

## RESEARCH ARTICLE OPEN ACCESS

# Vulnerable Narcissism and Sense of Community Among Adolescents: The Role of Self-Esteem and Use of Social Media

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**Received:** 25 April 2024 | **Revised:** 25 January 2025 | **Accepted:** 3 February 2025

**Funding:** This work was supported by the a contribution supported by PRIN 2022 MUR, project Children as vulnerable users of IoT and ai-based t: a multi-level technologies interdisciplinary assessment (CURA) <https://www.lider-lab.it/cura/>. (2022KAWEYF).

**Keywords:** adolescence | narcissism | self-esteem | sense of community

## ABSTRACT

This study investigated the relationships among vulnerable narcissism, the use of social network sites (SNSs), self-esteem, and sense of community among adolescents. Based on a sample of 381 high school students, we explored whether vulnerable narcissism, exacerbated by the use of SNSs and low self-esteem, contributes to difficulties in establishing community relationships. Hypotheses were tested to examine the associations among narcissism, sense of community, and self-esteem, with the use of SNSs as a moderating factor. The results indicated a negative relationship between narcissism and sense of community, with self-esteem mediating this relationship. Furthermore, the low or high use of SNSs moderates the negative relationship between narcissism and sense of community and self-esteem such that with high use of social media, the relationship becomes positive. These findings suggest that vulnerable-narcissist adolescents use social sites as facilitators of community relationships and support of their self-esteem. Conversely, adolescents with low usage are less inclined to support real-life comparisons, perceiving the community as a dangerous testing ground to avoid. This study highlights the importance of addressing vulnerable narcissism and the use of SNSs in interventions aimed at promoting community involvement and well-being among adolescents.

## 1 | Introduction

Narcissism, as a dimensional personality trait, involves a grandiose sense of self and behaviours for which the subject seeks validation in their immediate reality (Morf and Rhodewalt 2001). In clinical settings, descriptions of pathological narcissism converge on several typical characteristics: excessive egocentrism accompanied by an exaggerated concern for one's personal worth, an insatiable need for recognition from others, the presence of mental states of emptiness with a general impoverishment of affect, and a poor ability to build interpersonal relationships (McWilliams 2011; Kernberg 2004; Lingardi and McWilliams 2017).

In recent decades, studies on narcissism and the use of virtual networks in adolescence have expanded (Milani 2014; Gnams and Appel 2018; Kong et al. 2021). A considerable number of these studies use narcissism as a construct to analyse the self-presentation strategies adolescents employ on social network sites, showing a positive relationship between narcissism and the use of social media as a mode of self-exhibiting (Zhang et al. 2011; Bergman et al. 2011; Hilsen and Helvik 2014). On the other hand, being continuously immersed in the virtual environment may exert constant pressure to interact with, compare oneself to, and socialise with other people (González-Larrea and Hernández-Serrano 2020; Kaplan and Haenlein 2010). During adolescence, emotional

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growth is based on a narcissistic renunciation of omnipotence, supported by centrifugal pressure that leads the adolescent to experience other forms of socialisation, cohabitation and co-operation. Through interactions with peers and comparison with others, adolescents gain access to an expanded communal dimension, allowing them to gradually experiment with their roles as citizens (Albanesi et al. 2007). In this developmental transition, a marked difficulty could arise for adolescents to relinquish grandiose fantasies about themselves at the expense of the ability to build satisfying intimate relationships and genuine interest in others, causing them to overinvest instead in virtualised relationships (Twenge et al. 2008; Twenge 2017). The social dimension, which exposes individuals to authentic contact with others, could become less appealing to narcissistic adolescents and lose the power to heal their narcissistic wounds. That could, in turn, fuel the risks of social withdrawal from the community scene, which finds its mystification or illusion in the massive use of social media. Therefore, opportunities to enable new and functional social selves in the community of institutions and social groups may diminish, depriving individuals of the experience of limits and sharing inherent in community belonging. As Beck and Freeman (1990) suggest, narcissistic personalities, on the one hand, tend toward self-exaltation and, on the other, are deficient in participatory processes and identification with the group or community to which they belong. In fact, their interactions are aimed at increasing self-esteem, which depends on external feedback, rather than creating authentic relationships (Mehdizadeh 2010). The reformulation of a social contract with the community involves the redistribution of power for oneself and others as well as with others, which allows individuals to recognise themselves as part of a situated system of interdependent relationships through which shared needs can be fulfilled (Arcidiacono et al. 2021).

Based on an interdisciplinary perspective (Mannarini and Arcidiacono 2021), the present work therefore takes an approach that integrates the clinical and community dimensions, analysing the relationship between individual factors (such as narcissism and self-esteem) and contextual factors (such as sense of community and use of SNSs).

### 1.1 | Narcissism: Grandiose and Vulnerable Subtypes

According to the definition in the DSM-5-TR (APA 2013), narcissistic personality disorder presents three main descriptive elements: overt manifestation of grandiosity in self-perception, lack of empathy, and pursuit of admiration and success.

Recent studies have shown different forms compared to the narcissistic profile described in diagnostic criteria manuals (Akhtar 2003; Dickinson and Pincus 2003; Kohut and Wolf 1978; Pincus and Roche 2012; Ronningstam 2005). Researchers have distinguished between two subtypes: grandiose and vulnerable (Wink 1991; Fabj 2022). Despite some commonalities, the two subtypes are significantly different, essentially relating to feelings of superiority and antagonism toward others (Krizan and Herlache 2018). In particular, vulnerable narcissism reflects high emotional sensitivity,

defensiveness and expectation of attention (Miller et al. 2011). Individuals with this form of narcissism tend to report greater interpersonal distress, exhibit greater cognitive flexibility, and rely on social feedback for self-regulation (Zeigler-Hill et al. 2008).

