Exploring the relationship between narcissism and depression: The mediating roles of perceived social support and life satisfaction

Yuan Fang [a], Yong Niu [b], Yan Dong [a,*]

[a] Department of Psychology, Renmin University of China, Beijing 100872, China
[b] Students' Mental Quality Education Center, Beijing Jiaotong University, Beijing 100044, China

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ABSTRACT

Depression has become a major public health issue worldwide. According to the model of personality and depression, personality traits can influence the onset and/or maintenance of depression. Although some studies have explored the narcissism–depression association, their results have been inconsistent due to the multidimensional nature of narcissism, and much less is known about the mediating mechanisms underlying this relationship. A total of 831 young adults (368 males, 455 females, and 8 undisclosed) participated in this research. They filled out a set of standardized instruments, which measured variables including demographics, narcissism, depression, life satisfaction, and perceived social support. Results showed that narcissistic admiration was negatively related to depression, while narcissistic rivalry was positively correlated with depression. Perceived social support and life satisfaction were two potential mediators in the relationship between narcissism and depression. Our results demonstrated that narcissistic admiration is probably positive, while narcissistic rivalry might be negative with mental health. In future research, we need to gain a more nuanced understanding of narcissism.

1. Introduction

The World Health Organization predicted that depression will be the largest cause of human disability globally by 2030 (World Health Organization, 2012). According to the model of personality and depression, personality traits influence the onset and/or maintenance of depression (Klein, Kotov, & Bufferd, 2011). Narcissism is an important personality trait to consider due to the difficulties in maintaining mental health among maladaptive narcissists (Konrath & Bonadonna, 2014). Although some studies have explored the relationship between narcissism and depression (e.g., Brailovskaia, Bierhoff, & Margraf, 2019; Papageorgiou, Denovan, & Dagnall, 2019), their findings have not been consistent, and much less is known about how narcissism relates to depression. In fact, knowing mediating processes that explain the risk of depression is crucial because this knowledge may guide the development of interventions to prevent or reduce depression (Orth & Robins,

2013). Therefore, this study aimed to explore the narcissism-depression association, and their underlying mechanisms.

1.1. Narcissism and depression

Vulnerable narcissism[1] and pathological narcissism[2] are generally believed to be risk factors of depression (Dawood & Pincus, 2018; Erkoreka & Navarro, 2017). However, the association between grandiose narcissism[3] and depression produces inconsistent findings. Among normal adults, some studies found that grandiose narcissism was negatively associated with depression (Lyons, Evans, & Helle, 2019; Papageorgiou et al., 2019; Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2004; Zondag, Van Halen, & Wojtkowiak, 2009), whereas other studies reported positive or non-significant associations (Brailovskaia et al., 2019; Brailovskaia & Margraf, 2019; Gentile et al., 2013; Miller et al., 2011), even mostly with the same measures. These findings suggest that

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treating grandiose narcissism as a unitary construct leads to mixed results. Therefore, studies examining grandiose narcissism–depression associations should consider the different facets of grandiose narcissism separately (Konrath & Bonadonna, 2014).

The Narcissistic Admiration and Rivalry Concept (NARC) model differentiates two forms of narcissism: narcissistic admiration and narcissistic rivalry (Back et al., 2013). These two dimensions are positively related, but they are not interchangeable because of their different motivational processes. Narcissistic admiration is based on an assertive self-enhancement (self-promotion) strategy, characterized by striving for uniqueness, grandiose fantasies, and charmingness. In contrast, narcissistic rivalry is based on an antagonistic self-protection (self-defence) strategy, characterized by striving for supremacy, devaluation of others, and aggressiveness. Although both dimensions serve the common goal of maintaining a grandiose self, such as entitlement and striving for social status (Grosz, Leckelt, & Back, 2019), they are linked to divergent social outcomes.

