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Evaluating the psychometric properties of the Italian version of Benign Envy and Malicious Envy Scale among Italian workers

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ABSTRACT

The present study analyzed the psychometric properties of the Italian adaptation of the Benign Envy and Malicious Envy Scale (BEMES) in the workplace context. The scale's construct, convergent, and discriminant validity were examined and compared with related constructs such as social comparison, life satisfaction, mental well-being, and psychological distress. A convenience sample of 507 Italian workers (M age = 35.15 years [SD = ±12.31]; 82.38% female) successfully completed an online survey. Confirmatory factor analyses showed the bi-factor structure of the BEMES did not provide a good fit to the data. Consequently, two items with low loadings were removed from their respective hypothesized latent factors. The scale's reliability was satisfactory, demonstrating good internal consistency (Cronbach's α = 0.74–0.80; McDonald's ω = 0.75–0.80). The scale's validity was supported by associations with related constructs: benign envy had significant positive associations with increased social comparison, higher life satisfaction, and better mental well-being, while having negative associations with anxiety, stress, and depression. Conversely, malicious envy had positive associations with anxiety, stress, depression, and increased social comparison, while having negative associations with higher life satisfaction and better mental well-being. Findings contribute to a better understanding of envy in occupational contexts.

Introduction

Scholars across various disciplines agree that envy constitutes one of the most potent human emotional forces (Lange, Blatz, et al., 2018; Lange, Weidman, et al., 2018). Across disciplines such as philosophy, religion, sociology, economy, anthropology and psychology, the importance of envy has been highlighted in shaping individual behavior, interpersonal relationships, and societal dynamics (Lange, Blatz, et al., 2018; Lange, Weidman, et al., 2018). Envy influences consumer behavior, organizational social structures, morality, body image perception, emotional life, the formation of stereotypes, psychopathology, and numerous other aspects of human psychology (Lange, Blatz, et al., 2018; Lange, Weidman, et al., 2018).

The emotion of envy arises when an unfavorable social comparison leads an individual to perceive another as superior in possessions, qualities, abilities, or achievements (Dinić & Branković, 2022; Parrott &

Smith, 1993). While envy can be interpreted as a situation-specific (i.e. episodic) emotion, there is substantial evidence to support the existence of a dispositional form of envy, which implies a predisposition to experience this emotion in general, irrespective of specific circumstances and episodes (e.g. Lange, Blatz, et al., 2018; Lange, Weidman, et al., 2018; Smith et al., 1999). For example, a person may experience episodic envy when a colleague receives a coveted promotion at work, an emotion related to the specific situation. However, other individuals may have a dispositional tendency to envy (i.e. a characteristic trait that leads them to constantly compare themselves with others and feel inferior or dissatisfied, irrespective of the circumstances). These individuals might experience envy even for trivial situations, such as seeing someone with a new smartphone or hearing about an acquaintance on holiday, reflecting a general predisposition rather than an occasional emotion.

There are various conceptualizations of envy, some of which are partially distinct (Lange, Blatz, et al., 2018; Lange, Weidman, et al., 2018). However, most theorists agree on two essential characteristics of envy: (i) a sense of inferiority and (ii) psychological distress. Initially, this emotion stems from an upward social comparison that alters an individual's self-image, leading to a perception of inferiority. Subsequently, from this upward comparison, psychological distress results and manifests as feelings of inferiority (e.g. Miceli & Castelfranchi, 2007) or through emotions such as hostility, resentment, and despair (e.g. Smith & Kim, 2007). Envy plays an important role in both mental health and interpersonal relationships. Studies have associated envy with negative mental health outcomes, including stress, anxiety and depression (i.e. Appel et al., 2015), as well as reduced self-esteem (i.e. Smith et al., 1999).

The concept of envy is multifaceted, and its interpretation is contingent upon the theoretical orientation of the scholar in question (Dinić & Branković, 2022). Some scholars have emphasized the destructive nature of envy, noting that envious individuals may engage in both physical and psychological harmful actions towards others. Such behavior may manifest as sabotage, defamation or even material damage (Duffy et al., 2012). In specific instances, envious individuals may harm themselves or valuable objects in retribution, thereby preventing other people from reaping benefits (Zizzo & Oswald, 2001). However, there is a divergence of opinion among scholars as to whether ill will is an inherent aspect of envy.

Conversely, some theoretical perspectives posit that envy may also originate from a desire to diminish status disparities. This can be achieved, for example, by individuals enhancing their own capabilities (e.g. by improving their skills; Lange & Crusius, 2015). From this perspective, envy can be regarded as a motivating force that drives individuals to enhance their position within society. Therefore, psychological literature has proposed a dual conception of envy, which distinguishes between two main types: benign and malicious envy (Lange et al., 2016; Van de Ven et al., 2009). Benign envy is associated with a positive motivation for self-improvement, whereas malicious envy manifests through destructive and negative behavior towards others. The distinction between benign and malicious envy contributes to a better understanding of the different manifestations and underlying motivations, offering a multifaceted view of this complex social and psychological phenomenon. Researchers have attempted to assess the different dimensions of envy. Sterling et al. (2016) developed a brief psychometric scale to distinguish the two subtypes of envy in the work context (i.e. the Benign Envy and Malicious Envy Scale [BEMES]). The present study evaluated the psychometric properties of BEMES within the Italian occupational context.

Dual envy theory

According to the dual envy theory, recent research distinguishes between the two aforementioned forms of envy: benign and malicious (Lange, Blatz, et al., 2018; Van de Ven et al., 2009; Van de Ven, 2016). This theory suggests that both forms of envy arise from upward social comparisons in personally significant domains and represent a threat to an individual's self-image (Van de Ven, 2016). Whereas the unidimensional approach suggests a single, particularly negative and hostile response (e.g. Cohen-Charash & Larson, 2016), the two-dimensional theory states that there are two distinct forms of envy, each reflecting a different way that individuals dealing with the threat to themselves: by improving their position in benign envy or by denigrating others (perceived as superior) in malicious envy.

Benign envy is characterized by a desire by individuals to improve themselves and to emulate those they envy. Malicious envy is characterized by what has been traditionally considered as envy and is manifested by direct or indirect aggression towards those they envy. Both benign and malicious forms of envy arise from social (upward) comparisons that are unfavorable for self-image, and both involve the painful emotional component of tormenting feelings of inferiority (Lange, Blatz, et al., 2018; Lange, Weidman, et al., 2018; Lange & Crusius, 2015). This characteristic distinguishes benign envy from positive emotions, such as admiration towards one another (Lange & Crusius, 2015; Van de Ven et al., 2015). The distinction between the two forms of envy is reflected in motivational, emotional, cognitive, and personality functioning (e.g. Dinić & Branković, 2022). If unfavorable social comparison triggers motivation for personal fulfilment, combined with the hope of success and a sense of personal control, the resulting emotion is benign envy.

Conversely, when the motivation underlying envy is associated with the fear of failure and the perception that the other person's advantage is undeserved, the resultant emotion is characterized as malicious envy (Lange et al., 2016; Lange & Crusius, 2015). Although both benign and malicious envy can be equally painful experiences, prior research has identified some positive emotional components associated

with benign envy (Van de Ven et al., 2009). For instance, benign envy is positively associated with hope for success, an increased perception of personal control, and social empowerment, all of which contribute to enhanced life satisfaction and well-being (Lange et al., 2016). Comparatively, research suggests that malicious envy is associated with a diminished sense of personal control, heightened stress, depression, anxiety, and distress (Appel et al., 2015; Briki, 2019).

