

Investigating how self-regulation processes can mediate the relationship between grandiose narcissism and mental health indicators among iranian university students

Fatemeh Hajifathali, M.Sc, Department of Psychology, Faculty of Psychology and Educational Sciences. University of Tehran, Tehran, Iran. saba_hajifathali@yahoo.com

Nima Ghorbani*, Ph.D, Full Professor of Psychology, Department of Psychology, Faculty of Psychology and Educational Sciences. University of Tehran, Tehran, Iran. nghorbani@ut.ac.ir

Reza Rostami, Ph.D, Professor of Psychology, Department of Psychology, Faculty of Psychology and Educational Sciences. University of Tehran, Tehran, Iran. rrostami@ut.ac.ir

Abstract:

Purpose: In the current study, we aimed to assess the mediatory role of Self-Regulation Processes in Relationship between Grandiose Narcissism and Mental Health indicators among Iranian university students.

Background: Self-regulation represents multiple processes that have a considerable role in mediating emotional or mental health problems. Grandiose narcissism, a mental disorder, is characterized by overt expressions of feelings of superiority and entitlement. Mental health indicators like depression, anxiety, or self-esteem could be affected by narcissism. In previous studies, the relationship between self-regulation processes and mental health parameters were reviewed broadly. We **hypothesized** that these processes could suppress grandiosity and its emotions by mediating the relationship between Grandiose Narcissism and Mental Health indicators in students.

Methods: A number of 250 female and male University students in Tehran, Iran were selected to complete Grandiose Narcissism Scale (GNS), Authentic – Hubristic Pride Scale (AHPS), The Other As Shame Scale (OAS-2), Integrative Self – Knowledge Scale (ISKS), Mindful Attention Awareness Scale (MAAS), Short Self Control Scale, Anxiety and Depression Scale, and Rosenberg Self Esteem Scale (RSES) questionnaires. The data were analyzed using Pearson correlation and adjusted regression analysis.

Results: The results of adjusted regression analysis revealed that mindfulness can moderate the relation between grandiose narcissism and mental health ($\Delta R^2 = .005$, $\Delta F = 7.29$, $P = .001$). The results also showed that there is a negative significant relation between Integrative Self – Knowledge and Grandiose Narcissism ($r = -.14$). Moreover, there was a significant positive correlation between authentic pride and integrative self-knowledge ($r = .23$), self-control ($r = .29$), and mindfulness ($r = .31$), a significant negative correlation between hubristic pride and self-control ($r = -.27$), and between shame and integrative self-knowledge ($r = -.32$), self-control ($r = -.33$) and mindfulness ($r = -.20$).

Conclusion: Based on the results, it can be concluded that self-regulation processes can influence the relationship between Grandiose Narcissism and mental health.

Keywords: Integrative self-knowledge, mental health, self-regulation, grandiose narcissism, self-control, mindfulness.

I. INTRODUCTION

The psychological study of narcissism and objectively narcissism measurement in individuals was began more than a century ago. There has been a perennial interest in the study of narcissism, which appears widely in two literatures as the social-personality and the clinical psychology and psychiatric. These literatures form concepts of narcissism as a normally distributed trait in the population and a personality disorder respectively (1, 2). Growing evidence has identified two distinct dimensions of narcissism, referring to grandiose and vulnerable narcissism (3, 4). Although both forms of narcissism would share the common concept of self-importance and self-centeredness, extroversion, socially bold, exploitation, exaggerated self-worth, feelings of grandiosity and superiority, aggression, dominance, entitlement and arrogance could introduce the characteristics of grandiose narcissism. Vulnerable narcissism (also termed hypersensitive or covert), on the other hand, involves self-consciousness, egocentricity, social insecurity, introversion, avoidance, and defensiveness (4-7). According to previous research, narcissism was reported to be highly related to both facets of pride, as hubristic pride (the distorted and boastful sense of self) and authentic pride (the true feelings of self-worth) (8). Shame has also been described to encompass an emotion in narcissistic personality disorder (9).