Narcissistic admiration is usually related to positive outcomes in the short term, while narcissistic rivalry tends to be associated with maladaptive outcomes (Back et al., 2013). These patterns might also be found in the depression context. First, from the motivational perspective, self-enhancement is thought to maintain or promote self-views (Alicke, Zell, & Guenther, 2013), and predicts social potency, which comes along with ego boosts. These positive outcomes bring regulatory fit between desired grandiose self and actual perceived self. This fit is usually accompanied by positive affect (Helfrich & Dietl, 2019). As such, narcissistic admiration might protect against depression. Self-protection focuses on avoiding negative self-regard (Hepper, Gramzow, & Sedikides, 2010) and predicts antagonistic conflicts, which come along with ego threats. These negative outcomes elicit regulatory misfit between desired grandiose self and actual perceived self. This misfit is always followed by negative emotions (Helfrich & Dietl, 2019). As such, narcissistic rivalry might be closely related to depression. Second, concerning real-life gains, individuals with high narcissistic admiration tend to receive positive feedbacks during their social interactions, such as short-term mating success (Grosz, Dufner, Back, & Denissen, 2015) and status attainment (Grosz et al., 2019). These rewards are beneficial for their personal adjustment (e.g., low levels of depressive symptoms; Dufner, Gebauer, Sedikides, & Denissen, 2019). Contrastingly, individuals with high narcissistic rivalry tend to receive negative feedbacks during their social interactions, such as difficulties in maintaining a long-term relationship (Wurst et al., 2017) and interpersonal rejection (Back et al., 2013). Lack of social connection and poor relationship quality puts people at risk for mental health problems (Holt-Lunstad, Robles, & Sbarra, 2017). Based on the above arguments, we put forward the first hypothesis:

Hypothesis 1. Narcissistic admiration would be negatively linked with depression, whereas narcissistic rivalry would be positively related to depression.

1.2. The mediating role of perceived social support

Perceived social support is the subjective belief or experience that people will receive help from their social networks when they need it (House, Landis, & Umberson, 1988). Previous research has demonstrated that perceived social support is a protective mediator in the depression pathway (e.g., Kim & Suh, 2019). Therefore, we speculated that perceived social support might be an important mediator in the relationship between narcissism and depression.

First, theoretical and empirical evidence has demonstrated that perceived social support could mediate the personality–depression link (Finch & Graziano, 2001; Xia, Ding, Hollon, & Wan, 2013); that is, personality traits could influence the level of perceived social support, which in turn is linked to depression. This social network mediating model might also explain the narcissism–depression association.

Second, behind different motivations, narcissism admiration tends to bring positive interpersonal relationships, which could accumulate social resources and enrich people's social networks (Back et al., 2013). Therefore, persons high in narcissism admiration might perceive more social support in benign interactions. In contrast, under the antagonistic self-protection strategy, narcissistic rivalry anticipates more rejections from others and experiences more dysfunctional interpersonal relationships (Grove, Smith, Girard, & Wright, 2019). Accordingly, individuals with high narcissistic rivalry perceived less social support. Moreover, one research indicates that narcissistic admiration is positively related to perceived social support, while narcissistic rivalry is negatively correlated with perceived social support (Grove et al., 2019). Third, the main effect model of social support suggests that social support provides mental health benefits, such as reducing depression (Lakey & Orehek, 2011). This model has been well supported by a large body of empirical research, from cross-sectional studies to meta-analytic reviews (e.g., Gnilka, Broda, & Group, 2019; Rueger, Malecki, Pyun, Aycock, & Coyle, 2016). Based on the above arguments, we put forward the second hypothesis:

Hypothesis 2. Perceived social support would mediate the narcissism-depression pathway. Specifically, narcissistic admiration would be positively related to perceived social support, while narcissistic rivalry would be negatively correlated with perceived social support, which in turn would negatively relate to depression.

