



An empirical study: self-criticism, rumination response style and alexithymia traits in young adults

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Abstract

Many psychological concepts have underlying constructs that need further exploration to navigate through unresolved concerns in psychotherapy. Researcher explores to what extent do rumination and alexithymia transform self-critical tendencies into self-sabotaging behavior. Researcher investigates associations between variables of self-criticism, ruminative response style and alexithymia using correlation coefficient. Further, series of regression analysis were employed to study the effect of self-criticism on rumination and alexithymia. The sample included, male and female participants between 18–25 years. Participant responses were collected on three scales, Forms of Self-Criticising/Attacking and Self-Reassuring Scale (FSCRS), Ruminative responses scale (RRS) and Perth alexithymia questionnaire (PAQ). Findings indicate that inadequate self positively correlates with brooding and depressed; hated-self correlated with brooding, depressed and difficulty identifying emotions. Brooding and difficulty identifying emotions predicts self-destructive behaviour. Ruminative tendencies can be reformed by strengthening self-psychotherapy work. Thus, the implications of the study may indicate psychotherapy interventions may need modified approaches to work with self-criticism tendencies with clients.

Keywords Self-criticism · Alexithymia · Rumination · Self-compassion · Self-harm

Introduction

Assessment of emotional inconsistency is determined by personality traits during stressful events. Individual differences in emotional unpredictability categorize people in two disorders – internalizing and externalizing disorders. For example, likelihood of internalizing disorder increases with frequent experiences of negative feelings and active stressors. During challenging times like COVID19, like other people, young adults were at the receiving end of emotional distress and changes. In fact, experiencing transition from school years to college is a milestone along with bearing other stressors. At this time, many coping strategies are employed to protect oneself. Adolescents and young adults might suppress negative feelings and beliefs to preserve their relationships and avoid conflicts. This might increase self-evaluative components with regard to others such as need

to seek approval and avoid criticism altogether (Burwell, 2015).

Psychodynamic theorists view self-criticism to emerge due to unconscious motivations and unresolved childhood experiences, which affects an individual's perceptive abilities. Erratic parenting style using neglectful and critical commenting as a highly adoptive way to parent a child may impact the perceptive abilities of the child. Children learn to internalize remarks made by parents into an internal critical voice which often dictates their way of thinking. Psychodynamic psychotherapies consist of various theoretical underpinnings, one of them being object relations. Object relations proposes a sense of worthlessness may develop in children due to rejecting parenting style. As the child evolves into an adult, negative self-perception may dominate unknowingly. Self-criticism often functions at an unconscious level, surfacing as negative thoughts and self-judgment.

Early parent–child attachment can impact personality characteristics. The two-polarities model of personality suggests that there are two personality organizations basis, relational connection and self-identity (Blatt & Zuroff, 1992). Blatt describes these as two distinct dimensions of self-development and psychopathology (Werner et al., 2019).

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The anaclitic polarity is related with fear of being abandoned and there is a constant desire to seek connectedness as a core need. It is represented as continuous reassurance required from interpersonal relationships. Poor self-image in borderline personality disorder qualifies as an anaclitic-relational configuration and narcissistic as an introjective defined disorder (Shahar, 2015). The introjective polarity, in contrast, emphasises perfectionism, self-judgement and feelings of worthlessness. It reflects an internalised focus on self and the need for self-definition and competence (Cornelis et al., 2021).

It is essential for psychotherapists to note where does the individual lie on the continuum of developmental levels on each dimension of personality organization in Blatt's model. The levels denote maturity levels and integration of the self. For example, an individual with emotional dysregulation and unstable relationships may find themselves on the lower level of the continuum. On the other hand, an individual with self-integration and adequate psychosocial adjustment may qualify for higher levels as adaptive functioning is illustrated.

Self-criticism is explored as comparative and internal. Comparative self-criticism involves self-comparison with others considering them better against oneself. Internal self-criticism is self-judgment. Individuals with high self-criticism trait attend to minute details (Piccolo et al., 2005) and are emotionally sensitive to criticism by others (Blatt et al., 1976). Self-criticism is a tendency to negatively evaluate oneself in comparison with others, with a chronic self-disapproval (Blatt, 2004). Negative emotions such as anger, contempt and disgust act as driving forces in people who display self-critical behaviour (Whelton & Greenberg, 2005; Longe et al., 2010).

Self-critical traits are visible in people with symptoms of depression, anxiety, suicide, eating disorder, substance users and personality disorders (Bergner, 1995; Kannan & Levitt, 2013). According to Gilbert et al. (2004), inadequate self, emerged from the understanding when social comparisons are drawn, an individual feels inadequate with the comparing standard of people or their achievement. Likewise, hatred self is reflected as a pathological behaviour as if an individual wants to remove the parts of self which are reflective of an out-group characteristic. The feelings associated with this sense of self includes disgust (Gilbert et al., 2004).

Psychodynamic theory emphasizes on the processes that take place in the unconscious of a person, viewing self-criticism as a defense mechanism, often unknowingly utilized by individuals to protect themselves from underlying internal conflicts of the unconscious. People may engage in ruminative tendencies to distract themselves from inner feelings to thought processing by distracting from processing what one feels as it is discomfoting. People can find identifying, naming and expressing their emotional feelings an extremely

difficult task. This occurs due to the early relationships with significant caregivers may have led to associations with encountering emotional feelings as distressing. Therefore, psychotherapists work on peeling of layers of defense mechanism employed by clients in therapy to integrate self and increase self-awareness. Thus, this research studies the interplay of these concepts operating at the unconscious levels.