Individuals with vulnerable narcissism use indirect communication methods to meet their needs (Ozimek et al. 2017). Therefore, the use of social networks may provide users with a privileged platform for expression. Several studies have shown a relationship between social network use and vulnerable narcissism (Gnambs and Appel 2018), highlighting that social network use may negatively influence self-esteem (Liu, Niu et al. 2017; Liu, Wang et al. 2017).

Although adolescents may exploit social network use to fuel their need for approval and admiration, seeking narcissistic needs through social media use (Ozimek et al. 2017; Liu, Niu, et al. 2017; Liu, Wang, et al. 2017; Tandoc Jr. et al. 2015), other signals come from their self-perception and self-evaluation. In this regard, some studies have emphasised the role of low self-esteem as a potential amplifying agent (Barry et al. 2003). Others have shown that high self-esteem may be associated with a tendency to disregard others' rights (Papps and O'Carroll 1998; Baumeister et al. 1996). The relationship with this variable is still uncertain, but clinical data indicate low self-esteem in vulnerable narcissism and excessive self-esteem in grandiose narcissism (Lingiardi 2021).

Bernardi and Eidlin (2018), confirming Rosenfeld's theory, distinguished two forms of narcissistic pathology: 'thick-skinned' narcissists and 'thin-skinned' narcissists; the former being arrogant and aggressive and tending to destroy the object and survive through investment in an idealised self, and the latter being vulnerable, having feelings of inferiority, seeking approval and being hypersensitive to any criticism. The first is the typical narcissistic mode of 'overt' behaviour, which exhibits a grandiose self and a constant need for attention or admiration from others. Grandiosity is linked to high extraversion, dominance and positive affectivity (Miller et al. 2011). They struggle to establish healthy relationships and tend to exploit others, express anger and aggression, and display manipulative tendencies.

The second form, vulnerable narcissism, presents emotions of shame, feelings of humiliation and hypersensitivity to the judgement of others. In this subtype, the typical search for admiration is replaced by avoidance and withdrawal from situations that could lead to failures and rejections, thus keeping grandiosity safe from real-life risks. The need to maintain a positive self-image leads to deep states of anxiety: hidden, shy, inhibited. The 'covert' narcissist appears modest, simple. Very closed and introverted, they are hypersensitive and not easily recognisable (Lombardoizzi et al. 2024). They show a greater propensity to operate in an online environment, where their fantasies can be more easily mirrored (Zurafa and Dewi 2021; Lingardi 2023). Self-esteem regulation comes from external sources. In vulnerable narcissism, interpersonal relationships are not disturbed by a tendency to exploit others but by hypersensitivity to rejection and criticism from others, a factor that justifies withdrawal and disinvestment from community relationships (Gnambs and Appel 2018).

Regarding the differences between the two phenotypes, it is necessary to emphasise that various authors have noted that narcissistic individuals exhibit fluctuations in manifestations of grandiosity and vulnerability (Pincus and Lukowitsky 2010; Ronningstam 2022). In this sense, narcissistic symptomatology is not static but rather represents the expression of dynamic and evolving processes underlying attempts at self-esteem regulation.

## 1.2 | Digital Narcissism and Social Dimension

Christopher Lasch's successful formula (1980, 1984), which in the late seventies introduced the concept of the 'culture of narcissism', demonstrated its considerable modernity. The author proposes a macrosocial interpretation of the construct that, for the first time, connects the impact of changes in the economic, family and cultural structure of society to the spread of narcissistic personality disorder.

Today, in coherence with that construct, we could speak of 'digital narcissism', which amplifies the archetypal image of self-reflection (Lingiardi 2023). Evoking Narcissus, who gazed at a pool of water, today, the source is represented by the screen of a smartphone or a technological display.

Digital devices and social media have radically revolutionised how we interact with and perceive ourselves, others and community. We use online platforms to self-promote and constantly seek external validation, thus making the search for authentic connections a crucial challenge, for the distortion of digital identity can hinder its realisation (Smahel et al. 2020). Individuals may be driven to present idealised versions of themselves by filtering and carefully curating their lives to elicit admiration and approval from others. This constant search for external gratification can lead to dependency on online validations. In particular, for adolescents, digital devices can facilitate the creation of a 'narcissistic bubble' (Little 2006) that leads to expanding the idealised view of oneself through an excessive pursuit of 'easy' appreciation embodied by likes and selfies ('I see myself therefore I am' vs. 'I am seen therefore I am'). This attitude can lead to reduced emotional connection and attunement with others, for relationships are filtered through egoic valence oriented toward satisfying one's own needs more than those of others (Fabj 2022). A virtual world, which facilitates the development of grandiose self-images, can generate a 'misrepresentation of relationships' that translates into processes of superficialization or 'virtualization', in which dependency on a 'device' is more manageable than interdependency on others. Social media also allows for a misrepresentation of politics, projecting one's vulnerable or frightened parts outward, and allows for identification with an idealised powerful adult (Lingiardi 2023). In line with this position, a study conducted on a sample of nearly 1800 young people showed that the greater the use of SNSs (the survey concerned 11 of the most well-known ones), the more likely they are to perceive themselves as socially isolated (Primack et al. 2017). This, for vulnerable narcissists, could be an even more plausible risk given the difficult management of the self in social relationships. Nonetheless, recent evidence shows that although SNSs increase the likelihood of portraying one's image and promoting it, the use of, for example, selfies does not correlate with greater

narcissism (Wu et al. 2019). Similarly, the use of Instagram (e.g., in searching for photos showing social gathering places) can raise young people's awareness of urban spaces and socialising experiences that enhance their sense of community (Gatti and Procentese 2021). Also, other virtual platforms provide important opportunities for advocacy movements and social activism, especially for younger generations (Alexandro et al. 2022; Williams 2022). In this direction, some studies suggest that the experience of social media is not homogeneous among adolescents and that the extent of their use may change depending on the scenario (Smahel et al. 2020; Setty et al. 2024).