Importantly, evidence suggests that malicious envy predicts the enjoyment of others' misfortunes (Lange, Blatz, et al., 2018; Lange, Weidman, et al., 2018; Van de Ven et al., 2015). The bidimensional approach to analyzing envy is further supported by research conducted through lexical analysis (e.g. Falcon, 2015; Van de Ven et al., 2009). The English language may have influenced the initial consideration of envy as a unidimensional construct, because it uses a single term to describe envy (Dinić & Branković, 2022). However, many languages, including German, Russian, and Polish, have terms or phrases that distinguish between two types of envy: one benign and the other malicious (Dinić & Branković, 2022; Lange, Blatz, et al., 2018; Van de Ven et al., 2016). Similarly, in the Italian language, two forms of envy can be identified: 'invidia positiva' (benevolent or benign envy) and 'invidia negativa' (malevolent or malicious envy) (D'Achille, 2023).

Envy in the workplace

The emotion of envy has been the subject of extensive study in workplaces, with a view to understanding its impact on a number of different aspects of performance and interpersonal relationships. Benevolent and malevolent forms of envy have emerged as particularly relevant in the workplace context (e.g. Sterling et al., 2016). Benevolent envy is characterized by a desire of individuals to enhance their own abilities in light of the achievements of others, accompanied by feelings of admiration and respect for the individual whom the person envies. This form of envy has the potential to result in beneficial outcomes, such as enhanced motivation and dedication to work, which can subsequently lead to improved individual and organizational performance. For example, studies have demonstrated that employees who experience benevolent envy are more likely to engage in organizational citizenship behavior and to seek career development opportunities (Van de Ven et al., 2009).

In contrast, malevolent envy is associated with feelings of hostility and resentment towards those who are perceived as more fortunate or competent. This form of envy can manifest itself in counterproductive behaviors such as sabotage and reduced cooperation, which have the potential to damage the organizational climate and overall performance. There is evidence to suggest that malicious envy can lead to social undermining and reduced job satisfaction (e.g. Duffy et al., 2012).

Clearly, while benevolent envy can act as a catalyst for personal growth and improved work performance, malevolent envy tends to undermine interpersonal relationships and team cohesion. Empirical studies on the consequences of workplace envy predominantly indicate a destructive pattern (Duffy et al., 2008).

Research has shown that work envy deteriorates the quality of relationships between colleagues (Duffy & Shaw, 2000), reduces positive work attitudes (Vecchio, 2000), and increases antisocial behavior (e.g. Duffy et al., 2012), which is therefore associated with poorer mental well-being and life satisfaction. However, more recent studies have also focused on the positive and adaptive effects of envy, such as emulation, the desire to learn, and increased motivation to succeed (Cohen-Charash, 2009; Schaubroeck & Lam, 2004), which are associated with better mental well-being and life satisfaction.

In simple terms, envy aims to reduce the difference with the superior other person; malicious envy does this by individuals denigrating the other person, while benign envy does it by individuals elevating themselves. Crusius and Lange (2014) also found that the two types of envy focus on different aspects of ascendant social comparison: while the malicious envious person focuses primarily on the person envied, the benign envious person focuses primarily on the object that makes individuals strive to better themselves.

Benign Envy and Malicious Envy Scale (BEMES)

Based on the dual envy theory, Sterling et al. (2016) developed a nine-item psychometric scale to distinguish the two subtypes of envy in the work context (five items for benign envy and four items for malicious envy). Both subscales have shown adequate reliability, with Cronbach's alpha of 0.82 for malicious envy and 0.73 for benign envy. The two subscales were negatively correlated with each other, confirming that these are constructs in opposition to each other.

The convergent and discriminant validity of the subscales was tested by analyzing their correlations with other emotions related to social comparison. As expected, benign envy showed positive correlations of low to moderate intensity with positive emotions such as hope and pride, and negative correlations with negative emotions such as shame and jealousy. In contrast, malicious envy was positively correlated with shame and jealousy, while it showed negative correlations with hope and pride. These results indicate that although both forms of envy are correlated with other emotions related to social comparison, the strength of these associations is moderate, suggesting that the subscales assess distinct constructs.

The subscales were then compared with traditional measures of envy, which tend to emphasize the more destructive and hostile component of envy, similar to malicious envy. As expected, malicious envy was moderately correlated with higher scores on both the Employee Envy Scale (Vecchio, 2000) and the Dispositional Envy Scale (Smith et al., 1999). In contrast, benign envy showed negative correlations with higher scores on the envy scales. The results show that traditional measures predominantly capture maliciousenvy, neglecting the positive dimension represented by benign envy. This difference may explain why envy has often been associated with negative behaviors in the workplace because previous measures did not consider its constructive component. The introduction of the distinction between benign and malicious envy opens new perspectives for understanding how this emotion can be managed and transformed into positive resources within organizations.

However, it is important to note that this instrument has not yet been validated in the Italian context, which is a limitation for both research activities and the development of targeted interventions at the organizational level. The lack of an adapted and validated Italian version reduces the possibilities to explore how envy, in its different forms, affects work climate, group dynamics, and individual well-being. Likewise, it hinders the adoption of effective strategies by health and human resource professionals, limiting opportunities to promote a more constructive and collaborative work environment. Moreover, this scale has been used effectively in different contexts and languages, such as in Spain (Navarro-Carrillo et al., 2018) and China (Su et al., 2024). In Italy there are scales to assess envy (i.e. 10-item Benign and Malicious Envy Scale; Rogier et al., 2023), but they are not specifically designed for the work context.

The present study

The aforementioned literature supports the notion that the BEMES has potential value for Italian workers. Based on previous evidence and theoretical conceptions (e.g. the dual envy theory), given that both forms of envy can have different outcomes in terms of mental health and interpersonal relationships, especially in the workplace, the present study investigated the dual conception of envy and its relationship to positive and negative outcomes of envy in greater detail. To date, only a few studies (e.g. Dinić & Branković, 2022; Ricci & Scafarto, 2015) have investigated the dual conception of envy, in its relationship with variables such as general distress (anxiety, stress and depression), life satisfaction, well-being and social comparison. In particular, Italy has a lack of studies in the work context.

Given the theoretical foundations, the primary objective of the present study was to assess the psychometric properties of the BEMES among a sample of Italian workers, through confirmatory factor analysis (CFA), convergent and discriminant validity, and reliability, through internal consistency analysis. It was hypothesized that (i) the Italian BEMES would have a two-factor structure (H$_1$), (ii) benign envy would be positively associated with life satisfaction, mental well-being and lower general distress (i.e. anxiety, stress and depression) (H$_2$), (iii) malicious envy would be positively associated with general distress, lower mental well-being, and lower life satisfaction (H$_3$), and (iv) both benign and malicious envy would be positively associated with social comparison (H$_4$).

Method

Participants and procedure

Between January and February 2025, a link to an online survey was shared on several Italian online platforms and social networking sites (e.g. *Facebook*, *WhatsApp*, etc.). The inclusion criteria were: (i) being at least 18 years old; (ii) understanding the Italian language; (iii) providing informed consent; and (iv) being employed (part-time or full-time). In total, 507 individuals completed the online survey (M_{age} =35.15 years; SD = 12.312). Of these, 82.38% were female (n=467), and 17.62% were male (n=100). Most participants were in full-time employment (n=327, 57.67%), followed by part-time (n=202, 35.62%), and unspecified (n=38, 6.70%).