1.3. The mediating role of life satisfaction

Life satisfaction is a cognitive appraisal of one's quality of life (Larsen, Diener, & Emmons, 1985). Satici, Uysal, Yilmaz, and Deniz (2016) have proposed a mediating model of life satisfaction in which life satisfaction is a cognitive mediator that decreases psychological vulnerability (e.g., depression). Therefore, life satisfaction might explain the narcissism–depression pathway, too. It is obvious that higher life satisfaction is linked to lower depressive symptoms (e.g., Moksnes, Løhre, Lillefjell, Byrne, & Haugan, 2016; Wang & Peng, 2017). However, the relationship between narcissism and life satisfaction is not consistent (Żemojtel-Piotrowska, Clinton, & Piotrowski, 2014), implying that narcissism is either beneficial or costly for life satisfaction (Żemojtel Piotrowska, Piotrowski, & Maltby, 2017).

Narcissistic admiration is an agentic facet of narcissism, which makes narcissistic individuals perceive their happiness in a positive cognitive style (Sedikides et al., 2004). Their positive social interactions may also render them more likely to evaluate their life satisfactorily. By contrast, narcissistic rivalry is antagonistic and relates to more intrapersonal and interpersonal maladjustment (e.g., negative cognitive style; Back et al., 2013). Due to this maladaptation, narcissistic individuals could be more dissatisfied with their lives. Further, one study has demonstrated these divergent relationships between the two facets of narcissism and life satisfaction (Altmann, 2017). Based on the above arguments, we put forward the third hypothesis:

Hypothesis 3. Life satisfaction would mediate the narcissism-depression pathway. Specifically, narcissistic admiration would be positively related to life satisfaction, while narcissistic rivalry would be negatively correlated with life satisfaction, which in turn would negatively relate to depression.

1.4. The serial multiple mediation model

According to the main effect model of social support, social support is beneficial for mental health, eliciting an increased sense of well-being (Cohen, 2004). Empirical research has demonstrated that people who perceive more social support report higher life satisfaction (Zhu, Woo, Porter, & Brzezinski, 2013). Moreover, evidence from a meta-analysis has also confirmed this significantly positive correlation between perceived social support and life satisfaction (Song & Fan, 2013). Taken

together, these findings provide clear evidence for this link. Therefore, we put forward the fourth hypothesis:

Hypothesis 4. Perceived social support and life satisfaction would sequentially mediate the relationship between narcissism and depression. Specifically, narcissistic admiration would be positively related to perceived social support, while narcissistic rivalry would be negatively correlated with perceived social support, which in turn would positively relate to life satisfaction. Then, life satisfaction would be negatively related to depression.

1.5. The present study

To date, there has been a lack of research exploring the potential mechanisms underlying the narcissism–depression pathway, especially differentiating the two facets of grandiose narcissism. The present study aimed to address these issues with three purposes: (1) to replicate and extend previous research concerning the narcissism–depression association, particularly by focusing on narcissistic admiration and rivalry based on the NARC model; (2) to examine the parallel mediating roles of perceived social support and life satisfaction to further explore the underlying mechanisms; and (3) to test the sequential mediating effects of the two mediators to clarify the agencies. Overall, this study would establish an integrated mediating model that enables us to gain a more nuanced comprehension of the narcissism–depression pathway and to distinguish the positive and negative facets of narcissism regarding the NARC model.

2. Method

2.1. Participants and procedure

The data came from a psychological project named *Personality, Behavior and Mental Health*. Participants were recruited from three universities in China. A total of 934 young adults participated in this research. Among them, eight participants did not complete more than half of the questionnaires, and 95 participants failed to complete three or more instructed items correctly. Therefore, the final sample comprised 831 participants with 368 males and 455 females (8 undisclosed). Their age ranged from 16 to 26 years ($M_{\text{age}} = 19.57$ years, $SD = 1.35$).

This research was conducted by paper and pencil administration in classes. Well-trained research assistants performed all testing processes. Participants firstly signed informed consent forms. Then, they filled out a set of standardized instruments, which assessed variables including demographics, narcissism, depression, life satisfaction, and perceived social support. Also, other questionnaires that were irrelevant to the current study were included (e.g., psychological entitlement). Every participant was given a notebook as an incentive. The present research was approved by the Ethics Committee of the authors' affiliated university.