As we know, experiencing the social dimension during adolescence helps redefine one's identity, one's way of seeing oneself, and how forms of healthy narcissism should develop, in line with the evolutionary task of defining one's identity and self (Levy-Warren 2005). The community scene offers the possibility of enabling new interpersonal functions and resources and avoiding the risks of narcissistic withdrawal. Community culture is, in fact, at an ideally opposite extreme to individualistic culture (Novara et al. 2021), declining in the construct of a sense of community the precipitate of the collective instances through which individuals engage in achieving interdependence with others (Sarason 1974; McMillan and Chavis 1986). In addition, feeling that one belongs to a community confers self-esteem on its members, who in this way can build a positive self-image by identifying with those community characteristics that unite the self with others (Fisher and Sonn 1999). Moreover, the hypothesis that the social dimension may be related to personality characteristics is not new in the literature (Lounsbury et al. 2003), in which it has been found that the sense of community is related positively with extraversion, peculiar for the grandiose phenotype, and negatively with neuroticism, typical of the vulnerable (Lounsbury and DeNeui 1996). Nevertheless, the extant research on sense of community-related personality characteristics was developed in no systematic way. That poses a challenge to the research because some authors have found that new generations of adolescents, belonging to the millennial generation, show higher levels of narcissism than previous generations (Twenge et al. 2008). According to Lounsbury et al., because 'personality comes before community membership and experience, it may be that personality variables influence and maybe even determine PSC' (Lounsbury et al. 2003, 532). Regarding the personological approach, other studies have shown that a sense of community correlates with health and well-being outcomes, such as happiness and quality of life (Albanesi et al. 2007; Michalski et al. 2020; Talò et al. 2014). These are variables that imply a certain quality of interpersonal relationships, which the vulnerable narcissist instead experiences with anxiety and depression to the point of social withdrawal. Forms of vulnerable narcissism could explain the data Eurispes (2021) reported on youth condition, which shows less investment in the public sphere and in supporting others as pathways to self-realisation in the face of the strongly increasing problematic use of social media (HBSC 2022). The contingency of vulnerable narcissistic adolescents with self-esteem problems, immersed in virtual environments, therefore justifies a focus on the relationship between these variables and the community dimension. However, few empirical studies have been conducted to integrate the perspective of individual with community psychology, a challenge that we take up to reduce the gap.

## 2 | Present Study

### 2.1 | Purpose and Design

The general purpose of the study was to understand whether vulnerable narcissism, amplified by the use of social networking sites, explains adolescents' difficulties or capacity to connect to the real life of their community. In particular, we explore the relationship between vulnerable narcissism in adolescence and sense of community, considering self-esteem as a mediating variable in this relationship.

The choice of this mediating variable is justified by the fact that, as mentioned above, individuals with vulnerable narcissism tend to be hypersensitive to others' judgement and have an unstable view of themselves, which is reflected in low levels of self-esteem (Miller et al. 2011; Zeigler-Hill et al. 2008; Ozimek et al. 2017).

Self-esteem affects the ability to feel connected and integrated with others (Harris and Orth 2020; Fisher and Sonn 1999), so when it is higher, it can facilitate a sense of belonging, whereas low self-esteem can hinder it (Grieve and March 2021). Adolescents with vulnerable narcissism may therefore have difficulty feeling part of a community because of their low self-esteem, which stems from insecurity and fear of others' rejection (Lounsbury et al. 2003). However, when their self-esteem improves, perhaps due to positive external feedback, the negative effect of narcissism on their sense of community may lessen.

We also investigate the use of SNSs as a moderating variable in the relationship between narcissism and sense of community and self-esteem. SNSs may, in fact, amplify or attenuate the impact of vulnerable narcissism, depending on how much they are used (Bergman et al. 2011; Primack et al. 2017). In other words, the use of SNSs does directly affect the sense of community, but it may affect the relationship between narcissism and the need for admiration, which is specific to self-esteem (Casale and Fioravanti 2018). For example, at low levels of SNS use, the vulnerable narcissist, who thrives on external feedback, might experience a more negative effect on his or her self-esteem, whereas at high levels of SNS use, the effect might be attenuated or even reversed. Specifically, with low use of SNSs, the adolescent might rely primarily on face-to-face interactions, which, as mentioned, may be more challenging for those with vulnerable-narcissism traits (Miller et al. 2011; Gnamb and Appel 2018). This could worsen levels of self-esteem and reduce the sense of community; with high usage, SNSs could

instead offer the vulnerable adolescent a 'protected' virtual environment in which positive feedback can temporarily increase self-esteem, hence the sense of community.

In summary, the model is based on two key assumptions: (1) self-esteem, as a bridge, is the central psychological mechanism through which vulnerable narcissism influences the sense of community, and (2) the use of SNSs, as an amplifier or moderator, acts as a context that conditions the strength and direction of this relationship. This theoretical model allows us to explore the internal processes (mediation) and contextual factors (moderation) that influence the relationship between narcissism and the sense of community in adolescents.

The theoretical model of the relationships hypothesised between the variables is illustrated in Figure 1.

