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# Research Article

# The Complex Relationship between Online Social Feedback and Well-Being

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With the growing prevalence of online social interactions, it is crucial to understand how the social dimension affects well-being. This study investigates the relationship between the Need for Online Social Feedback (NfOSF) and individuals' well-being, considering the moderating role of perceived online reputation. A total of 1398 participants, predominantly female, aged 14 to 61, completed an online questionnaire. The results revealed an M-shaped pattern, indicating that both dissatisfaction and excessive satisfaction with online reputation were associated with lower well-being. For those dissatisfied with their reputation, a high desire for social feedback correlated with reduced well-being, as validation from the social environment, was lacking. Similarly, individuals with fully satisfying reputations experienced frustration in their pursuit of online social feedback. In this case, the "Fame" dimension of the NfOSF scale exhibited a negative association with well-being, highlighting the impact of grandiose expectations. The findings underscore the subjective nature of this relationship, emphasizing the role of individual characteristics and social context.

# 1. Introduction

The attitudes of individuals are strongly influenced by the social dynamics of their environment and others' attitudes. This influence can appear in a variety of ways, with some effects being immediate and short term [1], while others may have a long-term impact on the individual's life [2, 3]. Numerous social science theories, including social identity theory [4], social cognitive theory [5], and rational choice theory [6], have focused on the complex relationship between human attitudes and social dynamics. These theories provide insights into how social factors influence and shape individual beliefs and behaviors. Furthermore, social dynamics not only influence attitudes and behaviors but also significantly impact individuals' overall well-being. The effects of social dynamics extend beyond attitudes to include various aspects of individuals' psychological and emotional

states. Various studies in the literature highlighted the significant influence of social dynamics such as ostracism, peer pressure, social interaction, and social support, on individuals' well-being [7-10]. These studies emphasize the need to acknowledge and further investigate the different effects of various social dynamics on well-being. Over the past decade, the increased accessibility of the Internet and the adoption of Internet-enabled devices have brought about a remarkable shift in individuals' perceptions of socialization. Particularly, social media has emerged as a crucial influence, actively shaping social dynamics and redefining the concept of socialization. As the Internet continues to improve, social media has become an integral platform for facilitating social interaction among individuals in modern society. While the positive and negative effects of social media have been extensively investigated in the literature, parallel advancing technologies such as virtual reality, artificial reality, artificial

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intelligence, and video games have both positive and negative implications. As a result of the constant usage of these developing technologies and how social evaluations are conveyed, researchers are currently concentrating more on understanding the effects of these platforms and their technical features on the quality of life and well-being of online users [11, 12]. Many studies explored how social media feedback can affect an individual's psychological well-being, including potential outcomes such as perceived life satisfaction [13, 14] and self-esteem [15]. For instance, according to Marengo et al. [16] and Valkenburg et al. [17], one click tools such as Like could improve well-being indirectly by increasing self-esteem.

At the same time, the number of likes is not enough to investigate the effect on well-being, as different individuals may have different perceived needs regarding the same online social feedback [18]. Consequently, scholars have shifted their focus from general and objective social feedback to more individualized entities. As Bernoulli [19] noted, even when both people make the same amount of money, a gain of 1,000 ducats is more useful to the impoverished than to the rich. Accordingly, social media interaction mechanisms (not only limited to Likes) as the number of comments, followers, and view counts or ratings [20, 21] might have a different impact on some people than others.

As a result, people's psychology may be altered, depending on each individual's perceived needs [18] and their social context, including their perceived online reputation. Therefore, the degree to which one is satisfied with their online reputation, as determined by evaluations provided by other social media users, has the potential to significantly impact whether or not the need for online social feedback is met. This impact could have adverse implications on people's well-being.