2.2. Measures

2.2.1. Narcissism

Narcissism was measured by the Narcissistic Admiration and Rivalry Questionnaire (NARQ; Back et al., 2013). The NARQ consists of 18 items and captures two dimensions: narcissistic admiration (e.g., "I show others how special I am") and narcissistic rivalry (e.g., "I secretly take pleasure in the failure of my rivals"). Each item is rated on a six-point Likert-type scale, ranging from 1 (*not agree at all*) to 6 (*agree completely*). Responses across the two dimensions were averaged separately, with higher scores indicating higher levels of narcissistic admiration or narcissistic rivalry. Cronbach's α coefficients in this study were 0.83 for narcissistic admiration and 0.77 for narcissistic rivalry.

2.2.2. Depression

Depression was measured by the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977), which is used to assess how often people have felt depressive symptoms during the past week. The CES-D consists of 20 items, and each item is answered on a four-point Likert-type scale ranging from 0 (*rarely or none of the time*) to 3 (*most or all of the time*). A sample item is "I had trouble keeping my mind on what I was doing." All responses were summed up, with higher scores indicating the presence of more depressive symptoms. In the present study, Cronbach's α coefficient was 0.90.

2.2.3. Perceived social support

The Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988) was used to assess perceived social support (e.g., "I have friends with whom I can share my joys and sorrows"). The MSPSS consists of 12 items and includes three sources of perceived social support: family, friends and significant others. Each item is rated on a seven-point Likert-type scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). All responses were averaged, with higher scores representing more perceived social support. In this study, Cronbach's α coefficient was 0.94 for the MSPSS.

2.2.4. Life satisfaction

Life satisfaction was measured by the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985), which includes 5 items. A sample item is "So far I have gotten the important things I want in life." Participants rated every item on a seven-point Likert-type scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Responses to all items were averaged, with higher scores indicating more satisfaction with life. Cronbach's α coefficient was 0.82 in this study.

2.3. Data analysis

Descriptive analyses and zero-order correlations for all variables were conducted using IBM SPSS 26.0. We adopted the two-step procedure using Mplus 8.3 (Muthén & Muthén, 1998–2017) to examine the mediating effects through structural equation model (Anderson & Gerbing, 1988). First, the measurement model was established to examine the extent to which each of the four latent variables was represented by its indicators. Second, if the measurement model was acceptable, then the structural model was tested via Robust Maximum Likelihood Estimator (MLR). In addition, three parcels were created for each latent variable to control the inflated magnification of measurement errors and improve the reliability and normality of the resulting measurements (Nasser-Abu Alhija & Wisenbaker, 2006). NARQ and MSPSS were parceled according to their own dimensions. As for unidimensional scale of CES-D and SWLS, an item-to-construct balance method was used to divide the items (Little, Cunningham, Shahar, & Widaman, 2002).

The mediation effects were tested by the 95% bias-corrected bootstrapping method (n = 5000). If the confidence intervals do not contain zero (0), it indicates that the mediation effects are significant. The overall fit of models was evaluated by the following model indices (Hu & Bentler, 1999): $\chi^2/df \leq 5$, Comparative Fit Index (CFI) ≥ 0.95, Tucker-Lewis Index (TLI) ≥ 0.95, Root Mean Square Error of Approximation (RMSEA) ≤ 0.06, and Standardized Root Mean Square Residual (SRMR) ≤ 0.08. If the model meets these cut-off standards of the above fit indices, it is satisfactory.

3. Results

3.1. Descriptive statistics and zero-order correlations

The means, standard deviations, and zero-order correlations for all variables are presented in Table 1. Narcissistic admiration was positively correlated with narcissistic rivalry ($r = 0.20$, $p < 0.001$), perceived social

Table 1
Descriptive statistics and zero-order correlations of the study variables.