The majority of participants had completed secondary school (55%, $n = 311$), and approximately a quarter had a bachelor's degree (23%, $n = 131$). Approximately one-sixth had a master's degree (15%, $n = 84$), with the remainder having a doctorate or other postgraduate qualification (6%, $n = 34$). With regard to marital status, the majority were married or cohabiting (38%, $n = 215$), engaged (31%, $n = 112$) or single (26%, $n = 149$). One in 20 were divorced or widowed (5%, $n = 28$). Missing data were below the recommended thresholds (<5%) and were missing completely at random (Little, 1988). The pairwise technique was used to handle missing data (Kang, 2013).

Translation protocol

To develop the Italian version of the BEMES, a rigorous translation and adaptation process was followed. Initially, the original English version of the scale was translated into Italian by a professional translator with expertise in psychological instruments. This initial translation aimed to maintain both the semantic and conceptual equivalence of the items. Subsequently, the Italian version was translated back into English by a second translator, who was unaware of the original version, to ensure the accuracy and fidelity of the translation.

The back-translated English version was then compared with the original scale. In cases where discrepancies or inconsistencies were identified, a bilingual psychologist with expertise in psychometrics was consulted to resolve these issues. Through collaborative discussions, no comprehension problems were identified in any of the scale's nine items, and it was ensured that the Italian version captured the intended meaning and cultural relevance of each item. This process adhered to the guidelines suggested by Abedi (2006), which emphasize the importance of equivalence in cross-cultural adaptations of psychological instruments.

Before launching the survey, the translated scale underwent preliminary testing with a convenience sample of 25 individuals representing diverse age groups, educational backgrounds, and work status. The pilot testing aimed to identify any potential issues with comprehension or item clarity. The participants completed the scale without reporting any difficulties or confusion regarding the questions.

The participants in the pilot testing were asked to rate each item (on a five-point Likert scale) based on representativeness, relevance, and clarity. A content validity index (CVI) was calculated to indicate agreement between the experts, with values equal to 0.80 or higher considered suitable (Lynn, 1986). The CVI for the totality of cases was over 0.80 for representativeness (range = 0.85–0.32), relevance, (range = 0.81–0.90) and clarity (range = 0.82–0.91). Their feedback further confirmed the clarity and appropriateness of the Italian version, which was finalized for use in the study. See Appendix A for the Italian version of the BEMES.

Measures

Sociodemographic measures

The online survey included questions designed to collect participants' socio-demographic information, including age, sex, education level, occupational status, and marital status.

Benign and Malicious Envy Scale (BEMES; Sterling et al., 2016)

The BEMES is a psychometric scale developed to assess two subtypes of envy in the work context: benign envy and malicious envy. It includes nine items, of which five items assess benign envy, and four items assess malicious envy, rated on a seven-point Likert scale from 1 (Never) to 7 (Always). Scores for each subscale range from 5 to 35 for benign envy and 4 to 28 for malicious envy, with higher scores indicating higher levels of each type of envy. An example of an item for benign envy is 'I am motivated to try harder to achieve my own goals when comparing myself with others at this company that are doing well'. An example of an item for malicious envy is 'I feel very frustrated by the success of others at this company when I compare myself to them'. Refer to the 'Results' section for the scale's psychometric properties.

Depression Anxiety Stress Scale–21 (DASS-21; Henry & Crawford, 2005; Italian version: Bottesi et al., 2015)

The 21-item DASS–21 was used to assess psychological distress. Participants indicate how much they agree with the items on a four-point scale from 0 (not at all) to 3 (very much) on the three constructs: depression (e.g. 'I felt like I had nothing to look forward to'), anxiety (e.g. 'I felt close to a panic attack'), and stress (e.g. 'I found it difficult to relax'). The subscale scores for each of the three components range from 0 to 21 and the total score for psychological distress ranges from 0 to 63 (i.e. the sum of the three subscales). Relatively higher scores on each index indicate greater psychological distress. In the present study, the

internal consistency of the full scale (using both Cronbach's alpha and McDoald's omega) was excellent (α = 0.96; ω=0.95), as were the internal consistencies for each subscale: anxiety (α = 0.94; ω=0.89), stress (α = 0.95; ω=0.91), and depression (α = 0.94; ω=0.91).

Iowa–Netherlands Comparison Orientation Measure (INCOM; Gibbons & Buunk, 1999; Italian version: Ruggieri et al., 2021)

The 11-item INCOM was used to assess the tendency to make social comparisons. Items (e.g. 'I often compare myself with others with respect to what I have accomplished in life') are rated on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). The item scores added to get a score ranging from 6 to 30. Higher scores indicate greater tendency for social comparison. In the present study, the Cronbach's alpha (α=0.78) and McDonald's omega (ω=0.83) were both very good.

Short Warwick-Edinburgh Mental Well-Being Scale (SWEMWBS Tennant et al., 2007, Italian version 7-item by Soraci et al., 2024)

The 7-item WEMWBS was used to assess mental well-being. Items (e.g. 'I cheer up when I think about how things will be' and 'I have been feeling cheerful') are rated using a five-point Likert scale from 1 (None of the time) to 5 (All of the time). The item scores are added for a score ranging from 7 to 35. Higher scores indicate greater mental well-being. In the present study, the Cronbach's alpha (α=0.87) and the McDonald-Omega (ω=0.88) were both very good.

Satisfaction With Life Scale (SWLS, Diener et al., 1985, Italian version di Fabio & Palazzeschi, 2012)

The five-item SWLS was used to assess life satisfaction. Items (e.g. 'Most aspects of my life are as I want them to be') are rated on a seven-point scale from 1 (totally disagree) to 7 (totally agree). The item scores are added to get a score ranging from 5 to 35. Higher scores indicate greater satisfaction with life. In the present study, the Cronbach's alpha (α=0.85) and McDonald's omega (ω=0.86) were both very good.

Data analysis

The normality of the data was evaluated according to the guidelines of Muthén and Kaplan (1985), which recommend that skewness and kurtosis ideally fall within ±1, with more lenient thresholds of ±2 for skewness and ±7 for kurtosis considered acceptable (Kline, 2016, 2023). Descriptive statistics, incorporating means and standard deviations, were computed for the BEMES. Internal consistency was appraised using Cronbach's alpha, McDonald's omega, and composite reliability (CR), with values of 0.70 or higher being considered adequate (Cheung et al., 2024; McDonald, 1999). The factorial structure and dimensionality of the BEMES were examined through confirmatory factor analysis (CFA). The model fit was evaluated using established indices.

Three absolute fit indices were evaluated (chi-square statistic [χ^2], root mean square error of approximation – RMSEA, and standardized root mean square residual – SRMR), along with two relative fit indices (Tucker Lewis Index [TLI], and comparative fit index [CFI]). To determine whether the model demonstrated acceptable fit, the following cut-off values were applied: χ^2 non-significant for $p > .05$ (although χ^2 is sensitive to sample size, particularly for $n > 200$), RMSEA $\leq$ 0.10, CFI and TLI > 0.90, and SRMR $\leq$ 0.08 (Hu & Bentler, 1999, Marsh et al., 1988). The analysis primarily focused on the evaluation of the Italian translation of the BEMES, grounded in theoretical principles. Additionally, solution estimates were examined, including the magnitude of factor loadings (λ), the average variance extracted (AVE) for each factor, and the modification indices and model residuals, to identify potential post-hoc adjustments. Following methodological recommendations (Brown, 2015; Byrne, 2016; Hermida, 2015), multiple model adjustments were tested based on factor loadings and item-total correlations. Moreover, when removing items due to inadequate factor loadings, it is generally recommended to ensure that the minimum number of items per factor remains sufficient, typically no fewer than three (e.g. Kline, 2016).