For instance, having an unsatisfactory online reputation leads individuals to still experience a heightened need for online social feedback, as the lack of acknowledgment from their peers does not diminish their desire for such validation. Consequently, their longing becomes frustrated and unfulfilled, as the environment cannot provide the greater recognition they crave. Indeed, in line with the Basic Psychological Need Theory (BPNT), within Self-Determination Theory (SDT; [22, 23]), satisfying this feeling of being supported by others is one of the three innate psychological needs that could promote well-being. In contrast, individuals appear at risk when exposed to nonsupportive social environments, that is, environments that thwart these psychological needs, leading to negative well-being outcomes [24, 25]. However, even though people might receive positive evaluations from other online users, it might not fully satisfy their need for online social feedback. As a result, they may constantly seek additional validation, which might have an adverse effect on their well-being. As Durkheim wrote, "The more one has, the more and more one wants, since the satisfaction one receives instead only stimulates one to satisfy one's needs" [26]. In line with Durkheim's claims and hedonistic literature, scholars suggested that when one's needs are met, the need for more could arise [27]. Specifically, rich people not only aim to maintain their current status but also aspire to elevate their position in the social hierarchy. Similar to how the wealthy continuously seek greater economic wealth, a comparable pattern arises for individuals striving for online social recognition.

As for successful and rich people who seem dissatisfied with what they currently have and therefore strive for even more [27], the same is true for people who might have obtained online recognition but constantly strive for further online social feedback. Despite their initial success, they remain discontented, as additional feedback does not seem to provide lasting fulfillment. As suggested in Brickman and Campbell [28] treadmill hedonistic theory, people briefly react to changes and return to a neutral level after a short period of time because they have an unrealistic expectation that they will eventually be able to achieve a new, higher level of happiness. In the same way, despite their successes, people continue to feel unsatisfied. This is due to the fact that additional feedback does not appear to be able to consistently support their long-term satisfaction because its effects are temporary and fleeting. Consequently, people experience a brief sense of fulfillment before quickly returning to their initial state. People may return to baseline levels of satisfaction until there is a margin that satisfies their need for social feedback. This is due to them mistakenly believing that achieving a higher level of success will be readily attainable. For this reason, even after achieving the greatest level of success possible, they continue to seek more external approval. As a result, these individuals fail to find appropriate fulfillment in the social feedback provided in their immediate setting, leading to a persistent sensation of unsatisfied longing. This, in turn, may negatively impact their overall well-being.

In general, the prevailing perspective in the literature regarding the relationship between the need for online social feedback and well-being conceptualizes it as a complex phenomenon characterized by three indispensable elements: (i) the objective behavior of receiving social feedback, such as likes, manifested within an interacting online social environment and (ii) the individuals' varying degrees of need for social feedback, thereby situating them (iii) within a psychological space marked by a spectrum of satisfaction and dissatisfaction.

1.1. Aim of the Study and Hypothesis Development. The aim of this study is to explore the relationship between the Need for Online Social Feedback (NfOSF) and individuals' wellbeing, taking into consideration how the perception of "success" in terms of online reputation may moderate the strength of this relationship. Specifically, we seek to investigate how the fulfillment of the need for online social feedback may vary under different levels of recognized reputation. Specifically, the research is aimed at investigating how individuals with lower levels of recognized reputation experience a frustrated need when seeking online social feedback. On the other hand, individuals with higher perceived reputation may also face frustration if they fail to derive satisfaction from the social feedback they receive. This frustration could be attributed to their pursuit of expectations and ambitions that are associated with their attained and

recognized reputation, which might be excessively grandiose and challenging to fulfill in reality.

Hypothesis 1. Drawing from Self-Determination Theory, it is hypothesized that individuals with low levels of perceived online reputation but a high need for online social feedback will have lower overall well-being due to the frustration of their need [22, 23].

Hypothesis 2. Consistent with the hedonistic treadmill theory [28], it is hypothesized that individuals with high levels of online reputation and social success (i.e., high perceived reputation) may experience lower well-being due to their relentless pursuit of validation that however may only lead to short term and temporary effects on their satisfaction while leading to a persistent sensation of unsatisfied longing afterward.