WHO has defined "Health" as a state of complete physical, mental and social well-being which is more than the absence of disease or infirmity. Regarding to this definition, mental health is an essential part of health with a great connection to physical health and behavior that is not merely the absence of mental diseases. WHO has also explained the "mental health" as a state of well-being when people are able to realize their own abilities, manage the normal life stresses, function productively and satisfyingly, and contribute to their community (10, 11). Mental health is likely to have two positive and negative dimensions, which both reflect specific measures and indicators. Positive mental health indicators include individual perceptions like self-esteem, sociability, mental balance, control of self and events, and dispositional optimism (12). Negative mental health or mental health distress, whereas, specifies indicators like restlessness, anxiety and depression (12). Self-esteem, an important dimension of positive mental health, is characterized by the feeling of self-satisfaction. During and beyond the adolescence, the need to value and respect, self-consciousness and motivation towards positive self-views would develop increasingly (13). It has been shown that the self-esteem and narcissism are associated with mental health indicators like depression, anxiety, loneliness, life satisfaction, and well-being (13). Depression and anxiety are comorbid conditions, as about one-half of those with a primary diagnosis of major depression also have an anxiety disorder (14). According to a study estimated the prevalence of mental health problems among Chinese college students, Depression and anxiety were investigated to interfere significantly with individuals' daily lives, since they are associated with poor academic performance, poor sleep habits, increased rates of attrition, suicidal thoughts, social resignation, and disordered eating (15, 16). In this respect, an empirical investigation of interactions between narcissism and mental health parameters, especially self-esteem, could be of great importance.

Narcissistic self-beliefs, behaviors and social-personality traits came to be conceptualized by self-regulation. In 1991, Raskin et al. suggested one of the first self-regulatory models in the social-personality literature. In this model, narcissists' grandiose behaviors, beliefs, and fantasies have been responsible for enhancing and maintaining narcissists' self-esteem (17). In another study by Campbell et al. in 1999, a self-orientation model focusing on narcissists' interpersonal self-regulation mechanisms was proposed. In this model, narcissistic usage of romantic relationships for social status, and esteem reinforcement was considered (18). In other words, from a psychological point of view, narcissists' use of others to enhance self-positivity could reflect the concept of interpersonal self-regulation (19).

Self-regulation is a feedback or cybernetic system, which consists of three main processes individuals use for setting and pursuing standards or goals: 1) having a standard or goal, 2) comparing the current state with the standard or goal, and 3) changing behaviors, cognitions, or emotions to get closer to the standard or goal (20). Recently, Self-regulation has gained huge attention as a pivotal goal to understand and predict various health and educational outcomes. Illnesses may result from self-regulation failure in regulating smoking, drug and alcohol use, eating, exercise, sexual activity, regulate anger, anxiety, and stress (20). Self-regulation, therefore, plays a crucial role in health promotion and clinical disorders such as depression prevention (21). Self-control, mindfulness, and self-knowledge are thought to be subsets of self-regulation useful for managing emotions and behaviors. Self-control, a deliberate, conscious, and effortful subset of self-regulation, would enable a person to restrain impulses and habits or alter thoughts, emotions, and behaviors in compliance with standards, ideals, laws, and social expectations (22). From psychological perspectives, Mindfulness means the state of accepting and being aware of the present events, experiences and feelings without having the sense of being judgmental, and as defined by Jon Kabat-Zinn, mindfulness is "paying attention in a particular way, on purpose, in the present moment, and non-judgmentally" (23, 24). Mindfulness could potentially be a helpful practice to reduce stress, improve self-regulation, help better relationship quality, enhance psychological well-being and physical health, and develop high awareness in our daily life (25, 26). A cross-cultural research program in Iran and the USA recently has introduced an Integrative Self-Knowledge (ISK) Scale to assess efforts of the self to integrate past, present, and desired future self-experience (27). ISK is defined as "an adaptive and empowering attempt of the self to understand its experience across time in order to achieve desired outcomes" (28). Regarding the ISK, individuals would try to continue a coherent life story by integrating the present and past toward an intrinsically hoped for future (27).

Considering the aforementioned definitions, we proposed five hypothesis:

First: there will be a significant moderating role of self-regulation processes in association between mental health indicators and grandiose narcissism.

Second: self-regulation processes will be correlated negatively with grandiose narcissism.

Third: self-regulation processes will be correlated positively with authentic pride.

Fourth: self-regulation processes will be correlated negatively with hubristic pride.

Fifth: self-regulation processes will be correlated negatively with shame.

As regards to the great importance of self-regulation processes in regulating thoughts and feeling, specifically in relation with grandiose narcissism and mental health, we aimed to investigate the relationship between mental health and grandiose narcissism by examining the mediator role of the self-regulation processes in university students.

II. METHOD

Participants

A total of 250 participants were recruited from Bachelor, Masters, and Doctorate students in Tehran University, Shahid Beheshti University, Allameh Tabataba'i University, Islamic Azad University South and Central Tehran Branch. The sampling method used in this study was convenience sampling. All participants provided informed consent. Table 1 provides the demographic characteristics of participants.