Specifically, to verify whether vulnerable narcissism and the use of social networking sites have a relationship with withdrawal from or participation in community relationships and self-esteem, the following hypotheses were tested:

**Hypothesis 1.** *There is a negative relationship between narcissism and sense of community.*

**Hypothesis 2.** *Self-esteem mediates the negative relationship narcissism and sense of community.*

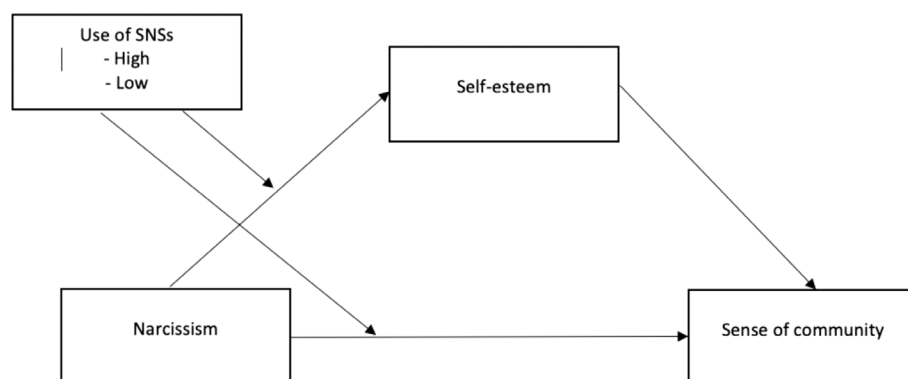
**Hypothesis 3.** *Use of SNSs moderates the negative relationship between narcissism and sense of community such that the relationship becomes weaker as use of SNSs increases.*

**Hypothesis 4.** *Use of SNSs moderates the negative relationship between narcissism and self-esteem such that the relationship becomes weaker as use of SNSs increases.*

## 3 | Method

### 3.1 | Participants and Procedure

The participants (data collected in May 2023) were 381 (200 males and 181 females) Italian students attending the 3rd and 4th year of high school (54.9% and 45.1%, respectively) with a mean age of 15–22 years ( $M = 16.81$ ;  $SD = 0.81$ ). Participants were recruited by convenience sampling facilitated by belonging to the IGEA



**FIGURE 1** | Theoretical model.



Network (Integrated Generativity Actors), which brings together schools adhering to the European model School for Health in the city of Palermo (SHE, [www.schoolsforhealth.eu/for-schools/](http://www.schoolsforhealth.eu/for-schools/)). The involved group was balanced by school type (42% high schools, 21% technical institutes, and 26% vocational schools).

Because the participants were minors, an information sheet was first sent to the parents explaining the persons responsible for the study, the aims of the study and the procedure and the commitment required. At the same time, we obtained the parents' informed consent. The teachers presented the research project to students during the lessons. Later, an email was sent to them with a QR code to connect to so they could complete a self-report questionnaire anonymously. The time required to complete the questionnaire was approximately 20 min.

All respondents gave informed consent before participating. The project was reviewed by the Ethical Committee of the University of Palermo and was approved before the data mining (protocol n. 56864-2023).

### 3.2 | Instruments

Participants answered a questionnaire consisting of items from four self-evaluation scales, as described below.

- Hypersensitive narcissism was measured with the Italian adaptation of the HyperSensitive Narcissism Scale (HSNS) (Hendin and Cheek 1997; Fossati et al. 2009). The scale contains 10 items, which are rated on a 5-point Likert-type scale (1 = totally agree, 5 = not at all agree). The items are summed to obtain the HSNS total score. A higher total score indicates a higher presence of hypersensitive narcissistic features. Sample items are 'In my daily life, I can be completely absorbed in thinking about my personal affairs', 'I easily get caught up in my own interests and forget about the existence of others', 'I feel that I have enough to do already without worrying about the problems of others' and 'My feelings are easily hurt by ridicule or hurtful remarks from others'. The internal consistency of the HSNS score ( $\alpha$ ) was 0.68.
- Sense of community was evaluated through the Brief Scale of Sense of Community in Adolescents (Chiessi et al. 2010). This measure explicitly refers to the geographical residential community (the town where adolescents live) and includes feelings of belonging and bonding relationships with places where social interactions occur (place attachment). The 20-item version of the scale, with a 5-point Likert-type response (1 = totally agree; 5 = not at all agree), identifies gender differences. Although the scale has a 5-factor structure (McMillan and Chavis 1986) (sense of belonging, support and emotional connection with peers, satisfaction with needs and opportunities for involvement, opportunities for influence and support and emotional connection in the community), we preferred to use the total score ( $\alpha = 0.80$ ), as in other studies (Cicognani et al. 2012). Sample items are 'People in this city support each other', 'I feel that I belong to this city' and 'I like to be with other young people in this city'.

- Self-esteem was measured with the Italian version (Prezza et al. 1997) of the Self-esteem Scale (Rosenberg 1965), which consists of 10 statements regarding how much one values oneself and how satisfied one feels with oneself. The first 5 statements were formulated positively whereas the remaining 5 were formulated negatively. Each positive statement was scored from 0 (completely disagree) to 3 (completely agree). Negative statements were reversed scored, with 3 indicating complete disagreement and 0 indicating complete agreement. Sample scale items are 'I believe I am an appreciative person, at least to the same extent as others', 'I have a positive attitude toward myself', 'I feel I do not have much reason to be proud' and 'I wish I could have more respect for myself'. The scale's  $\alpha$  coefficient was 0.80.
- Intensity of use of SNSs was assessed with the Social Networking Sites Scale (Tandoc Jr. et al. 2015; Liu, Niu et al. 2017; Liu, Wang et al. 2017). The scale consists of 10 items rated on a 5-point Likert-type scale (1 = never, 5 = frequent). Sample items are 'Read the status of friends update', 'See photos of friends uploaded status', 'Posting one's own photos' and 'Writing a status update'. A higher score indicates a higher frequency of use of SNSs. The scale's  $\alpha$  coefficient was 0.83.

### 3.3 | Data Analysis

To test our hypotheses, we used PROCESS Macro Model 4 (Hayes 2018) in SPSS version 25 to examine the negative relationship between narcissism and sense of community (Hypothesis 1) and the mediation effect of self-esteem on the association between vulnerable narcissism and sense of community (Hypothesis 2). We used Model 8 to test the moderated effect of the use of SNSs on the relationship between narcissism and sense of community (Hypothesis 3) and between narcissism and self-esteem (Hypothesis 4).