### 2. Methods

2.1. Participants and Procedure. This study was conducted with a total sample size of 1398 participants. The sample was predominantly female (73.2%) with an age range from 14 to 61 (average age = 25.36; s.d = 8.13). Data was collected by using Google modules that allowed us to easily create an online version of the questionnaire to proceed with an online administration through email and the main social media sites such as Instagram and Facebook. Participants were recruited based on a voluntary census through dedicated online messages, since the use of at least one social media site is necessarily required for participation. The sample responded to an online questionnaire, designed ad hoc, in total anonymity in line with the Italian law's privacy requirements (Law Decree DL-101/2018) and EU regulations (2016/679). Participants had the possibility to leave the session at any moment as clearly described in the preliminary instructions.

2.2. Measures. As an inclusion criterion, a preliminary question regarding social media usage was asked. Participants were allowed to continue with the survey if they confirmed that they utilized at least one social media platform.

First, a brief sociodemographic form was administered to each participant, asking for their age and gender.

The following measures were used to achieve the objectives of the study, considering for all of the scales their validated Italian version.

Social media reputation perception was collected through an ad hoc item, that is, "I feel I've achieved a/an ... reputation on Social Media." Participants had to complete the sentence by selecting the option perceived as true for them on a 5-point Likert scale graded from 1 (unsatisfying) to 5 (satisfying).

Need for Online Social Feedback (NfOSF) scale investigates the need for online social feedback that individuals perceive on social media platforms without focusing only on the liking mechanism [18]. It consists of 5 items measured on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). This scale assesses two dimensions related to the desire of receiving positive feedback (3 items;  $\omega = 0.84$ ) and the higher desire for fame (2

items;  $\omega$  = 0.90). The following items are examples from scale: "I'm pleased that people view my online contents" and "I would like to have a large online following." Concerning the first dimension of the scale (i.e., Desire), the minimum score is 3 and the maximum is 15. Therefore, a higher score on the subscale underlies higher scores of the need to receive positive feedback. On the other hand, as regards the second scale dimension (i.e., Fame), the minimum score is 2 and the maximum is 10. Moreover, a higher score on the subscale underlies higher scores of the desire for online fame.

Satisfaction with Life Scale (SWLS) is a self-report instrument that investigates individual life satisfaction, requiring an assessment of participants' lives as a whole [29]. This scale consists of 5 items, measured via a seven-point Likert scale, ranging from 1 = strongly disagree to 7 = strongly agree. The following item is an example of the scale: "In most ways, my life is close to my ideal." The minimum scale score is 5, and the maximum is 35; moreover, a higher score on the scale underlies higher life satisfaction. The psychometric properties and the validity of the Italian version were reported by Di Fabio and Gori [30], and Cronbach's alpha coefficient for the SWLS score is 0.85.

*Warwick-Edinburgh Mental Well-being Scale* (*WEMWBS*) evaluates well-being through positive aspects of mental health defined as a good mental state, containing emotional, cognitive, and mentally well-functioning factors [31]. This scale consists of all 14 items and 5 different categories, which are summed to give a single score. The scoring form of the scale is graded on a 5-point Likert scale, and the internal validity is  $\alpha = 0.90$ .

An example of an item from scale is "I've been feeling useful."

The validity of the Italian version was presented by Gremigni and Stewart-Brown [32], including 12 items with a reported Cronbach's alpha coefficient score of 0.86. Furthermore, the minimum scale score is 12, and the maximum is 60 in the Italian version; therefore, it could be assumed that higher levels on the scale underlie higher mental well-being.

### 3. Results

Before conducting correlation analysis to test our hypotheses, we evaluated the normality of the variables (using asymmetry and kurtosis values), checked for homoscedasticity and linearity, and generated descriptive statistics (Table 1).

As all the metric variables exhibited a normal distribution, we proceeded with the planned Pearson's correlation analysis. In order to examine the fluctuation of the correlation strength between NfOSF and well-being measures at each level of the "social media reputation perception" variable, we generated five correlation matrices. These matrices were summarized in Table 2 and visualized in Figure 1.