Correlations between indicator error terms were introduced only when theoretically justified and/or when items shared similar wording or meanings, as indicated by modification indices (i.e. > 10, Hermida, 2015). However, because refining the factor model using modification indices (MIs) is a data-driven approach, each MI was evaluated individually, and the model was re-tested after each modification. Consequently, adjustments were made sequentially, with each revised model being assessed for improved statistical fit. To ensure the structural integrity of the proposed latent factors, factor loadings (λ) and the average variance (AVE) extracted should ideally approach 0.50, with an acceptable minimum of 0.40. In addition, composite reliability (CR) should have values greater than > 0.70 (e.g. Cheung et al., 2024; Hair et al., 2010, 2019).

In line with the standards established by the American Educational Research Association, American Psychological Association, & National Council on Measurement in Education (2014), construct validity was assessed by focusing on the factorial distinctiveness of the hypothesized two-scale dimensions. Additionally, the scale's reliability was tested using McDonald's ω (McDonald, 1999), which should exceed a value of 0.70 (Lance et al., 2006; Viladrich et al., 2017). Convergent and divergent validity were assessed using Pearson correlations between BEMES and theoretically associated constructs, including anxiety, stress, depression, mental well-being, life satisfaction, and social comparison (Campbell & Fiske, 1959; Cohen et al., 2003). The data analyses were performed utilizing R Core Team (2021) and JASP version 0.19 (JASP Team, 2024).

Ethical approval

The research was conducted according to the Declaration of Helsinki for medical research involving human participants and was approved by the Ethical Committee of Niccolò Cusano University, in Rome, Italy. All participants gave their informed consent to participate in the study. The identity of the participants was anonymous, and the data were stored in an encrypted online archive, accessible only to the authors of the present study.

Results

Given the gender imbalance (i.e. the proportion of females was much higher than males), a *t*-test analysis was conducted to see if there were significant differences in the two factors of envy (i.e. benign and malicious). The results showed no significant differences in either factor (benign envy: $t = 1.268$, df = 548, $p = 0.205$; malicious envy: $t = -0.670$, df = 560, $p = 0.503$). This indicates that despite the gender imbalance, the effect of gender on the two types of envy appears to be negligible.

Confirmatory factor analysis

The BEMES items were distributed in a normal manner with skewness (min = 0.181, max = 2.62, in absolute value) and kurtosis (min = 0.397, max = 6.597, in absolute value) falling within the appropriate ranges (Kline, 2016, 2023) (see Table 1 for details). The maximum likelihood (ML) estimator for the CFA was used. The initial analysis of the first model (referred to as Model A, consisting of five items for benign envy and four for malicious envy) indicated inadequate fit indices: χ^2 = 217.305 (df = 26, $n = 567$, $p < 0.001$), χ^2/df = 8.34, CFI = 0.849, RMSEA = 0.122 (90% CI: 0.108–0.137), TLI = 0.792, and SRMR = 0.102. Inspection of the model showed a weak factor loading ($\lambda < 0.20$) for Item 5 (the benign envy factor '*Even when I am envious of people, I compare myself to, I cannot say I dislike them*'), which was expected due to its detrimental impact on convergent validity. Consequently, Item 5 was removed, resulting in an eight-item model (termed Model B, consisting of four items for both benign envy and malicious envy).

Although the fit indices in Model B improved, they remained suboptimal (e.g. CFI = 0.902, RMSEA > 0.100). Further inspection of the model showed that Item 1 (the benign envy factor '*When I compare myself to successful people at this company it is hard for me to feel resentful*'), exhibited a weak factor loading ($\lambda < 0.40$). Consequently, this item was also removed, leading to the development of a seven-item model (termed Model C, consisting of three items for benign envy and four for malicious envy). While the fit indices for Model C showed further improvement, they were still insufficient to demonstrate an adequate fit to the data (e.g. CFI = 0.918, RMSEA > 0.100). Notably, all items in Model C had satisfactory factor loadings (λ, min = 0.540, max = 0.885).

To refine the model further, modification indices (MIs > 10) were examined. These suggested adding a covariance between the error terms of Item 8 ('*At times I may wish that successful people that I*

Table 1. Descriptive statistics of BEMES items.

	Mean	SD	Skewness	SE	Kurtosis	SE
BEMES 1	4.182	2.055	−0.181	0.103	−1.220	0.206
BEMES 2	5.417	1.532	−1.011	0.103	0.397	0.205
BEMES 3	5.774	1.397	−1.176	0.103	0.762	0.205
BEMES 4	5.767	1.325	−1.195	0.103	1.135	0.205
BEMES 5	3.867	2.233	−0.040	0.104	−1.472	0.207
BEMES 6	2.058	1.581	1.580	0.103	1.521	0.205
BEMES 7	2.168	1.598	1.417	0.103	1.038	0.205
BEMES 8	1.651	1.221	2.199	0.103	4.310	0.205
BEMES 9	1.540	1.213	2.629	0.103	6.597	0.205

Abbreviations: SD = Standard deviation. SE = Standard error.

compare myself to will experience some kind of set-back') and Item 9 ('*I may wish I could do something to take down a notch those successful people I compare myself to at this company, even if I would never actually do that*'). This final model, referred to as Model D (consisting of three items for benign envy and four for malicious envy with covariance between Item 8 and Item 9) achieved nearly adequate fit indices across all metrics, except for the chi-square that remained significant: χ^2 = 78.768 (df = 12), $p < 0.01$, RMSEA = 0.091 (90% CI 0.079–0.111), CFI = 0.949, TLI = 0.911, and SRMR = 0.075. Moreover, all items had an adequate item-total correlation, both for benign envy (min = 0.540, max = 0.709) and malicious envy (min = 0.746, max = 0.833) and were all significant ($p < 0.001$). Additionally, all items in Model D had satisfactory factor loadings (λ, min = 0.542, max = 0.880). Finally, the AVE was also adequate for both factors (i.e. > 0.50). More specifically, the AVE for benign envy was 0.508, and for malicious envy it was 0.505. The results of the final model supported H_1. In light of the fit indices, model D was retained for the subsequent analyses (i.e. convergent and discriminant validity, reliability). For a comparative summary of the models, refer to Table 2 and Figure 1.

Correlation analysis

The relationship between benign and malicious envy was significant and negative ($r = -0.09$, $p < .05$). This finding suggests that, while both forms of envy share a common basis associated with the perception of social disparities, they exhibit opposite directions with regard their psychological implications. Correlations between benign envy and other variables indicated that it was negatively associated with anxiety ($r = -0.11$, $p < .05$) and depression ($r = -0.14$, $p < .001$), while no significant relationship was found with stress ($r = -0.08$). Conversely, benign envy was positively correlated with social comparison ($r = 0.21$, $p < .001$), life satisfaction ($r = 0.23$, $p < .001$), and mental well-being ($r = 0.22$, $p < .001$). Malicious envy had a significant positive relationship with stress ($r = 0.41$, $p < .001$), anxiety ($r = 0.36$, $p < .001$), and depression ($r = 0.49$, $p < .001$). Additionally, it was positively associated with social comparison ($r = 0.36$, $p < .001$) and negatively related to life satisfaction ($r = -0.40$, $p < .001$) and mental well-being ($r = -0.35$, $p < .001$). These results highlight distinct profiles of associations for the two types of envy, with benign envy being associated with more adaptive outcomes compared to malicious envy. These results supported H_2, H_3 and H_4. See Table 3 for a summary of the correlation results.