Variables	M	SD	1	2	3	4	5
1. NA	3.81	0.75	1				
2. NR	3.03	0.72	0.20***	1			
3. PSS	5.34	1.04	0.30***	−0.17***	1		
4. LS	3.94	1.16	0.25***	−0.15***	0.42***	1	
5. Dep	19.00	8.96	−0.25***	0.34***	−0.48***	−0.38***	1

Note: $N = 831$. NA = Narcissistic admiration, NR = Narcissistic rivalry, PSS = Perceived social support, LS = Life satisfaction, Dep = Depression.
*** $p < 0.001$.

support ($r = 0.30$, $p < 0.001$) and life satisfaction ($r = 0.25$, $p < 0.001$), whereas narcissistic admiration was negatively correlated with depression ($r = -0.25$, $p < 0.001$). Narcissistic rivalry displayed different patterns. To be specific, narcissistic rivalry was negatively correlated with perceived social support ($r = -0.17$, $p < 0.001$) and life satisfaction ($r = -0.15$, $p < 0.001$), whereas narcissistic rivalry was positively correlated with depression ($r = 0.38$, $p < 0.001$).

3.2. Measurement model

Five latent factors and fifteen observed variables were included in the measurement model. The results revealed a good model fit: $\chi^2 = 239.80$, $df = 80$, $\chi^2/df = 3.00$, CFI = 0.97, TLI = 0.96, RMSEA = 0.049, SRMR = 0.045. All factor loadings on the indicators for the latent variables were high and significant ($p < 0.001$), suggesting that the latent variables were well represented by their respective indicators.

3.3. Structural model

As shown in Fig. 1, an integrated mediation model showed a satisfactory model fit: $\chi^2 = 284.24$, $df = 80$, $\chi^2/df = 3.55$, CFI = 0.97, TLI = 0.96, RMSEA = 0.055, SRMR = 0.045. As shown in Table 2, the direct path coefficient of narcissistic admiration and depression was significant ($\beta = -0.23$, $SE = 0.05$, $p < 0.001$) and narcissistic rivalry positively related to depression ($\beta = 0.39$, $SE = 0.06$, $p < 0.001$).

For narcissistic admiration, perceived social support and life satisfaction probably mediated the link between it and depression,

Table 2
Testing the direct and indirect effects of narcissistic admiration and narcissistic rivalry on depression via perceived social support and life satisfaction.

Effects	β	SE	95% CI
Direct effects			
NA → PSS	0.43***	0.05	[0.34, 0.52]
NA → LS	0.23***	0.05	[0.13, 0.33]
NA → Dep	−0.23***	0.05	[−0.34, −0.13]
NR → PSS	−0.31***	0.05	[−0.42, −0.21]
NR → LS	−0.17**	0.05	[−0.27, −0.06]
NR → Dep	0.39***	0.06	[0.28, 0.49]
PSS → LS	0.36***	0.05	[0.26, 0.44]
PSS → Dep	−0.32***	0.05	[−0.41, −0.23]
LS → Dep	−0.16***	0.05	[−0.25, −0.07]
Indirect effects			
NA → Dep	−0.20***	0.03	[−0.25, −0.15]
Via PSS	−0.14***	0.02	[−0.19, −0.10]
Via LS	−0.04**	0.01	[−0.07, −0.02]
Via PSS → LS	−0.02**	0.01	[−0.04, −0.01]
NR → Dep	0.14***	0.02	[0.10, 0.19]
Via PSS	0.10***	0.02	[0.06, 0.15]
Via LS	0.03*	0.01	[0.01, 0.06]
Via PSS → LS	0.01**	0.01	[0.01, 0.03]