As depicted in Figure 1, the relationship between the NfOSF scale and well-being measures exhibits an M-shape pattern, transitioning from dissatisfaction to satisfaction. For participants who expressed dissatisfaction with their social media reputation, three out of the four relationships were statistically significant and negative. Two of these

Variables	Min	Max	Mean	s.d.	Asym.	Kurt.
Social media reputation perception	1	5	2.84	1.09	-0.05	-0.05
NfOSF—Desire	3	15	10.19	2.90	-0.43	-0.30
NfOSF—Fame	2	10	5.00	2.51	0.48	-0.85
SWLS	5	35	22.21	6.61	-0.37	-0.59
WEMWBS	14	60	41.05	7.21	-0.21	0.37

Table 1: Descriptive statistics of the variables collected.

Note: NfOSF = Need for Online Social Feedback; SWLS = Satisfaction with Life Scale; WEMWBS = Warwick-Edinburgh Mental Well-being Scale; s.d. = standard deviation; Asym. = asymmetry; Kurt. = kurtosis.

Table 2: Correlation strength between NfOSF scale and well-being measures grouped by levels of perceived social media reputation.

Relationships	SMRP Lv.1 (N = 200)	SMRP Lv.2 (N = 264)	SMRP Lv.3 (N = 583)	SMRP Lv.4 (N = 260)	SMRP Lv.5 ( <i>N</i> = 91)
Desire—SWLS	-0.17*	-0.02	-0.03	0.01	-0.08
Desire—WEMWBS	-0.13	-0.04	-0.08	0.01	-0.13
Fame—SWLS	-0.28***	-0.01	-0.02	0.06	-0.19*
Fame—WEMWBS	-0.21**	0.04	-0.06	0.09	-0.20*

Note: SWLS = Satisfaction with Life Scale; WEMWBS = Warwick-Edinburgh Mental Well-being Scale; SMRP = social media reputation perception; Lv.1-5 = level of the self-perceived reputation perception graded from 1 (unsatisfying) to 5 (satisfying). \*\*\*p < 0.001; \*\*p < 0.01; \*\*p < 0.05.

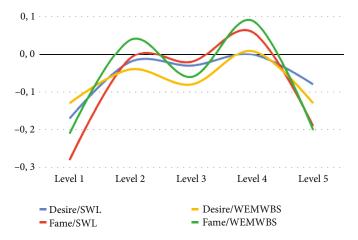


FIGURE 1: Relationship between NfOSF scale and well-being measures across different levels of social media reputation satisfaction.

relationships showed a moderate effect size (around 0.20 in absolute value), while one displayed a relatively large effect size (around 0.30 or higher). No significant relationships were found for participants with social media reputation satisfaction levels ranging from 2 to 4. However, for participants who reported being fully satisfied with their social media reputation, the relationship between NfOSF and well-being measures once again turned negative. In this case, the "Desire" dimension was not statistically significantly associated with well-being measures, unlike the "Fame" dimension, which displayed a typical association.

# 4. Discussion

With the increasing availability of online spaces for interaction and social connections, the study of the social dimension's impact on individuals' well-being must necessarily

consider how it manifests in a "hybrid" space bridging the online and offline realms. Similar to the real world, this effect cannot be objectively studied, as the same social phenomenon may influence different people in varying ways. As highlighted by Duradoni et al. [18], online social feedback, such as likes on social media platforms, should not be treated solely as numerical entities but should be examined in relation to individuals' perceived needs and desires. This evidence led to the current study's attempt to further investigate this topic to understand how well-being and the need for online social feedback are related. To account for the subjective nature of the phenomenon under examination, we sought to determine where each participant stood on a satisfaction spectrum regarding their online reputation. This could be used as a reference point to evaluate the relationship between overall well-being and the need for online social feedback. Consistent with our hypotheses, we

observed a negative relationship between the need for online social feedback and well-being at both ends of the spectrum of online reputation evaluation.