Table 1. Demographic characteristics of participants (N=250)

Demographic features	participants
Mean age, years (<i>SD</i>)	
Male	29.37 (5.59)
Female	27.78 (6.29)
Gender, % (n)	
Male	39.6(99)
Female	53.6(134)
Missed	6.8(17)
Education, % (n)	
Bachelor	63.2(158)
Masters	28.8(72)
Doctorate	1.2(3)
Missed	6.8(17)
Marital status, % (n)	
Married	31.6(79)
Single	61.6(154)
Missed	6.8(17)

Measures

The present study was approved by institutional review boards at the Tehran University. Data were collected by means of hand-delivered questionnaires. Grandiose narcissism, Integrative self-knowledge, mindfulness, self-control, Anxiety and Depression, and self-esteem were assessed as described below.

Grandiose narcissism scale: the Grandiose Narcissism Scale (GNS) was used to examine the Grandiose narcissism(29). Participants respond to a series of 35 items each responded to using a Likert-type scale (1 = strongly disagree, 6 = strongly agree). The GNS consists of seven subscales: authority, self-sufficiency, vanity, superiority, exhibitionism, entitlement, and exploitativeness. Özgen et al, reported the total Cronbach's Alpha value of 0.90 for the GNS scale (30). Persian version of GNS scale revealed an acceptable validity and reliability. Illustrating this construct was the claim that "I will never be satisfied until I get all that I deserve", and "I really like to be the center of attention". In this analysis, the Cronbach's Alpha value of 0.92 for Grandiose Narcissism was obtained.

Integrative Self-knowledge Scale (ISKS)

Integrative self-knowledge was measured applying Integrative Self-Knowledge Scale (ISKS) developed by Ghorbani, et al. This reliable and valid Scale consists of two scales administered to Iranian and American samples as the Reflective Self-Knowledge Scale and the Experiential Self-Knowledge Scale (31). In this study, participants responded to a 12-item Integrative Self-Knowledge Scale occurred along a 5-point Likert scale ranging from 0("largely untrue") to 4 ("largely true"). An example of Integrative Self-Knowledge scale items was the self-report that "by thinking deeply about myself, I can discover what I really want in life" and the reverse scored (RS) assertion that "I get so involved in what is going on that I really can't see how I am responding to a situation." Moreover, the Cronbach's alpha was 0.79.

Depression and Anxiety Scale

Costello and Comrey (1967) Depression and Anxiety was adopted to evaluate depression and anxiety in our study. In total, this scale contains 23 items: 14 items to assess the Depression Scale and 9 items to examine Anxiety Scale. Both measures used a 0 (strongly disagree) to 4 (strongly agree) Likert scale. An example of depression was the self-report, "I feel that life is drudgery and boredom." An indication for anxiety was the item, "I am a tense and 'high strung' person." Cronbach's alpha for depression and anxiety was 0.88 and 0.75 in order.

Rosenberg self-esteem scale (RSES)

The self-esteem analyzed by the 10-item Rosenberg (1965) Self-Esteem Scale rated on a 4-point Likert-type scale, ranging from 0 (strongly disagree) to (strongly agree). To illustrate RSES statements, "I take a positive attitude toward myself" could be mentioned. The Cronbach's alpha was 0.77.

Mindful Attention Awareness Scale (MAAS)

Mindful Attention Awareness Scale (MAAS) are described by Brown & Ryan to measure mindfulness attributed to well-being constructs, and associated with enhanced self-awareness (23). This MAAS has 15 items rated on a six-point scale (almost always to almost never). Mindfulness appeared in such self-reports as "I could be experiencing some emotion and not be conscious of it until some time later." The Cronbach's alpha for this scale was 0.89.

Self-Control Scale

June P. Tangney, et al. provided the self-control scale comprising 36 items with high internal consistency and reliability (32). Self-Control Scale used a Likert scale to evaluate items rated from 1 (not at all like me) to 5 (very much like me). "I am able to resist temptation" and "I set goals for myself and keep track of my progress" are representative items for this scale. Cronbach's alpha was 0.75 regarding Self-Control Scale.

Other as Shamer Scale (OAS)

Other As Shamer Scale (OAS) is the current scale to measure the External shame as a feeling of negative judgements about the self in the mind of others. In this study, respondents provided answers to a shorter form of the scale as (OAS2) introduced by Matos et al. though (33). OAS2 is a valid and reliable scale consisted of 8 items with a 5-point Linkert scale (from 0 = Never to 4 = Almost Always). For instance, "I feel other people see me as not quite good enough" is an OAS2 item. OAS Cronbach's alpha was 0.92.