## 4 | Results

Table 1 shows the descriptive statistics for study variables (means, standard deviations and correlations). As we can see, narcissism is negatively correlated with sense of community and with self-esteem, and sense of community is positively correlated with self-esteem, corresponding with our predictions.

First of all, as we can see by examining Tables 1 and 2, no sex-related effects can be observed across any of the variables considered in the present analysis. However, a weak negative relationship is found between age and self-esteem. This negative relationship could be explained by considering the age range of the study participants, 15–22 years. The questionnaire was administered to students in their 3rd and 4th year of high school, who are typically between 15 and 17 years old. Older participants might have experienced a delayed academic progression, which could account for their lower levels of self-esteem.

In line with our prediction in Hypothesis 1, the direct effect of narcissism on sense of community is negative and statistically

**TABLE 1** | Means, standard deviations and correlations for study variables.

| Variables      | $\alpha$ | Mean  | s.d. | 1      | 2     | 3       | 4      | 5    | 6 |
|----------------|----------|-------|------|--------|-------|---------|--------|------|---|
| 1. Age         |          | 16.82 | 0.81 | —      |       |         |        |      |   |
| 2. Gender      |          | 0.47  | 0.50 | −0.00  | —     |         |        |      |   |
| 3. Narcissism  | 0.70     | 2.73  | 0.59 | −0.12* | 0.05  | —       |        |      |   |
| 4. SoC         | 0.90     | 3.21  | 0.97 | −0.06  | −0.09 | −0.15** | —      |      |   |
| 5. Self-esteem | 0.84     | 2.72  | 0.59 | −0.11* | −0.03 | −0.13** | 0.21** | —    |   |
| 6. SNSs        | 0.77     | 3.22  | 0.74 | 0.10   | 0.00  | −0.06   | 0.05   | 0.01 | — |

Note:  $n = 381$ . Gender: 0 = male, 1 = female; \* $p < 0.05$ ; \*\* $p < 0.01$ .  
Abbreviation: SoC = sense of community.

**TABLE 2** | Coefficient estimates for the regression model.

| Variables        | SoC      |      |                | Self-esteem |      |                |
|------------------|----------|------|----------------|-------------|------|----------------|
|                  | <i>B</i> | SE   | 95% CI         | <i>B</i>    | SE   | 95% CI         |
| Constant         | 8.41     | 1.38 | [5.69, 11.12]  | 7.53        | 0.74 | [6.07, 8.98]   |
| Age              | −0.05    | 0.06 | [−0.16, 0.06]  | −0.07       | 0.03 | [−0.14, −0.01] |
| Gender           | −0.15    | 0.09 | [−0.34, 0.03]  | −0.02       | 0.05 | [−0.13, 0.08]  |
| Narcissism       | −1.81    | 0.31 | [−2.42, −1.20] | −1.33       | 0.17 | [−1.68, −0.98] |
| SNSs             | −1.28    | 0.26 | [−1.80, −0.77] | −0.99       | 0.15 | [−1.29, −0.70] |
| Narcissism SNSs* | 0.50     | 0.09 | [0.31, 0.69]   | 0.38        | 0.05 | [0.27, 0.48]   |
| Self-esteem      | 0.14     | 0.08 | [0.02, 0.30]   |             |      |                |
| $R^2$            | 0.13     |      |                | 0.15        |      |                |
| <i>F</i>         | 9.68     |      |                | 13.07       |      |                |

Note:  $n = 381$ . \* $p < 0.05$ . \*\* $p < 0.001$ .  
Abbreviations: CI = confidence interval; SoC = sense of community.

significant ( $b = -0.20$ ,  $SE = 0.08$ , 95%  $CI = [-0.37, -0.04]$ ). Hypothesis 2 predicted that the negative relationship between narcissism and sense of community would be mediated by self-esteem. The results show that self-esteem mediates the negative relationship between narcissism and sense of community ( $b = -0.04$ ,  $SE = 0.02$ , 95%  $CI = [-0.09, -0.01]$ ).

Hypothesis 3 predicted that the relationship between narcissism and sense of community depends on the individual's level of use of SNS such that the relationship is more negative for those lower in SNS use and less negative for those higher in SNS use. In line with our prediction, the coefficient of the interaction was significant ( $b = 0.50$ ,  $SE = 0.09$ , 95%  $CI = [0.31, 0.69]$ ), indicating that the direct relationship between narcissism and sense of community is influenced by an individual's use of SNS level. This result supports Hypothesis 3.

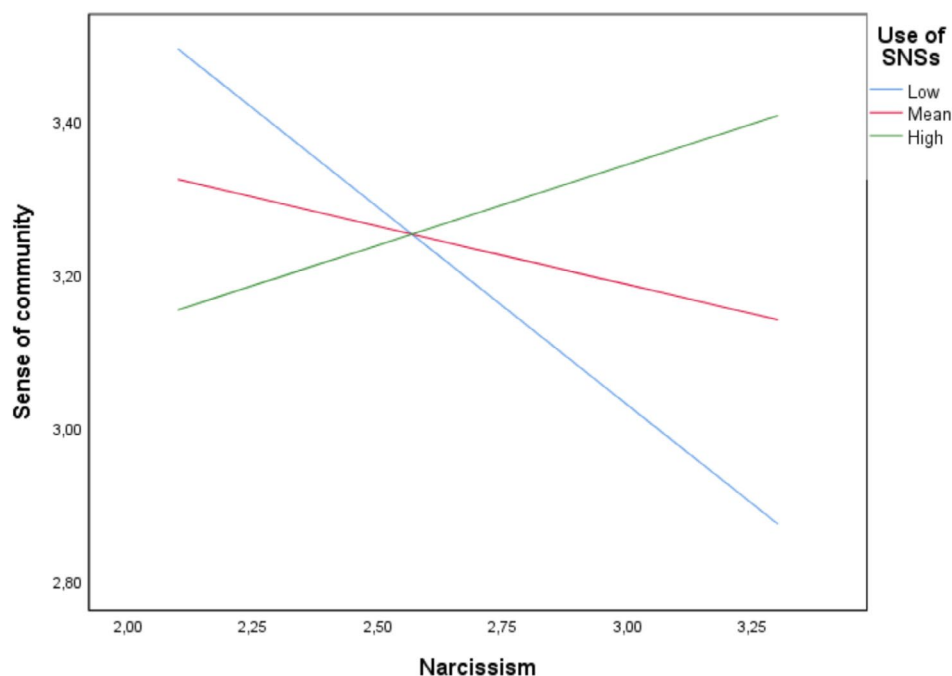
Consistent with Hypothesis 4, the coefficient of the interaction term for narcissism and use of SNS was significant ( $b = 0.38$ ,  $SE = 0.05$ , 95%  $CI = [0.27, 0.48]$ ), as shown in Table 2. These results indicate that the direct relationship between narcissism and self-esteem is influenced by an individual's use of SNS level, supporting Hypothesis 4.