Interestingly, lower levels of well-being are associated with a high desire for online social feedback (which is not satisfied) among people who express dissatisfaction with their online reputation. These individuals aspire to receive positive feedback and achieve greater success, yet the social environment fails to provide it. Similarly, a high need for online social feedback emerges among people who acknowledge that their reputation is fully satisfying. This points to an evident paradox: success does not make people less starving for such feedback. In this case, the desire remains unmet due to the inability to find sufficient satisfaction in the social stimulation provided by the context even if it is the maximum level possible. Remarkably, the "Fame" dimension of the NfOSF scale exhibited a negative association with wellbeing indicators, further emphasizing the significance of excessively grandiose expectations in contributing to a diminished level of overall well-being.

These findings emphasize the subjective nature of the relationship between the need for online social feedback and well-being. They also underscore the crucial role played by the social environment and personal characteristics in either meeting or frustrating these needs. To contextualize these results, different theories can be employed, providing valuable insights into the complex interplay between the need for online social feedback and overall well-being. In this vein, the satisfaction of basic needs correlates with various well-being indicators. Consistent with previous research on Basic Psychological Need Theory (BPNT), a subtheory of the Self-Determination Theory (SDT; [22, 23]), fulfilling innate psychological needs and being in supportive environments where mutual social rewards are received, is strongly associated to overall well-being functioning. Conversely, exposure to nonsupportive social contexts leads to unmet or frustrated needs, which can have adverse effects on wellbeing [24, 25]. Likewise, individuals who continuously possess a strong need for online social feedback consistently experience compromised well-being, even if they are deeply satisfied with their social media reputation. This appeared in accordance with the previous treadmill hedonic literature about Brickman and Campbell's [28] theory. Indeed, the recognition of success does not decrease the desire for such feedback. This is because feedback does not appear to be capable of supporting their long-term satisfaction, as the impacts of such feedback are transitory and fleeting. In this situation, the need remains unsatisfied due to an inability to find sufficient satisfaction in the social stimulation provided by the setting, even if it is at the highest level.

Despite the valuable insights provided by this study, certain limitations warrant consideration. Firstly, the cross-sectional design of the research limits the establishment of causal relationships between the need for online social feedback and well-being. To address this, future studies could employ longitudinal or experimental designs, tracking participants' well-being and feedback needs over time to establish temporal sequences and potential causal links.

Secondly, the study primarily focused on individual-level psychological factors and their influence on the relationship between online social feedback and well-being. However, as highlighted by the Basic Psychological Need Theory (BPNT) and Self-Determination Theory (SDT), environmental factors and supportive social contexts play a vital role in shaping individuals' well-being. Future research should delve deeper into the interplay between individual psychological factors and external influences, such as social norms [33, 34], peer support [35, 36], and community engagement [37, 38], to provide a more comprehensive understanding of this intricate relationship.

Despite these limitations, the present study offers valuable insights into the complex interplay between the need for online social feedback and well-being. The results underscore the importance of considering subjective perceptions and individual characteristics in understanding how online interactions impact well-being.

#### 5. Conclusion

In conclusion, this study contributes to our understanding of the intricate relationship between the need for online social feedback and well-being. It highlights the significance of considering the subjective nature of this phenomenon and the influential role of the social environment in fulfilling or thwarting these needs. By gaining deeper insights into these dynamics, we can develop interventions and strategies aimed at promoting healthier online social experiences and enhancing individuals' well-being in the digital age.

These findings underscore the existence of two potential at-risk populations (i.e., those receiving few and many social feedback), warranting an in-depth exploration of feedback needs. Such an investigation is crucial for implementing risk mitigation strategies.

# **Data Availability**

The data presented in this study are available on request from the corresponding author.

## **Conflicts of Interest**

The authors declare that they have no conflicts of interest.

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