The Authentic and Hubristic Pride Scales (AHPS)

The Authentic and Hubristic Pride Scales (AHPS), applied to assess authentic pride and hubristic pride, were developed and demonstrated by Jessica L. Tracy et al (34). The AHPS made up of 14 pride-related words on a scale ranging from 1 (not at all) to 5 (extremely) based on semantic and psychometric analyses. Seven items including accomplished, achieving, confident, fulfilled, productive, self-worth and successful indicated the authentic pride scale. Remaining seven adjectives, arrogant, conceited, egotistical, pompous, smug, snobbish and stuck-up, are assigned to the hubristic pride scale. Participants responded to the list of these adjectives twice, at a moment in time (state measurement), and in general (trait measurement). Therefore, AHPS is composed of four scales, i.e., the authentic and hubristic pride scales for measuring the state and the trait. The Cronbach's alpha for the Authentic pride was 0.86 and for the Hubristic Pride was 0.90.

Procedure

The research was approved by the ethics committee of the University of Tehran. This study was carried out with written informed consent from all participants before the initial assessment. The research was explained to each potential participant and questionnaires were hand-delivered to those who gave consent. Moreover, students were informed of the instructions on how to complete the questionnaire, and the confidential nature of the data. The data collection procedure was conducted in 2 months in the aforementioned universities. Totally, a number of 259 questionnaires was distributed among the students, which 250 questionnaires were completely answered and 9 surveys were incomplete. Data were analyzed using descriptive statistics including frequency, percentage, mean and standard deviation, and inferential statistical tools including The Pearson's correlation coefficient and mediation regression analysis. IBM SPSS Statistics version 18 was used for statistical analyses and P values <0.05 were defined as statistically significant.

III. RESULTS

Table 2 displays the descriptive statistics and correlations between study variables. As results present, the Cronbach's alpha value range from 0.75 to 0.92. The value for Cronbach's alpha of 0.7 or higher is considered acceptable, which means that all variables are reliable and consistent with the research standards. Integrative self-knowledge correlated positively with self-control ($r=0.44$), mindfulness ($r=0.30$), self-esteem ($r=0.45$), and Authentic pride ($r=0.33$) and negatively with grandiose narcissism ($r=-0.14$), depression ($r=-0.41$), anxiety ($r=-0.40$) and shame ($r=-0.32$). Self-control displayed a positive relationship with self-esteem ($r=0.48$) and Authentic pride ($r=0.26$), and a negative relationship with depression ($r=-0.50$), anxiety ($r=-0.37$), Hubristic pride ($r=-0.27$), and shame ($r=-0.33$). Self-control, however, did not correlate with narcissism ($r=-0.02$). Moreover, the data revealed a positive correlation between mindfulness and self-esteem ($r=0.41$), and authentic pride ($r=0.31$), but a negative correlation between mindfulness and depression ($r=-0.52$), anxiety ($r=-0.25$), and shame ($r=-0.20$). Considering mindfulness, there was not a correlation with narcissism ($r=0.07$), and hubristic pride ($r=-0.12$). There were also no correlations between narcissism and depression ($r=-0.12$), anxiety ($r=0.05$), and self-esteem ($r=0.03$). Narcissism, furthermore, correlated negatively with authentic pride ($r=-0.28$) and positively with hubristic pride ($r=0.27$), and shame ($r=0.24$). The results indicated a negative relationship between authentic pride and depression ($r=-0.46$), and anxiety ($r=-0.17$), and a positive relationship between authentic pride and self-esteem ($r=0.48$). The correlation between hubristic pride and depression ($r=0.18$), and anxiety ($r=0.18$) was positive. Between hubristic pride and self-esteem ($r=-0.06$), however, there was not any relationships. Shame showed a positive correlation with depression ($r=0.36$), anxiety ($r=0.28$), and hubristic pride ($r=0.39$), and a negative correlation with self-esteem ($r=-0.37$) and authentic pride ($r=-0.13$). Overall, the significant negative correlation between integrative self-knowledge and grandiose narcissism ($r=-.14$) could support the idea of our second hypothesis. The significant positive correlation between authentic pride and integrative self-knowledge ($r=.23$), self-control ($r=.29$), and mindfulness ($r=.31$) could potentially confirm the third hypothesis. In addition, the significant negative correlation between hubristic pride and self-control ($r=-.27$), and between shame and integrative self-knowledge ($r=-.32$), self-control ($r=-.33$) and mindfulness ($r=-.20$) could approve the fourth and fifth hypothesis in our study respectively.