Table 2. CFA models comparison.

Model	χ^2	df	CFI	RMSEA	SRMR
Model A	217.305	26	0.849	0.122	0.102
Model B+	153.004	19	0.902	0.113	0.075
Model C++	120.006	11	0.918	0.121	0.081
Model D+++	78.768	12	0.941	0.091	0.075

Note: Model A (original model comprising nine items, five items assessing benign envy, and four items assessing malicious envy); Model B+ Model A without Item 5; Model C++ Model A without Items 1 and 5; Model D +++ Model A without Items 1 and 5 and with covariance between error terms Items 8 and 9.
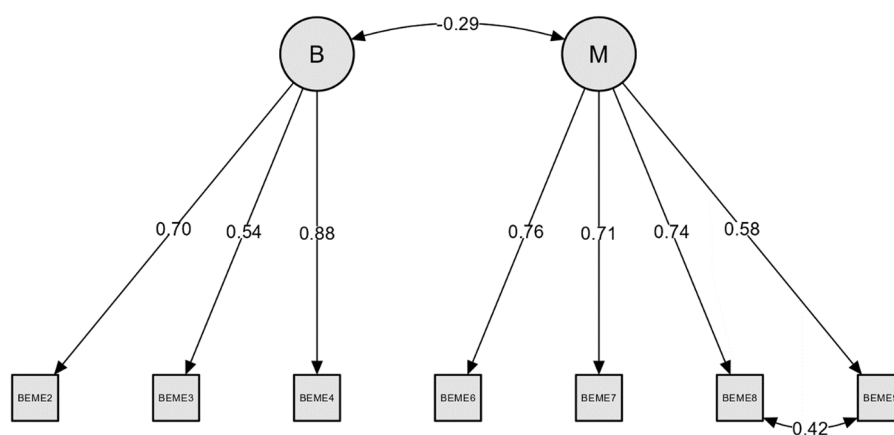

Figure 1. Model D of the Italian version of BEMES, B=benevolent envy, M=malicious envy.

Reliability

To examine reliability of the BEMES, various indices were used including Cronbach's alpha, McDonald's omega, and composite reliability (CR). The results were as follows: Cronbach's alpha = 0.74 for benign envy (CI 95% 0.70–0.77) and 0.80 for malicious envy (CI 95% 0.77–0.82); McDonald's omega = 0.75 for benign envy (CI 95% 0.71–0.78) and 0.80 for malicious envy (CI 95% 0.76–0.84). The CR was 0.76 for benign envy and 0.79 for malicious envy. These results indicated sufficient reliability.

Discussion

The objectives of the present study were twofold: to evaluate the (i) psychometric properties of the Italian BEMES, and (ii) validity of the Italian BEMES by examining whether it was significantly associated with theoretically-related constructs (i.e. general psychological distress [and its sub-factors depression, anxiety, and stress], mental well-being, life satisfaction, and social comparison). Confirmatory factor analysis (CFA) showed that the observed variables loaded significantly onto two underlying factors (i.e. dual factor structure: benign envy and malicious envy), thereby supporting H_1 and concurring with previous validation studies (e.g. Lange & Crusius, 2015; Sterling et al., 2016). Notably, in order to achieve satisfactory fit indices, some adjustments to the original model were necessary. More specifically, Item 1 ('*When I compare myself to successful individuals I encounter at work and/or in my studies, it is difficult for me to feel resentment*') and Item 5 ('*Even though I feel envy toward those I compare myself to, I cannot deny that I appreciate them*'), which were related to benign envy, exhibited low factor loadings, and were therefore removed.

The removal of items is not uncommon when translating an instrument into a language different from the original version (e.g. He & van de Vijver,

2012; Van de Vijver & Poortinga, 1997) and may be attributed to several factors. For example, cultural and linguistic differences (the way emotions such as envy are conceptualized and expressed may vary significantly across cultures, potentially affecting item interpretation and response patterns) and contextual relevance (specific items might not resonate with the experiences or perspectives of respondents in the new cultural or linguistic context, leading to lower loadings). Moreover, translation nuances may have contributed. Despite careful translation and back-translation processes, subtle shifts in meaning might occur, altering the perceived relevance or clarity of the items. Finally, sample characteristics such as the differences in the demographic or psychological profiles of the sample (e.g. age, education level and professional background) compared to the original validation study might have influenced how the items were understood and rated.

Further exploration of the reasons for the exclusion of these items is warranted. For instance, Item 1's focus on 'resentment' may have introduced ambiguity in its interpretation because the term could carry different connotations in Italian compared to the original language. Similarly, Item 5's emphasis on 'appreciation' might not have reflected common emotional expressions tied to envy in the Italian cultural context. Future studies may consider revising these items to better align with Italian individuals' perspectives or introducing alternative formulations to capture the same constructs. Despite these adjustments, the final model demonstrated sufficient psychometric properties, confirming the dual-factor structure of the construct (Lange & Crusius, 2015; Sterling et al., 2016). This supports the applicability of the instrument in the translated context and highlights its potential utility for further research.

Moreover, the fit indices of the model were adequate (e.g. TLI, GFI, SRMR and RMSEA), although the upper bound of the RMSEA, with a value of 0.111 was slightly higher than the generally accepted limit

Table 3. Correlations between the main measures.

Variable	1	2	3	4	5	6	7	8
1. Benign envy	–							
2. Malicious envy	−0.09*	–						
3. Stress	−0.08	0.41***	–					
4. Anxiety	−0.11*	0.36***	0.77***	–				
5. Depression	−0.14***	0.49***	0.78***	0.73***	–			
6. Social comparison	0.21***	0.36***	0.34***	0.27***	0.33***	–		
7. Life satisfaction	0.23***	−0.40***	−0.42***	−0.38***	−0.53***	−0.13**	–	
8. Mental wellbeing	0.22***	−0.35***	−0.47***	−0.42***	−0.57***	−0.19***	0.63***	–

Note.
*p < .05,.
**p < .01,.
***p < .001.

of 0.100. This suggests that although most of the indices indicate a good fit of the model, there is some uncertainty regarding its specification. In practice, the high upper bound of the RMSEA suggests that, under different sampling conditions, the model may not replicate the observed data as well. This calls for a thorough evaluation of the model specification and possibly further sensitivity analyses (e.g. additional alternative models) to identify possible sources of error or misspecification, as indicated by Hu and Bentler (1999).

The reliability results were satisfactory, demonstrating that the Italian BEMES has good internal consistency. In the present study, psychometric analyses were carried out in accordance with current psychometric guidelines to provide a robust and thorough analysis (e.g. Hair et al., 2010, 2019). In particular, the Italian BEMES exhibited excellent convergent validity, with construct reliability exceeding 0.70, and all item standardized factor loadings above 0.5, and an average variance extracted exceeding 0.50, which are considered satisfactory (Fornell & Larcker, 1981). Additionally, the analysis of the correlations between the BEMES score and the other scale scores demonstrated both good convergent and discriminant validity.

More specifically, the present study provided insights regarding the distinct psychological profiles of benign and malicious envy. It has been demonstrated that these two forms of envy, despite sharing a common basis rooted in the perception of social disparities, diverge significantly in their implications for mental health and well-being, similar to previous studies (e.g. Lange & Crusius, 2015; Van de Ven et al., 2009). The significant negative association between benign and malicious envy suggests that these two forms of envy are fundamentally opposed in their psychological effects. While benign envy has been shown to motivate individuals in constructive ways, malicious envy has been associated with maladaptive outcomes. This distinction aligns with existing theoretical frameworks and literature, suggesting that benign envy often facilitates personal growth and goal-directed behavior, whereas malicious envy fosters resentment and destructive tendencies (e.g. Crusius & Lange, 2014; Van de Ven et al., 2009).