The overall effects are also reported in Table 3.

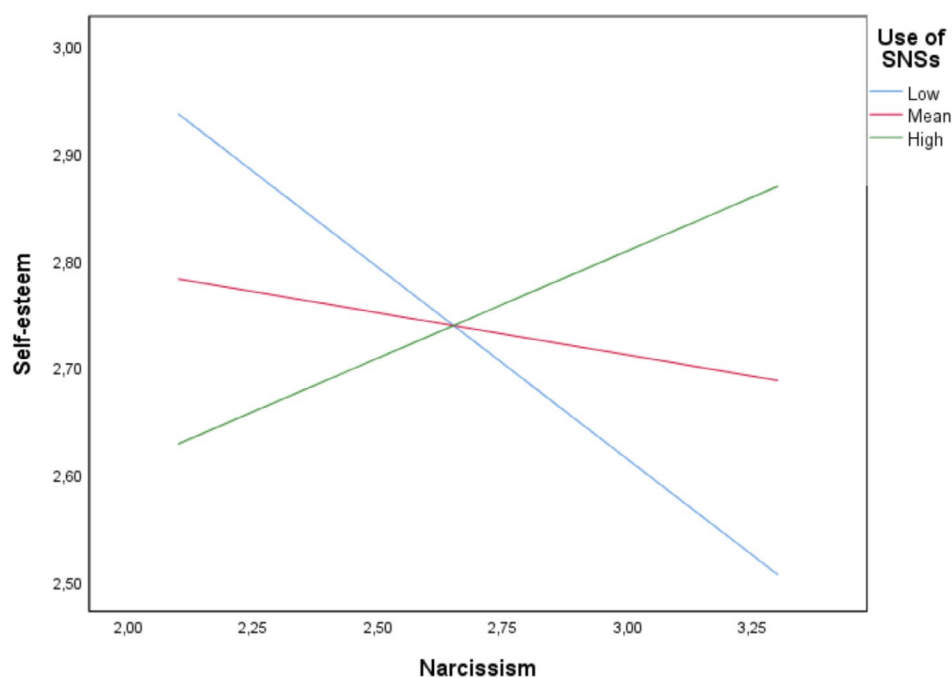
**TABLE 3** | Total, direct and indirect effects of narcissism on sense of community.

| Total effect of narcissism on sense of community    |      |          |          |                |         |
|-----------------------------------------------------|------|----------|----------|----------------|---------|
| Effect                                              | SE   | <i>t</i> | <i>p</i> | 95% CI         | c_cs    |
| −0.25                                               | 0.08 | −2.98    | 0.003    | [−0.41, −0.08] | −0.1512 |
| Direct effect of narcissism on sense of community   |      |          |          |                |         |
| Effect                                              | SE   | <i>t</i> | <i>p</i> | 95% CI         | c'_cs   |
| −0.20                                               | 0.08 | −2.49    | 0.013    | [−0.36, −0.04] | −0.1255 |
| Indirect effect of narcissism on sense of community |      |          |          |                |         |
| Effect                                              | SE   |          |          | 95% CI         |         |
| −0.04                                               | 0.02 |          |          | [−0.09, −0.01] |         |

Figures 2 and 3 illustrate the moderation effects, showing that, with lower use of SNSs, the relationship between narcissism and sense of community, as well as between narcissism and self-esteem, is negative. More specifically, the relationship between sense of community and narcissism changes depending on the



**FIGURE 2** | The effects of low, mean and high SNS use on the relationship between sense of community and narcissism.



**FIGURE 3** | The effects of low, mean and high SNS use on the relationship between self-esteem and narcissism.

level of SNS use: with low SNS use, the relationship is negative (i.e., as narcissism increases, sense of community decreases) whereas with high SNS use, the relationship becomes positive (i.e., as narcissism increases, sense of community also increases) (Figure 2).

The results of simple slope analyses, for 1 standard deviation above and below the mean representing the use of SNSs, showed that narcissism has a significant negative effect on sense of community with low use of SNSs ( $b = -0.51$ ,  $SE = 0.10$ , 95%  $CI = [-0.71, -0.32]$ ) and a positive but not significant effect with high use of SNSs ( $b = 0.20$ ,  $SE = 0.11$ , 95%  $CI = [-0.02, 0.42]$ ).

Similarly, with low SNS use, we find an inverse relationship between narcissism and self-esteem, whereas with high SNS use, we find a positive relationship between the two (Figure 3). The simple slope analysis conducted to test the relationship between narcissism and self-esteem on the use of SNSs showed that narcissism has a significant and negative effect on self-esteem with low use of SNSs ( $b = -0.36$ ,  $SE = 0.06$ , 95%  $CI = [-0.47, -0.25]$ ) and a positive and significant effect with high use of SNSs ( $b = 0.17$ ,  $SE = 0.07$ , 95%  $CI = [0.04, 0.30]$ ).