Table 2. Mean, standard deviation, Cronbach's alphas and correlation of variables

Variables	Mean	SD	Cronbach alpha	1	2	3	4	5	6	7	8	9	10
1. Integrative Self-Knowledge	41.11	7.24	.750	-									
2. Self-control	44.7	8.36	.752	.44**	-								
3. Mindfulness	61.92	12.80	.892	.30**	.50**	-							
4. Narcissism	40.26	25.58	.922	-.14*	-.02	.07	-						
5. Depression	33.8	10.42	.882	.41**	.50**	.52**	-.12	-					
6. Anxiety	24.97	6.24	.750	-	-	-	.05	.39**	-				
7. Self-esteem	35.04	7.04	.770	.40**	.37**	.25**	.03	-	-	-			
8. Authentic Pride	22.05	6.06	.866	.45**	.48**	.41**	-	.63**	.30**	-	.48**	-	
9. Hubristic Pride	11.70	5.24	.904	.23**	.26**	.31**	.28**	-	-	-	.06	.10	-
10. Shame	18.82	7.50	.925	-.10	.27**	-.12	.27**	.46**	.17**	.37**	.13*	.39**	-
				.32**	-.33**	.20**	.24**	.36**	.28**				

* $P < 0.05$

** $P < 0.01$

An adjusted regression analysis was performed to assess the mediating role of self-regulation processes between grandiose narcissism and mental health indicators including depression, anxiety, and self-esteem. In all cases, except self-esteem, the beta for self-regulation processes in Step 2 was not statistically significant. The results indicated that after self-regulation processes had been added in Step 2, the proposed model do not explain the variance of depression scores ($\Delta R^2 = .012$, $\Delta F = 1.65$, $P = .178$). Regarding the impact of self-regulation processes in relationship between grandiose narcissism and anxiety, the mediating role of self-regulation processes could not also explain the variance of anxiety scores ($\Delta R^2 = .530$, $\Delta F = .662$, $P = .005$). The mediating role of self-regulation processes in the relationship between grandiose narcissism and self-esteem, however, could significantly increase the variance of self-esteem scores ($\Delta R^2 = .005$, $\Delta F = 7.29$, $P = .001$) (Table 3). Table 4 shows standard and non-standard regression coefficients. According to these coefficients, mindfulness ($\beta = -1.16$, $T = -3.45$, $P = .0001$) and

grandiose narcissism ($\beta=-1.30$, $T=-3.66$, $P=.001$) impact and mindfulness ($\beta=-1.46$, $T=-2.98$, $P=.003$) adjusting effect could significantly explain the variance of self-esteem scores. Therefore, the first hypothesis of our study would be confirmed.

Table 3. Adjusted regression analysis to assess adjusting role of self-regulation processes in the relationship between grandiose narcissism and self-esteem

Step	variables	R	R ²	Adjusted R ²	ΔR^2	ΔF	P
1	Self-regulation processes	.577	.333	.322	.333	30.62	.001*
	Grandiose narcissism						
	Self-regulation processes						
2	Grandiose narcissism	.623	.289	.371	.055	7.29	.001*
	Mediator role of Self-regulation processes						

*P<0.05

Table 4. Correlation between grandiose narcissism and self-esteem, mediated by self-regulation processes

Variables	B	Std.Error	β	T	P
Integrative self-knowledge	-.198	.31	-.64	-.64	.522
Self-control	-.475	.30	-1.58	-1.58	.116
Mindfulness	-.684	.20	-1.16	-3.45	.0001*
Grandiose Narcissism	-.448	.12	-1.30	-3.66	.001*
Mediator role of Integrative self-knowledge	.001	.003	.072	.183	.855
Mediator role of self-control	-.002	.003	-.381	-.80	.425
Mediator role of mindfulness	-.006	.002	-1.46	-2.98	.003*

*P<0.05

IV. DISCUSSION

In recent years, there has been a growing interest in the study of various personality disorders such as narcissistic trait and its two faces as grandiose and vulnerable narcissism (4, 35). A prominent clinical feature of narcissistic is the feelings of shame and pride, which in turn has two distinct dimensions as authentic and hubristic pride (36, 37). According to previous research studies, it seems that self-regulation processes could effectively mediate narcissistic personality disorder and its emotions. In This study, therefore, we sought to investigate the association between grandiose narcissism and mental health indicators specifically depression, anxiety, and self-esteem, considering the mediating role of self-regulation processes among undergraduate and postgraduate students in Iran. Self-regulation processes is defined as integrative self-knowledge, self-control, and mindfulness traits in our study. Here, we provide hypotheses that self-regulation processes could mediate the correlation between grandiose narcissism and mental health indicators, and these processes could reveal negative or positive correlations with grandiose narcissism and its specific feelings.