Note: $N = 831$. NA = Narcissistic admiration, NR = Narcissistic rivalry, PSS = Perceived social support, LS = Life satisfaction, Dep = Depression.
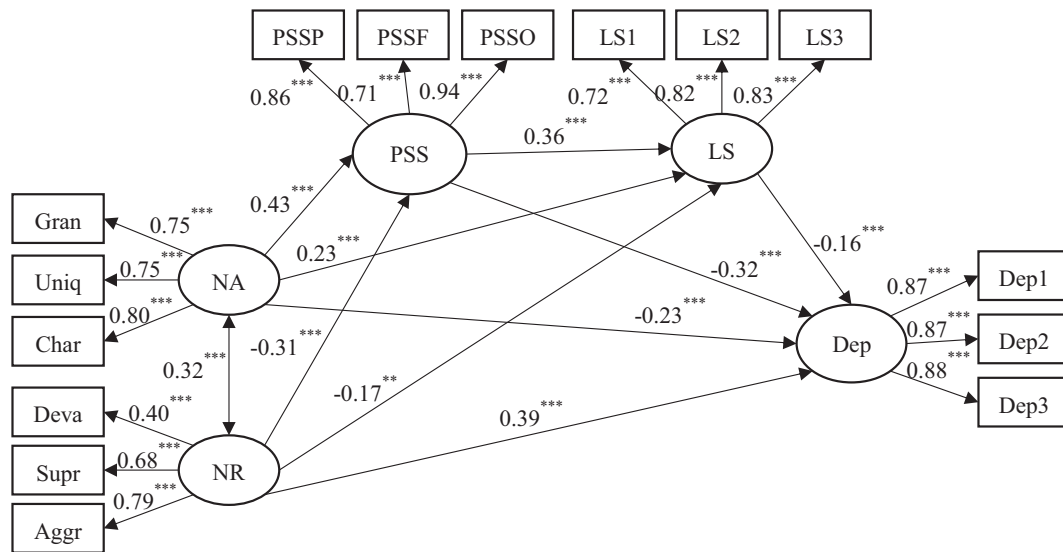* $p < 0.05$.
** $p < 0.01$.
*** $p < 0.001$.

Fig. 1. The serial multiple mediation model ($N = 831$). Note: Factor loadings are standardized. NA = Narcissistic admiration, NR = Narcissistic rivalry, PSS = Perceived social support, LS = Life satisfaction, Dep = Depression. Gran, Uniq, and Char are the subscales of the narcissistic admiration (Gran = Grandiosity, Uniq = Uniqueness, Char = Charmingness). Deva, Supr, and Aggr are the subscales of the narcissistic rivalry (Deva = Devaluation, Supr = Supremacy, Aggr = Aggressiveness). PSSP, PSSF, and PSSO are the three subscales of perceived social support (PSSP = Perceived support from friends, PSSF = Perceived support from family, PSSO = Perceived support from significant others). LS1-LS3 are three parcels of life satisfaction. Dep1-Dep3 are three parcels of depression. ** $p < 0.01$, *** $p < 0.001$.

independently. That is, narcissistic admiration positively related to perceived social support, which in turn negatively correlated with depression (indirect effect = −0.14, 95% CI = [−0.19, −0.10]). The ratio of the indirect effect to the total effect is 0.33. Similarly, narcissistic admiration was positively related to life satisfaction, which in turn was negatively associated with depression (indirect effect = −0.04, 95% CI = [−0.07, −0.02]). The ratio of the indirect effect to the total effect is 0.09. For the serial mediation, the relationship between narcissistic admiration and depression was possibly mediated by perceived social support and life satisfaction, sequentially (indirect effect = −0.02, 95% CI = [−0.04, −0.01]). The ratio of the indirect effect to the total effect is 0.05. Furthermore, we conducted a contrast analysis of specific indirect effects. As shown in Table 3, perceived social support was probably an important mediator among these relationships.

Compared with narcissistic admiration, narcissistic rivalry displayed an opposite pattern. That is, narcissistic rivalry was negatively related to perceived social support, which in turn was negatively associated with depression (indirect effect = 0.10, 95% CI = [0.06, 0.15]). The ratio of the indirect effect to the total effect is 0.19. Similarly, narcissistic rivalry was negatively related to life satisfaction, which in turn was negatively associated with depression (indirect effect = 0.03, 95% CI = [0.01, 0.06]). The ratio of the indirect effect to the total effect is 0.05. For the serial mediation, the link between narcissistic rivalry and depression was probably mediated by perceived social support and life satisfaction, sequentially (indirect effect = 0.01, 95% CI = [0.01, 0.03]). The ratio of the indirect effect to the total effect is 0.02. Additionally, perceived social support was probably an important mediator in these relationships (see Table 3).