Benign envy is characterized by its association with positive psychological outcomes, and the observed negative associations with anxiety and depression indicate that individuals experiencing benign envy may have fewer harmful psychological effects. This form of envy has been found to be unrelated to

stress, thereby further emphasizing its relatively adaptive nature. Additionally, the positive associations with social comparison, life satisfaction, and mental well-being suggest that benign envy may serve as a motivator for self-improvement (Lange & Crusius, 2015; Sterling et al., 2016). Through social comparisons, individuals experiencing benign envy may find themselves inspired to achieve personal goals, thereby enhancing their overall well-being. These findings corroborate previous studies highlighting the constructive role of benign envy in fostering ambition and goal pursuit (Crusius & Lange, 2014) and supports H_2.

Comparatively, malicious envy has been demonstrated to be associated with a multitude of adverse psychological consequences. The significant positive associations with stress, anxiety, and depression underscore the detrimental effects of this form of envy on mental health. These findings are consistent with theoretical perspectives that describe malicious envy as a more dysfunctional emotion associated with hostility and dissatisfaction (Sterling et al., 2016; Van de Ven et al., 2009). Moreover, the negative associations between malicious envy and life satisfaction and mental well-being indicate that individuals experiencing malicious envy may struggle to derive a sense of fulfilment and positivity from their lives, supporting H_3. The positive association with social comparison suggests that, while both forms of envy are associated with comparative processes, the outcomes of such comparisons differ markedly between benign and malicious envy. For individuals experiencing malicious envy, social comparisons may intensify feelings of inadequacy and hostility rather than inspiring self-improvement (Lange & Crusius, 2015; Van de Ven et al., 2009), supporting H_4.

Practical implications

The present results contribute to the expansion of literature distinguishing between benign and malicious envy and underline the importance of understanding their different psychological impacts. From a theoretical perspective, the results demonstrate that the dual nature of envy functions both as a catalyst for personal growth and as a possible catalyst for psychological distress. From a practical point of view, these results can support targeted interventions and strategies for managing envy in the workplace. For example, promoting environments that encourage upward social comparison in a non-threatening and constructive manner could promote benign envy and mitigate the potentially harmful effects of malicious envy.

Limitations

While the present study provides valuable insights into the psychometric properties and validity of the Italian version of the BEMES, several limitations should be acknowledged. The reliance on self-report measures may introduce bias, and the cross-sectional design precludes causal inferences. Future research should examine the longitudinal dynamics of benign and malicious envy to better understand their causal pathways and long-term impacts. Such an approach would be invaluable in elucidating how these forms of envy evolve over time and in clarifying their potential causal relationships with psychological well-being, life satisfaction, and mental health outcomes.

Moreover, the examination of potential moderators, such as personality traits or cultural differences, could provide a more nuanced understanding of how these two forms of envy manifest in diverse contexts. For example, a recent study (Kaminger et al., 2023) showed the moderating effect of dispositional gratitude on the association between social comparison and malicious envy on the intensity of social comparisons activity on *Instagram*. Another notable limitation concerns the composition of the sample, which was predominantly female. This imbalance may have implications for the generalizability of the findings because it remains unclear whether the observed patterns of benign and malicious envy are equally representative across sexes. Sex differences in emotional expression and social comparison processes are well-documented in the literature (e.g. Valls, 2022), suggesting that males and females may experience and respond to envy in distinct ways. Consequently, the results of the present study might not fully capture the experiences of males, thereby limiting the applicability of the findings to a more balanced population. However, although the proportion of females was much greater than males, there were no statistically significant differences in the scores for the two envy factors (benign and malicious). This suggests that despite the gender imbalance, gender did not appear to significantly affect the responses regarding envy. Therefore, although the skewed gender distribution of participants is acknowledged as a limitation, the analysis indicates that the effect of gender on the key construct under investigation was negligible.

It should also be noted that although all of the sample were in paid employment, not all of them worked full-time. Therefore, future studies, should investigate the BEMES among more homogenous types of employment (e.g. among a sample of full-time employees) or systematically investigate if there are differences between different types of employee (i.e. full time vs. part time). Moreover, the sample size, while adequate for the analyses conducted, limits the ability to explore potential subgroup differences or to generalize findings to the broader Italian population. A more diverse and representative sample, including individuals from varied age groups, socio-economic statuses, and cultural backgrounds, would enhance the robustness and external validity of the results. For instance, cultural and contextual factors may shape how envy is experienced and reported, thereby influencing the psychometric performance of the scale. Future research should consider incorporating multi-method approaches, such as behavioral observations or informant reports, to complement self-reported data.

Conclusion

Despite the limitations, the present study represents an important contribution to the literature because it validates the BEMES in the Italian context. While benign envy is associated with adaptive outcomes such as lower anxiety and lower depression, and higher life satisfaction and better mental well-being, malicious envy is associated with higher stress, higher anxiety, and higher depression, as well as lower life satisfaction and worse mental well-being. These findings underscore the importance of differentiating between these two forms of envy in both theoretical and practical contexts. By providing psychometric evidence supporting the dual-factor structure and its associations with relevant psychological constructs, it addresses a gap in research on envy in non-English-speaking populations. Given the increasing recognition of the importance of emotional regulation and social comparison in contemporary psychological research, the Italian BEMES could serve as a valuable measure for exploring these processes in various applied contexts.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Ethics statement

The current study was approved by the University Niccolò Cusano,

Informed consent statement

Informed consent was obtained from all participants involved in the study.

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Data availability statement

Research data are available upon reasonable request to the first author.

References

Abedi, J. (2006). Language issues in item development. In: Downing, S. M., & Haladyna, T. M. (Eds.), *Handbook of test development* (pp. 377–398). Lawrence Erlbaum Associates Publishers.

American Educational Research Association, American Psychological Association, & National Council on Measurement in Education. (2014). *Standards for educational and psychological testing*. American Educational Research Association.

Appel, H., Crusius, J., & Gerlach, A. L. (2015). Social comparison, envy, and depression on Facebook: A study looking at the effects of high comparison standards on depressed individuals. *Journal of Social and Clinical Psychology*, *34*(4), 277–289. https://doi.org/10.1521/jscp.2015.34.4.277

Bottesi, G., Ghisi, M., Altoè, G., Conforti, E., Melli, G., & Sica, C. (2015). The Italian version of the Depression Anxiety Stress Scales-21: Factor structure and psychometric properties on community and clinical samples. *Comprehensive Psychiatry*, *60*, 170–181. https://doi.org/10.1016/j.comppsych.2015.04.005

Briki, W. (2019). Harmed trait self–control: Why do people with a higher dispositional malicious envy experience lower subjective wellbeing? A cross-sectional study. *Journal of Happiness Studies*, *20*(2), 523–540. https://doi.org/10.1007/s10902-017-9955-x

Brown, T. A. (2015). *Confirmatory factor analysis for applied research* (2nd ed.). The Guilford Press.