Regarding the first hypothesis, our findings showed that while self-regulation processes has no significant impact on the relationship between grandiose narcissism and depression or anxiety, mindfulness as a self-regulation process would predict higher levels of grandiose narcissism disorder by increasing self-esteem significantly. This result is consistent with previous studies by Miranda Giacomini et al. (38), Christopher T.Barry et al. (39), Hui Zhang, et al.(40), and Avi Besser et al. (41), in which narcissism is associated significantly with emotion regulation and mental well-being. In addition, the study by Asadallah Omid et al. (42), who concluded that, the mediating role of integrative self-knowledge is essential in the relationship between anxiety and repression as important mental health parameters, would confirm our results. But they are in contrast with the study of Leire Erkoreka et al. (43), and Besharat Mohammad Ali et al. (44). As hypothesized, Mindfulness is believed to improve physical and mental health through different mechanisms and as it is shown in our study, could promote self-esteem in individuals, which in turn is effective in reducing negative behaviors associated with grandiose narcissism.

Another finding demonstrated that, integrative self-knowledge, another self-regulation processes parameter, has a significant negative correlation with grandiose narcissism. This result is in line with the previous studies explaining the reverse correlation between self-regulation processes and various psychological and mental disorders. In this respect, Nima Ghorbani et al. discussed about the negative

relationship between Self-Control and Integrative Self-Knowledge Scales with maladaptive Muslim measures(45). Furthermore, the explanations of June P et al. elucidated the reverse correlation between self-control and self-oriented personal distress, anger, or anxiety (32). Consequently, self-regulation processes would be correlated with a range of positive and negative behaviors. Integrative self-knowledge, mindfulness, and self-control as the dimensions of self-regulatory processes, have revealed negative correlations with maladaptive emotions like stress, depression, and anxiety in various studies (46). Integrative self-knowledge, self-control, and mindfulness also displayed the expected association with authentic pride, hubristic pride, and shame. Our correlational analyses showed that authentic pride could have a significant positive correlation with integrative self-knowledge, self-control, and mindfulness. Hubristic pride, however, showed a significant negative correlation with self-control. Shame is another central emotion of narcissism, which also presented a significant negative correlation with integrative self-knowledge, self-control, and mindfulness in the present study. As described before, shame, authentic and hubristic pride are emotions of narcissism. Therefore, it can be concluded that self-regulation process could mediate narcissistic behaviors by mediating shame, authentic and hubristic pride. In this regard, integrative self-knowledge, self-control, and mindfulness could potentially improve authentic pride, which is associated with more effective and socially acceptable traits and could exert a favorable impact on dealing with grandiose narcissism. To explain the effect of self-regulatory processes on the relationship between grandiose narcissism and shame and hubristic pride, the mediating role of these processes in neutralizing shame and hubristic pride and therefore resolving the symptoms of grandiosity, might be of great importance. Nima Ghorbani et al, have also described an analysis concerning multi-process model of self-regulation. They reported that Integrative Self-knowledge, Self-Control and mindfulness factors correlate positively and negatively with human traits and mental health parameters including self-esteem and satisfaction with life, depression and anxiety (47).

Our study has several limitations that are required to be acknowledged. First, the number of questions in surveys was too large and a number of questionnaires were not acceptable. Second, we had not access to the enough information about students' cultural and social differences. Third, the study was a cross-sectional research. Forth, we had to distribute questionnaire to the students and it was impossible to conduct experiments on a face-to-face interview survey. Fifth, the novelty of the research about self-regulatory processes and narcissism and the shame and pride traits, made it difficult to draw definitive conclusions about the findings. Therefore, further experiment are required to focus on the role of self-regulation processes in mediating grandiose narcissism and its specific traits like shame and pride and also the relationship between grandiose narcissism and more mental health parameters.

In conclusion, our data provide insight into the great impact of self-regulation processes on adjusting the relationship between grandiose narcissism and mental health indicators. Another remarkable finding in our study described the effect of Integrative self-knowledge, self-control, and mindfulness on the shame and authentic and hubristic pride as important feelings of narcissism. Therefore, self-regulation processes could be considered significant factors in suppressing grandiosity by improving the sense of self-esteem and authentic pride and reducing the sense of hubristic pride.