4. Discussion

Although some research has examined the relationship between narcissism and depression, the results have been inconsistent. Besides, little attention has been paid to the mediating mechanisms underlying the narcissism–depression association, which is crucial for forming effective interventions to reduce or prevent depression (Orth & Robins, 2013). The novel element of this study is that it has found a divergent narcissism–depression relationship and its internal mechanism. To be specific, narcissistic admiration was negatively linked to depression through increased perceived social support and life satisfaction. In contrast, narcissistic rivalry was positively related to depression through decreased perceived social support and life satisfaction. Moreover, perceived social support and life satisfaction could sequentially mediated the narcissism-depression relationships. The path coefficient of narcissistic admiration and perceived social support was biggest among all pathways, indicating that people high in narcissistic admiration perceived more social support. Our hypotheses were supported.

Table 3
Contrast analysis of specific indirect effects.

Effects	β	SE	95% CI
NA → Dep			
Ind2 - Ind1	0.10**	0.12	[0.17, 0.65]
Ind3 - Ind1	0.12***	0.10	[0.27, 0.68]
Ind3 - Ind2	0.02	0.05	[−0.03, 0.16]
NR → Dep			
Ind5 - Ind4	−0.07*	0.24	[−1.13, −0.19]
Ind6 - Ind4	−0.09**	0.19	[−1.14, −0.36]
Ind6 - Ind5	−0.02	0.09	[−0.29, 0.09]

Note: N = 831. NA = Narcissistic admiration, NR = Narcissistic rivalry, PSS = Perceived social support, LS = Life satisfaction, Dep = Depression. Ind1 = NA → PSS → Dep; Ind2 = NA → LS → Dep; Ind3 = NA → PSS → LS → Dep; Ind4 = NR → PSS → Dep; Ind5 = NR → LS → Dep; Ind6 = NR → PSS → LS → Dep.
  * $p < 0.05$.
  ** $p < 0.01$.
  *** $p < 0.001$.

4.1. Narcissistic admiration has positive implications for mental health

This study found that narcissistic admiration might be positive with individuals' psychological health. Specifically, narcissistic admiration is linked to low levels of depression. The results are consistent with the previous notion that narcissistic admiration is an agentic facet of narcissism (Back et al., 2013). The motivation of self-enhancement underlying narcissistic admiration can explain the relationship between narcissistic admiration and depression, and mediating roles of perceived social support and life satisfaction.

First, as self-enhancers, individuals with high narcissistic admiration might view themselves in an exaggeratedly positive way, which is positive for their mental health. Our results are in line with a meta-analysis which confirmed that self-enhancement is beneficial for personal adjustment (Dufner et al., 2019). Consistent with this view, self-enhancement helps decrease depression. Second, high narcissistic admiration linked to low levels of depression, partly because they perceived more social support or evaluated their life more satisfactorily. Narcissistic admiration is linked to good interpersonal relationships and holds agentic cognition. Individuals with high narcissistic admiration could be more satisfied with their life, and higher life satisfaction is linked to lower depressive symptoms (Moksnes et al., 2016; Wang & Peng, 2017). Compared to the mediating role of life satisfaction, perceived social support is probably a more important mediator. Social potency enables people with high narcissistic admiration to possess many social resources. When they need help, their wide social networks can make them perceive more social support, which is linked to low depression (Rueger et al., 2016).

4.2. Narcissistic rivalry has negative implications for mental health

By contrast, narcissistic rivalry is probably negative with individuals' psychological health. Narcissistic rivalry points to negative mental health outcomes and is a risk factor for depression. Self-protection strategies work when desired expectations are not matched for narcissistic rivalry. The gap between ideal and reality leads to negative affect and depression (Helfrich & Dietl, 2019). Moreover, perceived social support and life satisfaction probably mediated the relationship between narcissistic rivalry and depression. To be specific, people high in narcissistic rivalry tend to have antagonistic cognition and maladaptive relationships, which make it difficult for them to be satisfied with their life. Similarly, perceived social support is probably a more important mediator than life satisfaction. Individuals high in narcissistic rivalry tend to have dysfunctional interpersonal relationships (Back et al., 2013; Wurst et al., 2017) and thus perceived less social support. Therefore, people who perceive less social support or were dissatisfied with their life might suffer from depression.