Byrne, B. M. (2016). *Structural equation modeling with AMOS*. Routledge. https://doi.org/10.4324/9781315757421

Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, *56*(2), 81–105. https://doi.org/10.1037/h0046016

Cheung, G. W., Cooper-Thomas, H. D., Lau, R. S., & Wang, L. C. (2024). Reporting reliability, convergent and discriminant validity with structural equation modeling: A review and best-practice recommendations. *Asia Pacific Journal of Management*, *41*(2), 745–783. https://doi.org/10.1007/s10490-023-09871-y

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Routledge. https://doi.org/10.4324/9780203774441

Cohen-Charash, Y. (2009). Episodic envy. *Journal of Applied Social Psychology*, *39*(9), 2128–2173. https://doi.org/10.1111/j.1559-1816.2009.00519.x

Cohen-Charash, Y., & Larson, E. C. (2016). What is the nature of envy?. In: Smith, R. H., Merlone, U., & Duffy, M. K. (Eds.), *Envy at work and in organizations* (pp. 1–37). Oxford University Press. https://doi.org/10.1093/acprof:oso/9780190228057.003.0001

Crusius, J., & Lange, J. (2014). What catches the envious eye? Attentional biases within malicious and benign envy. *Journal of Experimental Social Psychology*, *55*, 1–11. https://doi.org/10.1016/j.jesp.2014.05.007

D'Achille, P. (2023, September 13). C'è *"Chi [chiede] d'invidia o di gelosia".* E noi proviamo a rispondere. Accademia della Crusca. Retrieved January 14, 2024, from https://accademiadellacrusca.it/it/consulenza/c-chi-chiede-deminvidiaem-o-di-emgelosiaem-e-noi-proviamo-a-rispondere/27390

di Fabio, A., & Palazzeschi, L. (2012). The Satisfaction with Life Scale (SWLS): Un contributo alla validazione Italiana con lavoratori adulti. *Counseling: Giornale Italiano di Ricerca e Applicazioni*, *5*(2), 207–215.

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, *49*(1), 71–75. https://doi.org/10.1207/s15327752jpa4901_13

Dinić, B. M., & Branković, M. (2022). Cross-cultural comparison of the Benign and Malicious Envy Scale (BeMaS) across Serbian and US samples and further validation. *European Journal of Psychological Assessment*, *38*(1), 49–60. https://doi.org/10.1027/1015-5759/a000643

Duffy, M. K., Scott, K. L., Shaw, J. D., Tepper, B. J., & Aquino, K. (2012). A social context model of envy and social undermining. *Academy of Management Journal*, *55*(3), 643–666. https://doi.org/10.5465/amj.2009.0804

Duffy, M. K., & Shaw, J. D. (2000). The Salieri Syndrome: Consequences of envy in groups. *Small Group Research*, *31*(1), 3–23. https://doi.org/10.1177/104649640003100101

Duffy, M. K., Shaw, J. D., & Schaubroeck, J. M. (2008). Envy in organizational life. In: Smith, R. H. (Ed,), *Envy* (pp. 167–189). Theory and research, Oxford University Press. https://doi.org/10.1093/acprof:oso/9780195327953.003.0010

Falcon, R. G. (2015). Is envy categorical or dimensional? An empirical investigation using 10 taxometric analysis. *Emotion (Washington, D.C.)*, *15*(6), 694–698. https://doi.org/10.1037/emo0000102

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and mea-

surement error. *Journal of Marketing Research*, *18*(1), 39–50. https://doi.org/10.1177/002224378101800104

Gibbons, F. X., & Buunk, B. P. (1999). Individual differences in social comparison: Development of a scale of social comparison orientation. *Journal of Personality and Social Psychology*, *76*(1), 129–142. https://doi.org/10.1037/0022-3514.76.1.129

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Prentice Hall.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage Learning.

He, J., & van de Vijver, F. J. R. (2012). Bias and equivalence in cross-cultural research. *Online Readings in Psychology and Culture*, *2*(2), 1–19. https://doi.org/10.9707/2307-0919.1111

Henry, J. D., & Crawford, J. R. (2005). The short-form version of the Depression Anxiety Stress Scales (DASS-21): Construct validity and normative data in a large non-clinical sample. *The British Journal of Clinical Psychology*, *44*(Pt 2), 227–239. https://doi.org/10.1348/014466505X29657

Hermida, R. (2015). The problem of allowing correlated errors in structural equation modeling: Concerns and considerations. *Computational Methods in Social Sciences*, *3*(1), 5–17.

Hu, L., &., Bentler, P. M. (1999). Cutoff criteria for fit indices in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1–55. https://doi.org/10.1080/10705519909540118

JASP Team. (2024). *JASP (Version 0.19.0)* [Computer software]. Retrieved January 17, 2024, from https://jasp-stats.org/

Kaminger, S., Roth, L. H. O., & Laireiter, A. R. (2023). #Blessed: The moderating effect of dispositional gratitude on the relationship between social comparison and envy on Instagram. *Frontiers in Psychology*, *14*, 1159999. https://doi.org/10.3389/fpsyg.2023.1159999

Kang, H. (2013). The prevention and handling of the missing data. *Korean Journal of Anesthesiology*, *64*(5), 402–406. https://doi.org/10.4097/kjae.2013.64.5.402

Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed.). Guilford Press.

Kline, R. B. (2023). *Principles and practice of structural equation modeling* (5th ed.). Guilford Press.

Lance, C. E., Butts, M. M., & Michels, L. C. (2006). The sources of four commonly reported cutoff criteria. *Organizational Research Methods*, *9*(2), 202–220. https://doi.org/10.1177/1094428105284919

Lange, J., Blatz, L., & Crusius, J. (2018). Dispositional envy: A conceptual review. In V. Zeigler-Hill & T. K. Shackelford (Eds.), *SAGE Handbook of personality and individual differences* (pp. 424–440). Sage.

Lange, J., & Crusius, J. (2015). Dispositional envy revisited: Unraveling the motivational dynamics of benign and malicious envy. *Personality & Social Psychology Bulletin*, *41*(2), 284–294. https://doi.org/10.1177/0146167214564959

Lange, J., Crusius, J., & Hagemeyer, B. (2016). The evil queen's dilemma: Linking narcissistic admiration and rivalry to benign and malicious envy. *European Journal of Personality*, *30*(2), 168–188. https://doi.org/10.1002/per.2047

Lange, J., Weidman, A. C., & Crusius, J. (2018). The painful duality of envy: Evidence for an integrative theory and a meta-analysis on the relation of envy and schaden-

freude. *Journal of Personality and Social Psychology*, *114*(4), 572–598. https://doi.org/10.1037/pspi0000118

Little, R. J. A. (1988). A test of missing completely at random for multivariate data with missing values. *Journal of the American Statistical Association*, *83*(404), 1198–1202. https://doi.org/10.1080/01621459.1988.10478722

Lynn, M. R. (1986). Determination and quantification of content validity. *Nursing Research*, *35*(6), 382–385. https://doi.org/10.1097/00006199-198611000-00017

Marsh, H. W., Balla, J. R., & McDonald, R. P. (1988). Goodness-of-fit indexes in confirmatory factor analysis: The effect of sample size. *Psychological Bulletin*, *103*(3), 391–410. https://doi.org/10.1037/0033-2909.103.3.391

McDonald, R. P. (1999). *Test theory: A unified treatment*. Lawrence Erlbaum Associates Publishers.