REFERENCES

1. Campbell WK, Hoffman BJ, Campbell SM, Marchisio G. Narcissism in organizational contexts. *Human resource management review*. 2011;21(4):268-84.
2. Cratsley K. Revisiting Freud and Kohut on narcissism. *Theory & Psychology*. 2016; 26(3): 333-59.
3. Miller JD, Price J, Gentile B, Lynam DR, Campbell WK. Grandiose and vulnerable narcissism from the perspective of the interpersonal circumplex. *Personality and individual differences*. 2012; 53(4): 507-12.
4. Miller JD, Hoffman BJ, Gaughan ET, Gentile B, Maples J, Keith Campbell W. Grandiose and vulnerable narcissism: A nomological network analysis. *Journal of personality*. 2011; 79(5): 1013-42.
5. Brunell AB, Buelow MT, Trost Z. Narcissism and the experience of pain. *Personality and Individual Differences*. 2021; 169: 109852.
6. Malesza M, Kaczmarek MC. Grandiose narcissism versus vulnerable narcissism and impulsivity. *Personality and Individual Differences*. 2018; 126: 61-5.
7. Jauk E, Weigle E, Lehmann K, Benedek M, Neubauer AC. The relationship between grandiose and vulnerable (hypersensitive) narcissism. *Frontiers in Psychology*. 2017; 8: 1600.
8. Rogoza R, Kwiatkowska MM, Kowalski CM, Ślaski S. A brief tale of the two faces of narcissism and the two facets of pride. *Personality and Individual Differences*. 2018; 126: 104-8.

9. Ritter K, Vater A, Rüscher N, Schröder-Abé M, Schütz A, Fydrich T, et al. Shame in patients with narcissistic personality disorder. *Psychiatry research*. 2014; 215(2): 429-37.
10. Organization WH. *Strengthening mental health promotion*. Fact sheet. 2001; 20.
11. Organization WH. *Mental health: new understanding, new hope*. The world health report 2001. 2001.
12. Herrman H, Saxena S, Moodie R. *Promoting mental health: concepts, emerging evidence, practice: a report of the World Health Organization*, Department of Mental Health and Substance Abuse in collaboration with the Victorian Health Promotion Foundation and the University of Melbourne: World Health Organization; 2005.
13. Xu X, Huebner ES, Tian L. Profiles of narcissism and self-esteem associated with comprehensive mental health in adolescents. *Journal of adolescence*. 2020; 80: 275-87.
14. Zender R, Olshansky E. Women's mental health: depression and anxiety. *Nursing Clinics*. 2009; 44(3): 355-64.
15. Chan CY, Cheung KL. Exploring the gender difference in relationships between narcissism, competitiveness, and mental health problems among college students. *Journal of American college health*. 2020: 1-10.
16. Papathanasiou IV, Tsaras K, Kleisiaris CF, Fradelos EC, Tsaloglidou A, Damigos D. *Anxiety and depression in staff of mental units: The role of burnout*. GeNeDis 2016: Springer; 2017. p. 185-97.
17. Raskin R, Novacek J, Hogan R. Narcissistic self-esteem management. *Journal of Personality and Social Psychology*. 1991; 60(6): 911.
18. Campbell WK. Narcissism and romantic attraction. *Journal of personality and social psychology*. 1999; 77(6): 1254.
19. Campbell WK, Green JD. *Narcissism and interpersonal self-regulation*. 2008.
20. Lenne RL, Mann T. Self-Regulation. *The Wiley Encyclopedia of Health Psychology*. 2020: 623-30.
21. Halfon N, Forrest CB, Lerner RM, Faustman EM. *Handbook of life course health development*: Springer Nature; 2018.
22. Mamayek C, Paternoster R, Loughran TA. Self-control as self-regulation: a return to control theory. *Deviant behavior*. 2017; 38(8): 895-916.
23. Brown KW, Ryan RM. The benefits of being present: mindfulness and its role in psychological well-being. *Journal of personality and social psychology*. 2003; 84(4): 822.
24. Kabat-Zinn J. Where you go, there you are: Mindfulness meditation in everyday life. New York, NY: Hyperion Laranjo, J, Bernier, A, & Meins, E(2008) Associations between maternal mind-mindedness and infant attachment security: *Investigating the mediating role of maternal sensitivity Infant Behavior and Development*. 1994; 31: 688-95.
25. Ramli NH, Alavi M, Mehrinezhad SA, Ahmadi A. Academic stress and self-regulation among university students in Malaysia: Mediator role of mindfulness. *Behavioral Sciences*. 2018; 8(1): 12.
26. Kabat-Zinn J. Mindfulness-based interventions in context: past, present, and future. *Clinical psychology: Science and practice*. 2003; 10(2): 144-56.
27. Behjati Z, Saeedi Z, Noorbala F, Enjedani E, Meybodi FA. Integrative self-knowledge and mental health. *Procedia-Social and Behavioral Sciences*. 2011; 30: 705-8.
28. McAdams DP. *Personal narratives and the life story*. 2008.
29. Foster JD, McCain JL, Hibberts MF, Brunell AB, Johnson RB. The Grandiose Narcissism Scale: A global and facet-level measure of grandiose narcissism. *Personality and individual differences*. 2015; 73: 12-6.
30. Özgen C, Argan M. *The Turkish Version of the Grandiose Narcissism Scale: A Validity and Reliability Study of Football Team Fans*. 2017.
31. Ghorbani N, Watson P, Hargis MB. Integrative Self-Knowledge Scale: Correlations and incremental validity of a cross-cultural measure developed in Iran and the United States. *The Journal of Psychology*. 2008; 142(4): 395-412.
32. Tangney JP, Baumeister RF, Boone AL. High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of personality*. 2004; 72(2): 271-324.
33. Matos M, Pinto-Gouveia J, Gilbert P, Duarte C, Figueiredo C. The Other As Shamer Scale-2: Development and validation of a short version of a measure of external shame. *Personality and Individual Differences*. 2015; 74: 6-11.
34. Tracy JL, Robins RW. The psychological structure of pride: a tale of two facets. *Journal of personality and social psychology*. 2007; 92(3): 506.
35. Wink P. Two faces of narcissism. *Journal of personality and social psychology*. 1991; 61(4): 590.
36. Dickinson KA, Pincus AL. Interpersonal analysis of grandiose and vulnerable narcissism. *Journal of personality disorders*. 2003; 17(3): 188-207.

