contextual factors.

6.2. Avatar customization and subjective self-identification

The analysis of the relationship between avatar personalization and subjective self-identification reveals a consistent pattern of association between both variables. The observed positive correlation ($r = 0.62$; $p < 0.001$) remains stable when the sample is segmented by gender, age, and frequency of use, indicating that the relationship does not depend on a specific sociodemographic profile, but rather constitutes a transversal phenomenon in users' experiences.

Analysis of variance (ANOVA) confirms the existence of statistically significant differences between groups according to levels of customization ($F = 34.8$; $p < 0.001$), reinforcing the notion that the degree of customization acts as a discriminating factor in the intensity of subjective self-identification. Post hoc tests indicate that the greatest divergence occurs between the high and low customization groups, while the intermediate group occupies a transitional position, exhibiting mixed patterns of identification.

In this regard, the examination of mean self-identification scores shows that participants with high levels of customization display significantly higher values in items related to the sense of avatar ownership, the perceived continuity between personal and digital identity, and the integration of the avatar into the narrative of the self. At the medium level of customization, self-identification appears in a moderate and selective manner, whereas at the low level, the lowest scores are observed, with a tendency to conceptualize the avatar as an external resource detached from the self.

Beyond overall levels of identification, the results allow for the disaggregation of subjective self-identification into distinct dimensions. The dimension of subjective representation – understood as the perception that the avatar "represents me"– yields the highest values, followed by identity continuity, and, to a lesser extent, emotional attachment. This hierarchy suggests that identification is constructed progressively, beginning with the symbolic recognition of the avatar as "one's own" and, in some cases, consolidating into a more intense emotional bond.

Multiple regression analysis reveals that, among the variables associated with customization, not all elements carry the same explanatory weight in relation to self-identification. The perceived coherence between the avatar and subjective self-perception emerges as the strongest predictor ($\beta = 0.53$; $p < 0.01$), surpassing variables such as time invested in customization or the number of modified elements. This finding indicates that identification is less dependent on the quantity of modifications and more on the meaning attributed to them.

Finally, the results demonstrate that self-identification is reinforced by representational stability. Participants who maintain a relatively consistent avatar configuration over time exhibit higher levels of identification than those who frequently modify their avatar without a coherent narrative. This finding suggests that identification depends not solely on the capacity to modify the avatar, but on the construction of a recognizable and meaningful representation for the user.

6.3. Influence of customization on affective expression

The affective dimension highlights that avatar customization exerts a significant influence on how participants experience and regulate their emotional expression in virtual environments. A substantial majority of avatar users (71.3%) report feeling more comfortable expressing emotions, opinions, and personal attitudes when interacting through an avatar they perceive as their own, compared to 28.7% who do not report significant changes in their emotional experience based on the level of customization.

The examination of mean scores across affective expression indicators reveals statistically significant differences between levels of customization. Participants with high levels of customization exhibit higher values in dimensions such as emotional security, expressive

spontaneity, and perceived control over communication. In the medium customization group, these indicators fall at intermediate levels, whereas users with low levels of customization display lower levels of emotional engagement and a greater tendency toward affective restraint. Analysis of variance (ANOVA) confirms the statistical significance of these differences ($F = 27.3$; $p < 0.001$).

Multivariate models indicate that the degree of avatar customization acts as a significant predictor of the intensity and fluency of perceived affective expression ($\beta = 0.48$; $p < 0.01$), even after controlling for sociodemographic variables (gender and age) and usage-related variables (frequency of interaction and type of platform). This effect remains stable across different models, reinforcing the consistency of the observed relationship.

Furthermore, the data reveal that self-identification with the avatar plays a significant moderating role in this relationship. When self-identification is introduced as a mediating variable, the direct effect of customization decreases, while self-identification retains a significant explanatory weight on affective expression ($\beta = 0.41$; $p < 0.01$). This pattern suggests that customization influences emotional experience primarily insofar as it strengthens the subjective bond with the avatar, thereby facilitating greater affective involvement in interaction.