To sum up, narcissistic admiration and rivalry are driven by divergent motivations and this underlying motivational dynamics model provides a deeper explanation of why narcissistic admiration and rivalry have divergent relationships with depression (Back et al., 2013). Generally, narcissistic admiration is more interpersonally effective than rivalry (Grove et al., 2019).

4.3. The serial mediation model

Besides, our study found a serial multiple mediating model, showing that the relationships of narcissistic admiration or rivalry and depression were probably mediated by perceived social support and then life satisfaction. The results indicated a new relationship linking narcissism to depression, which emphasized a serial effect. In addition, perceived social support might be an important mediator, which is prior to life satisfaction in our mediating model. Therefore, the importance of rich social networks and harmonious interpersonal relationships in improving the mental health of narcissistic people cannot be stressed enough (Konrath & Bonadonna, 2014).

4.4. Implications

This study has both theoretical and practical implications for understanding the psychological mechanisms underlying the narcissism–depression associations. Theoretically, this study adds new evidence and extends social interactions to mental health outcomes for the NARC model. The results reaffirm the notion that narcissistic admiration and rivalry have divergent relationships with psychosocial outcomes. Practically, this study helps to identify the susceptible personality of depression (e.g., narcissistic rivalry). This susceptible population needs to be paid more attention to. More importantly, social support is a useful and easy way to improve mental health. In our daily life, we should provide more social support and let depressed individuals perceive social support to improve their mental state and mood.

4.5. Limitations and future directions

Although this study has shed light on the narcissism–depression associations, several limitations must be considered in future research. First, this study was a cross-sectional design and employed a young sample of university students. We must be cautious about inferring causality and generalizing the present findings to other populations. In fact, few studies have concentrated on the potential long-term mental health implications of narcissism, especially both the dark and bright sides of narcissism. Longitudinal studies are needed in future research, which could reveal the direction of the narcissism–depression relationship, and causality is needed to be proved by experimental method. Also, different age groups are needed to validate our results in future research. Second, narcissism can be divided into trait narcissism and state narcissism (Giacomin & Jordan, 2018). This study only considered the trait grandiose narcissism, as most previous research did. However, exploring the state narcissism might help researchers find an efficient approach to alleviate depression symptoms. Third, narcissistic admiration and rivalry are dynamic processes (Grapsas, Brummelman, Back, & Denissen, 2020); accordingly, future research should examine how and when narcissistic admiration or rivalry influences depression. Finally, individuals high in narcissistic admiration might answer self-report measures in a socially acceptable manner. Therefore, the negative relationship between narcissistic admiration and mental health outcomes may be partially explained by social desirability. Future research would benefit from controlling for extra variables (e.g., social desirability; Konrath & Bonadonna, 2014).

5. Conclusion

In summary, this study established an integrated mediating model to clarify the narcissism-depression associations and their underlying mechanisms. Specifically, narcissistic admiration and rivalry differently linked with depression, perceived social support and life satisfaction. The narcissism-depression relationship probably mediated by perceived social support and life satisfaction. Our results demonstrated that narcissistic admiration is probably positive, while narcissistic rivalry might be negative with mental health.

Role of the funding source

Ethics

Institute ethics approval was granted by the university's Institutional Review Board. After the permissions were obtained from schools, students who were eligible to participate were invited to complete the questionnaire. This questionnaire was accompanied by a letter explaining the objectives of the project and instructions for completing the questionnaire.

CRediT authorship contribution statement

Yuan Fang: Study design, Data collection, Statistical analysis, Writing original manuscript. **Yong Niu:** Data collection, Statistical analysis, Manuscript preparation. **Yan Dong:** Study design, Statistical analysis, Writing-review & editing, Funding acquisition. All authors approved the final manuscript for publication.

Declaration of competing interest

All authors declare no actual or potential conflicts of interest.

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