37. Tracy JL, Cheng JT, Robins RW, Trzesniewski KH. Authentic and hubristic pride: The affective core of self-esteem and narcissism. *Self and identity*. 2009; 8(2-3): 196-213.
38. Giacomini M, Jordan CH. Self-focused and feeling fine: Assessing state narcissism and its relation to well-being. *Journal of Research in Personality*. 2016; 63: 12-21.
39. Barry CT, Loflin DC, Doucette H. Adolescent self-compassion: Associations with narcissism, self-esteem, aggression, and internalizing symptoms in at-risk males. *Personality and Individual Differences*. 2015; 77: 118-23.
40. Zhang H, Wang Z, You X, Lü W, Luo Y. Associations between narcissism and emotion regulation difficulties: Respiratory sinus arrhythmia reactivity as a moderator. *Biological psychology*. 2015; 110: 1-11.
41. Besser A, Priel B. Grandiose narcissism versus vulnerable narcissism in threatening situations: Emotional reactions to achievement failure and interpersonal rejection. *Journal of Social and Clinical Psychology*. 2010; 29(8): 874-902.
42. Omid A, Ghorbani N, Forootan M, Javadi A, Kashanaki H. Relationship between Anxiety and Repression by Examination of the Mediator role of the Integrative Self-Knowledge in Patients with Gastrointestinal Diseases. *Rooyesh-e-Ravanshenasi Journal (RRJ)*. 2020; 8(11): 27-34.
43. Erkoreka L, Navarro B. Vulnerable narcissism is associated with severity of depressive symptoms in dysthymic patients. *Psychiatry research*. 2017; 257: 265-9.
44. Besharat MA, Keshavarz S, Gholamali LM, Arabi E. *Mediating Role of Perceived Social Support between Early Maladaptive Schemas and Quality of Life*. 2018.
45. Ghorbani N, Watson PJ, Rezazadeh Z, Cunningham CJ. Dialogical validity of religious measures in Iran: Relationships with integrative self-knowledge and self-control of the "Perfect Man"(Ensān-e Kāmel). *Archive for the Psychology of Religion*. 2011; 33(1): 93-113.
46. Valikhani A, Abbasi Z, Radman E, Goodarzi MA, Moustafa AA. Insecure attachment and subclinical depression, anxiety, and stress: A three-dimensional model of personality self-regulation as a mediator. *The Journal of psychology*. 2018; 152(8): 548-72.
47. Ghorbani N, Watson P, Farhadi M, Chen Z. A multi-process model of self-regulation: Influences of mindfulness, integrative self-knowledge and self-control in Iran. *International Journal of Psychology*. 2014; 49(2): 115-22.