All these results support Hypotheses 3 and 4.

## 5 | Discussion

We propose a theoretical model to explore the relationship between a narcissistic personality trait, specifically the vulnerable phenotype, and sense of community in adolescents, testing the mediating effect of self-esteem and moderating SNS use between the two variables. Research has confirmed the relationship between personality characteristics and sense of community (Lounsbury and DeNeui 1996), but recent empirical data are lacking, whereas the role of SNS remains controversial. In fact, the sociocultural dimension we are experiencing, with the massive spread and use of SNS, is often associated with vulnerable forms of narcissism (Bergman et al. 2011; Gnambs and Appel 2018). Characterised by low self-esteem, it would lead adolescents to avoid confrontation with others and shy away from social and participatory activities to the point of risking withdrawal from the community social scene to avoid criticism or disconfirmation of their worth (Pincus and Lukowitsky 2010).

Some studies have shown that social media causes people to compare their lives with those of others, often generating a sense of insecurity and low self-esteem (Liu, Niu et al. 2017; Liu, Wang et al. 2017). This phenomenon is often fuelled by a constant search for confirmation and validation through online interactions (Yurdagül et al. 2021).

According to this research trajectory, SNSs amplify narcissistic tendencies, in which adolescents constantly seek recognition and admiration to raise the level of their ego and exclusively value their own image, interests, and desires (Ozimek et al. 2017). This could also promote a culture based on self-centeredness among adolescents, leading them to focus more on themselves, thereby neglecting offline engagement, connection and interaction in the community (Twenge et al. 2008; Primack et al. 2017). One relevant aspect of this direction concerns the easy positive feedback received from SNSs, which may reinforce adolescents' narcissistic behaviours (Zurafa and Dewi 2021). Therefore, likes, comments, and shares may become a source of immediate gratification and recognition, reinforcing one-way attention seeking and self-promotion and taking adolescents away from the mutual and reciprocal interactions that are reciprocated in community life.

According to a second research trajectory, social media sites help adolescents build a positive self-presentation and experience personal exposure with less anxiety, relying on a self-view that has already been preliminarily validated on social platforms (Gentile et al. 2012; Walters and Horton 2015). Recent studies, including a meta-analysis (Saiphoo et al. 2020), have shown that it is precisely those with lower self-esteem who 'gain' more in terms of social capital by having the opportunity to build bridging ties through the web, which allow them to flood and diversify their social network (Ma 2022; Steinfield et al. 2008). Our study's results confirmed all the direct and indirect hypothesized paths, so what emerged supports the second research direction regarding SNS use.

As our study's results show, there is an inverse relationship between vulnerable narcissism and sense of community (H1) but also a mediating effect of self-esteem on this relationship (H2). That is, we can say that this narcissism profile can affect social

life in terms of a reduced sense of belonging, difficulty in feeling mutually connected and influenced, and in turn, being able to influence the life context, as the construct of sense of community describes. This result is significant and reinforces the idea that the personological and community aspects should be studied in an integrated way (Mannarini and Arcidiacono 2021). As mentioned above, self-esteem is crucial in vulnerable narcissism: the lower it is, the more it leads to a tendency to avoid people, new environments, and a general social disconnection (Biemans et al. 2008; Fatima et al. 2017). Consistent with previous studies (Grieve and March 2021; Lounsbury et al. 2003), our findings confirm that adolescents with vulnerable narcissism may have difficulty developing a sense of community due to low self-esteem, insecurity, and fear of rejection, which are typical aspects of this narcissistic phenotype (Fegan and Bland 2021).

Regarding the study's other results, we find that the use of SNSs moderates the negative relationship between narcissism and sense of community such that the relationship becomes weaker as SNS use increases (H3). In fact, adolescents with vulnerable narcissism who use SNSs frequently receive feedback from the web that would help them perceive the community context as less threatening to their self-esteem, which is already 'secured' in confrontation with others through SNSs. This is supported by previous studies, which have shown that SNSs can provide an environment that changes the traditional dynamics of relationships and self-perception (Saiphoo et al. 2020; Ma 2022; Walters and Horton 2015; Gentile et al. 2012; Steinfield et al. 2008), acting as a facilitator of community relationships, supporting self-esteem and representing preparatory steps to an authentic encounter with the 'other' (Procentese et al. 2019; Gatti and Procentese 2021, 2022). Finally, at low levels of SNS use, we see a decrease in self-esteem (H4), probably because the effects of the vulnerable-narcissistic personality, typically insecurity and fear of others' judgement, are no longer moderated by SNS. In this case, adolescents may not have a 'virtual refuge' to seek external affirmation or validation (Lancini and Salvi 2018), from which self-esteem can draw nourishment. On the contrary, at high levels of SNS use, the effect is attenuated in favour of self-esteem. Although this self-esteem may be superficial and related to external approval, it is sufficient to reverse the negative relationship. Overall, the study emphasises the importance of individual differences among users to avoid dichotomous positions or unnecessary generalisations about whether adolescents benefit from SNS use.

To effectively address these challenges, targeted educational interventions are needed, which do not mean demonising the role of SNSs but rather introducing educational programs that teach adolescents how to consciously manage feedback and retro feedback when using social networks (Williams 2022). For example, given the link between vulnerable narcissism and self-esteem, activities that help develop a positive sense of self based on meaningful relationships and not just external approval should be included in school curricula (Lancini and Salvi 2018). Training and awareness-raising activities in the school environment could provide a safe space to discuss these issues openly, allowing adolescents to express their concerns and receive support from peers and reference adults (Setty et al. 2024). Indeed, acting on the level of self-esteem requires education on recognising one's emotions (Zhang et al. 2011) and, in the specific case



of vulnerable narcissism, helping students identify and manage emotions such as shame and insecurity. Finally, it promotes critical awareness of self and others by introducing moments of reflection on the importance of accepting oneself beyond the public image. Moreover, as we know from other research, planning activities aimed at challenging maladaptive, control-based self-other schemas and promoting healthy self-esteem based on self-acceptance and recognition of others influences the sense of shared responsibility (Procentese et al. 2019). In other words, participation can emerge when we stop seeing others as mirrors of ourselves and instead see them as bearers of different but interconnected interests and ways of feeling (Zeigler-Hill et al. 2008).