Alongside these positive effects, the survey results also reveal the presence of conflicting affective dynamics associated with high levels of customization. A total of 22.5% of participants with highly customized avatars report experiencing pressure to maintain a coherent or socially valued image. This group displays higher scores on indicators of emotional internal pressure and concern about external evaluation compared to users with medium or low levels of customization. Moreover, logistic regression analysis shows that the likelihood of experiencing these affective tensions increases significantly when high levels of customization coincide with a strong dependence on social feedback received during interaction. This finding suggests that customization may intensify emotional involvement in contexts where visibility and social evaluation are perceived as salient.

6.4. Avatar Personalization and Perceived Social Presence

Perceived social presence is closely associated with the degree of avatar personalization ($r = 0.57$; $p < 0.001$), indicating that users interacting through more highly personalized avatars tend to experience a stronger sense of co-presence and mutual recognition during virtual interaction. This perception extends beyond the mere feeling of "being accompanied," encompassing instead the experience of socially meaningful interaction characterized by mutual attention.

Group comparisons reveal that participants with high levels of personalization score significantly higher on relational indicators such as perceived reciprocity, clarity of social cues, and intersubjective recognition. In contrast, users with low levels of personalization report more functional and instrumental interactions, in which the presence of others is perceived as less intense and less socially salient.

Hierarchical regression models confirm that personalization significantly contributes to explaining perceived social presence; however, this effect is partially mediated by self-identification with the avatar ($\beta = 0.45$; $p < 0.01$). This finding suggests that personalization functions not merely as an aesthetic resource but as a mechanism that enhances the social interpretability of the avatar and facilitates its integration into processes of mutual recognition. In other words, users with moderate levels of personalization may achieve high levels of perceived social presence when they develop symbolic identification of their avatar and engage in interactions characterized by reciprocity and mutual attention.

This finding reinforces the notion that social presence is inherently relational, depending not only on avatar characteristics but also on the interactive processes established among participants, beyond individual visual appearance.

7. Conclusions

This study concludes that avatar personalization constitutes a structural component in the construction of the digital self among Generation Z in metaverse environments and virtual spaces. In line with the general objective, the findings demonstrate that the avatar operates as a

significant identity mediator, through which individuals articulate processes of self-identification, affective regulation, and social bonding, extending beyond a merely aesthetic or instrumental function.

Regarding the first specific objective, the data confirm that the degree of avatar personalization is directly associated with the intensity of subjective self-identification. Personalization emerges as a mechanism that reduces the distance between the offline self and the online self, fostering the perception of the avatar as an extension of personal identity. This identification is not grounded in the faithful reproduction of the physical body, but rather in the construction of a representation consistent with the individual's subjective self-perception. In this sense, the avatar becomes integrated into the user's identity narrative when it successfully expresses traits, values, and meanings recognized as one's own, consolidating itself as a space for self-appropriation within the digital environment.

With respect to the second objective, it is concluded that avatar personalization significantly influences emotional experience and affective expression during mediated interaction. The personalized avatar functions as a facilitator of emotional engagement, providing a framework of safety and control that encourages expressive spontaneity. However, this influence is fundamentally explained by the subjective bond established with the avatar, indicating that the affective dimension of the digital self is activated insofar as individuals recognize themselves in their representation. At the same time, the results highlight that increased emotional engagement may generate dynamics of self-imposed pressure and social pressure, particularly in contexts of high social visibility, underscoring the dual nature of personalization as an identity practice.

Regarding the third objective, the findings indicate that the avatar operates as a performative device that plays a decisive role in shaping perceived social presence. Personalization enhances the experience of co-presence and mutual recognition by enabling users to project themselves into interaction through a meaningful and stable digital identity. Thus, social presence does not derive exclusively from the technical features of the environment, but from the degree of individuals' identity involvement with their avatar, which enables interactions to be perceived as more authentic, relational, and socially meaningful.

In conclusion, this study demonstrates that avatar personalization functions as a central axis in articulating the digital self among Generation Z, connecting the identity, affective, and social dimensions of virtual experience. The avatar is configured as a dynamic space for self-experimentation and performativity, in which meanings of continuity, expression, and belonging are negotiated. These conclusions underscore the need to approach metaverse environments not only from a technological perspective but also from a psychosocial and communicative framework that acknowledges the role of the avatar in shaping digital subjectivity.

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