Miceli, M., & Castelfranchi, C. (2007). The envious mind. *Cognition & Emotion*, *21*(3), 449–479. https://doi.org/10.1080/02699930600814735

Muthén, B., & Kaplan, D. (1985). A comparison of some methodologies for the factor analysis of non-normal Likert variables. *British Journal of Mathematical and Statistical Psychology*, *38*(2), 171–189. https://doi.org/10.1111/j.2044-8317.1985.tb00832.x

Navarro-Carrillo, G., Beltrán-Morillas, A. M., Valor-Segura, I., & Expósito, F. (2018). The pernicious effects of malicious versus benign envy: Perceived injustice, emotional hostility and counterproductive behaviors in the workplace. *The Spanish Journal of Psychology*, *21*, E41. https://doi.org/10.1017/sjp.2018.49

Parrott, W. G., & Smith, R. H. (1993). Distinguishing the experiences of envy and jealousy. *Journal of Personality and Social Psychology*, *64*(6), 906–920. https://doi.org/10.1037/0022-3514.64.6.906

R Core Team. (2021). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. Retrieved April 17, 2024, from https://www.R-project.org/

Ricci, F., & Scafarto, V. (2015). Malicious envy in the workplace and intangible capital: An interpretation from the perspective of management. *International Journal of Management Sciences and Business Research*, *4*(11), 24–35.

Rogier, G., Amo, A., Simmi, B., & Velotti, P. (2023). Pathological narcissism and sadistic personality: The role of rivalry and malicious envy. *Personality and Individual Differences*, *205*, 112097. https://doi.org/10.1016/j.paid.2023.112097

Ruggieri, S., Ingoglia, S., Bonfanti, R. C., & Lo Coco, G. (2021). The role of online social comparison as a protective factor for psychological wellbeing: A longitudinal study during the COVID-19 quarantine. *Personality and Individual Differences*, *171*, 110486. https://doi.org/10.1016/j.paid.2020.110486

Schaubroeck, J., & Lam, S. S. K. (2004). Comparing lots before and after: Promotion rejectees' invidious reactions to promotees. *Organizational Behavior and Human Decision Processes*, *94*(1), 33–47. https://doi.org/10.1016/j.obhdp.2004.01.001

Smith, R. H., & Kim, S. H. (2007). Comprehending envy. *Psychological Bulletin*, *133*(1), 46–64. https://doi.org/10.1037/0033-2909.133

Smith, R. H., Parrott, W. G., Diener, E. F., Hoyle, R. H., & Kim, S. H. (1999). Dispositional envy. *Personality and Social Psychology Bulletin*, *25*(8), 1007–1020. https://doi.org/10.1177/01461672992511008

Soraci, P., Bevan, N., Griffiths, M. D., Pisanti, R., Servidio, R., Ferrari, A., Di Bernardo, C., & Pakpour, A. H. (2024). The Short Warwick-Edinburgh Mental Well-being Scale (SWEMWBS): An Italian validation using confirmatory factor analysis and Rasch analysis. *BMC Psychology*, *12*(1), 680. https://doi.org/10.1186/s40359-024-02177-8.

Sterling, C. M., van de Ven, N., & Smith, R. H. (2016). The two faces of envy: Studying benign and malicious envy in the workplace. In: Smith, R. H., Merlone, U., & Duffy, M. K. (Eds.), *Envy at work and in organizations* (pp. 57–84) Oxford University Press. https://doi.org/10.1093/acprof:oso/9780190228057.003.0003

Su, J., Xiang, Y., & Wang, L. (2024). The relationship between father absence and benign/malicious envy: The mediating role of social support and core self-evaluation. *Deviant Behavior*. Advance online publication. https://doi.org/10.1080/01639625.2024.2435911

Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., Parkinson, J., Secker, J., & Stewart-Brown, S. (2007). The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): Development and UK validation. *Health and Quality of Life Outcomes*, *5*, 63. https://doi.org/10.1186/1477-7525-5-63

Valls, M. (2022). Gender differences in social comparison processes and self-concept among students. *Frontiers in Education*, *6*, 815619. https://doi.org/10.3389/feduc.2021.815619

Van de Ven, N. (2016). Envy and its consequences: Why it is useful to distinguish between 2 benign and malicious envy. *Social and Personality Psychology Compass*, *10*(6), 337–349. https://doi.org/10.1111/spc3.12253

Van de Ven, N., Hoogland, C. E., Smith, R. H., Van Dijk, W. W., Breugelmans, S. M., & Zeelenberg, M. (2015). When envy leads to schadenfreude. *Cognition & Emotion*, *29*(6), 1007–1025. https://doi.org/10.1080/02699931.2014.961903

Van de Ven, N., Zeelenberg, M., & Pieters, R. (2009). Leveling up and down: The experiences of benign and malicious envy. *Emotion (Washington, D.C.)*, *9*(3), 419–429. https://doi.org/10.1037/a0015669

Van de Vijver, F. J. R., & Poortinga, Y. H. (1997). Towards an integrated analysis of bias in cross-cultural assessment. *European Journal of Psychological Assessment*, *13*(1), 29–37. https://doi.org/10.1027/1015-5759.13.1.29

Vecchio, R. P. (2000). Negative emotion in the workplace: Employee jealousy and envy. *International Journal of Stress Management*, *7*(3), 161–179. https://doi.org/10.1023/A:1009592430712

Viladrich, C., Angulo-Brunet, A., & Doval, E. (2017). A journey around alpha and omega to estimate internal consistency reliability. *Anales de Psicología*, *33*(3), 755–782. https://doi.org/10.6018/analesps.33.3.268401

Zizzo, D. J., & Oswald, A. J. (2001). Are people willing to pay to reduce others' incomes? *Annales D'Economie Et De Statistique*, *63/64*, *63–64*, 39–65. https://doi.org/10.2307/20076295

Appendix A

Benign Envy and Malicious Envy Scale – Italian version.

Di seguito una serie di affermazioni che riguardano i tuoi sentimenti quando ci paragoniamo agli altri, sul posto di lavoro/studio

La preghiamo di rispondere in modo sincero, non esistono risposte giuste o sbagliate e le ricordiamo che il questionario è anonimo.

1 = Mai, 7 = Sempre

BEME 1) Quando mi confronto con individui di successo che incontro sul luogo di lavoro e/o dove studio, risulta complicato per me provare risentimento

BEME 2) Sono motivato a impegnarmi di più per raggiungere i miei obiettivi, quando mi confronto con altre persone che incontro sul posto di lavoro e/o dove studio che stanno facendo bene.

BEME 3) Nonostante il confronto con individui di successo sul posto di lavoro e/o dove studio, nutro la speranza che essi continuino a prosperare nei loro percorsi.

BEME 4) Quando mi paragono con persone di successo che incontro sul posto di lavoro e/o dove studio, provo una forte ispirazione a impegnarmi ulteriormente per progredire.

BEME 5) Nonostante provi invidia nei confronti delle persone con cui mi paragono, non posso negare di apprezzarle.

BEME 6) A volte le persone si sentono invidiose perché non hanno i vantaggi, i risultati superiori e i talenti di cui godono gli altri, e desiderano segretamente che l'altra persona perda questo vantaggio. Mi sono sentito/a così negli ultimi mesi.

BEME 7) Mi sento molto frustrato/a dal successo di altri che incontro sul posto di lavoro e/o dove studio quando mi paragono a loro.

BEME 8) In alcuni momenti, potrei desiderare che le persone di successo con cui mi confronto incontrino ostacoli o difficoltà, sperando che ciò possa rappresentare una sorta di battuta d'arresto per loro.

BEME 9) A volte, potrei nutrire il desiderio di poter intraprendere azioni che possano mettere in difficoltà le persone di successo con cui mi confronto sul posto di lavoro e/o dove studio, anche se non lo farei mai davvero