The relationship that emerged between narcissism and sense of community also has practical implications that make us look in the direction of relational needs. These need to be able to provide fulfilment and allow for authentic connections in co-operative activities in which students work together to achieve common goals (Stukas et al. 2016). Valuing the group as a work setting (through role-playing, guided discussions, or even closed groups on a social network) can consolidate the value of individual contribution to the well-being of a larger whole of which one is a part and educate in mutual respect (Novara et al. 2021). Or again, involving adolescents in community projects that have real impact, such as awareness-raising campaigns and volunteer activities (including online), strengthens involvement in community life and the capacity for dialogical confrontation (Cunha et al. 2019). This would help create a school climate of trust and openness in which they feel encouraged to explore and address the challenges associated with offline life and living with others (Novara et al. 2020). In this sense, emotional-education paths to teach effective communication and build meaningful relationships can encourage adolescents to feel the other is an ally and resource rather than a saboteur of their own certainties. The context of peers in the institution of school, university, or sports associations could be the most congenial setting to create opportunities to participate in community life through extracurricular activities, collaborative projects, voluntary work, and other cultural and social events. The community in all its settings represents, in fact, a field for negotiating the needs of its members, where they can learn rules of social coexistence to mediate relations between parties, experience empathy, or gain the ability to recognise and manage conflict in its intra- and inter-psychic dimensions. Remaining anchored to others offers the shared responsibility and emotional security that underlies the recognition of the self's and others' needs and the possibility of satisfying them in an integrated community system (Procentese et al. 2019). Involvement in one's community is also considered an indicator of well-being and health because being able to contribute to its functioning makes it possible to realise one's personal aspirations, increase self-efficacy (Ruggieri et al. 2023), and increase the perception of self-worth (Albanesi et al. 2007; Prilleltensky et al. 2001).

Finally, based on our findings, education on the conscious use of SNSs could be differentiated according to the level of use. Adolescents with low levels of use should be offered literacy programs to develop technological skills so as not to deprive them of the 'virtual fortification' enjoyed by those who, as our findings show, use them extensively (Gnambs and Appel 2018). Training

on these issues in educational settings would not only provide adolescents with the knowledge and skills needed to navigate the digital world safely but would also develop a greater awareness of their impact in terms of individual differences (Gray 2018).

Otherwise, for those who use them extensively, in addition to promoting activities that encourage the development of offline social skills, activities should be implemented that turn the use of social media into an opportunity to build authentic relationships and a healthy self-esteem that is not hostage to virtual validation alone. Moreover, community ties, historicised over time, can take on the ancient narcissistic wound that adolescent growth has the opportunity to transform into general mutual trust. In this sense, experiences of active citizenship could help vulnerable adolescents feel they are part of something more complex than a virtual reality, which can be dramatically fluid, turning out to be either benevolent or malevolent towards them and their need for recognition (Tonkiss 2003; Procentese et al. 2019).

Therefore, education and training on issues related to narcissism, sense of community, and responsible and conscious use of social networking sites are essential steps in creating awareness and resilience among young people (Sumadevi 2023).

Lastly, because SNSs have increasingly become an integral, not just instrumental, part of how people experience themselves (Mace 2024), it is worth reassessing whether real and virtual experiences are no longer clearly separable: we live in a world where offline and online interactions are constantly intertwined. This concept is particularly relevant for adolescents, who often perceive social networks not as 'other places' but as an integral part of their daily lives (Floridi 2015). Interventions can focus on this aspect, promoting meaningful connections in offline and online contexts, recognising that we are now moving into a 'hybrid' community (Gatti and Procentese 2022; Procentese and Gatti 2024). Exploring and working with their online experiences does not mean blurring or opposing the boundaries between virtual and real but rather, as community psychologists, helping youth build a sense of belonging that is authentic and meaningful in every life context.

In conclusion, interventions able to increase self-awareness and to differentiate educational strategies, according to the level of use of social networking sites, can improve adolescents' investment in the community, taking into account the profile of vulnerable narcissism.

## 6 | Limitations

Although our study offers valuable theoretical implications, it is not without limitations. This study's first limitation is that our results are based on correlational data, and great caution should be made in interpreting them causally. The study's second limitation is that participants self-reported the psychosocial variables, which may therefore have been subject to response biases, such as social desirability bias. To minimise such biases, further research is encouraged to incorporate objective behavioural measures wherever feasible. The third limitation is linked to the sample. The study utilised a convenience sample, and the non-random sampling approach may not adequately reflect the characteristics of the broader population, thereby limiting the

findings' generalisability. Consequently, researchers should aim to replicate these results using a more representative sample.

Despite these limitations, our study contributes novel insights into the field by highlighting the role of self-esteem and SNS use in mediating the relationship between narcissism and sense of community.

## Author Contributions

All authors contributed to the text.

## Acknowledgements

We thank all the schools of the IGEA Network (Integrated Generativity Actors), adhering to the European model School for Health in the city of Palermo, who is participated in this study. Open access publishing facilitated by Università degli Studi di Palermo, as part of the Wiley - CRUI-CARE agreement.

## Ethics Statement

The project was reviewed by the Ethical Committee of University of Palermo and was approved before the data mining (protocol n. 56864-2023). The participants provided written informed consent to participate in the study.

## Conflicts of Interest

The authors declare no conflicts of interest.

## Data Availability Statement

Research data are not shared.

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