Review

Psychological concepts, self-criticism, rumination and alexithymia have been studied extensively and findings conclude their associations with neurotic conditions such as depression. However, there is a lack of evidence on how constructs of self-criticism, rumination and alexithymia interact at the unconscious levels. Thus, with the existing theoretical psychodynamic model, this research paper attempts to seek evidence of the interconnected dynamics of these psychological concepts.

Attachment types and parenting styles influence perceptive abilities such as Campos et al. (2013) highlighted that parental rejection during adolescence predisposes individuals to develop negative self-critical views while Kopala-Sibley and Zuroff (2017) found that dimensions of achievement and interpersonal orientation predicted self-criticism in adolescents. These findings suggest parenting styles and parental control on adolescents play a crucial role in forming self-deprecating views.

Belief systems are formed by significant caregiver attachment in children. Additionally, culture and societal systems also emphasize protocols that contribute to strengthening negative self-perceptions. Gender bias was reported among undergraduate college students of South India with regard to self-critical perfectionism (Jerine & Mary, 2020). Research draw reader's attention on cultural norms of Indian sample group contributing to self-critical perfectionism. Women scored higher on the subscale of inadequate self in a non-clinical sample group (Baião et al., 2015). Similar findings were reported in an Indian sample between 18 – 25 years from Chennai (Harshitha & Sasi, 2019). From a dynamic lens, it is known that moral standards in children are effectively shaped by society and community systems, which can play a dominant role in conditioning self-evaluation negatively.

Self-criticism is regarded as a trans diagnostic concept which implies that it has the capacity to act as a risk factor to a psychological disorder and/or it may perpetuate symptoms of a psychological disorder. Navarrete et al. (2021) proposed that self-criticism increases vulnerability to psychopathology through repetitive negative thoughts and intrusions. These findings emphasize the interplay between self-criticism and rumination as valuable risking factors. However,

variables of alexithymia are found to increase the propensity of self-critical tendencies into pathological domain. Borrill et al. (2009), found that rumination and difficulty identifying emotions were strong predictors of constructs of self-criticism that is, self-harming behaviour. In addition, hated self is identified as a predictor for paranoid beliefs among university students (Mills et al., 2007). Thus, maladaptive coping strategies can sometimes turn fatal for which, it becomes necessary to consider the interactive mechanisms underlying self-reproach, rumination and alexithymia when internal conflicts are causing distress.

Many psychotherapists adopt a relational model of psychotherapy and heavily rely on the feelings that are aroused in them basis their therapeutic relationship with their client. Whelton et al. (2007) found that individuals high on self-criticism face challenges in forming a working alliance in clinical settings. This requires psychotherapists to work on the unresolved patterns in the client's life by addressing the defense mechanisms. It is also true that psychotherapists have to work on themselves to allow themselves to also become self-aware about their relational patterns, and defenses. In a study by Shahar (2015), the author examined how individuals who struggle with self-criticism might unintentionally evoke similar feelings of self-criticism or inadequacy in their therapists. Thus, for a smooth therapeutic alliance and dynamic understanding of the therapeutic relationship, it is important for psychotherapists to identify their attachment patterns which are also being reinforced in clinical settings with their clients. These feelings can sometimes result as a cycle of reinforcing feelings of rejections for both parties understanding their background (Kannan & Levitt, 2013).

This research paper attempts to identify potential links between concepts of self-criticism, rumination and alexithymia to advance diagnostic markers and interventions for psychotherapists and clients in a dynamic way.

Methodology

Aim

To what extent do rumination and alexithymia influence the transformation of self-critical tendencies into self-sabotaging behavior.

Objectives

1. Examine the association between self-criticism, rumination and alexithymia.
2. Examine the influence of self-criticism on rumination and alexithymia.

3. Explore the mediating effects of thinking style on reassuring self to prevent ruminative tendencies.
4. Determine if alexithymia mediates the relationship between inadequate self into hated self.

Hypotheses

1. There will be a significant association between variables of self-criticism and variables of rumination.
2. There will be a significant association between variables of self-criticism and variables of alexithymia.
3. The variables of self-criticism will have a significant influence on variables of rumination.
4. The variables of self-criticism will have a significant influence on variables of alexithymia.
5. There will be a significant indirect effect of thinking style such that, external oriented thinking will have an indirect effect on reassuring self to reduce rumination.
6. There will be a significant indirect effect of alexithymia on inadequate-self to cause a change rumination.

Research design

A repeated measures quantitative design is used to explore how self-critical tendencies transform into self-sabotaging behavior. For the purpose of this research, three concepts were employed which are defined below with variables.

Self-criticism, defined as negative view of oneself adopted as a defense mechanism to protect oneself from experiencing emotionally distressing feelings.

- Inadequate self: This sub-variable is defined as a personally inadequate view of oneself causing devaluing self and distress.
- Hated self: This sub-variable is defined as engaging into self-harming and self-hurting behaviors, as a pathological construct.
- Reassuring self: This sub-variable is defined as the ability to sooth oneself with self-compassion when distressing situations take place.

Rumination is defined as a passive and repetitive cognitive process wherein an individual engages into focusing on the negative content and associated feelings.

- Brooding: This sub-variable is defined when individual's focus on negative feelings by concentrating on past mistakes and failures causing negative thoughts and feelings.
- Reflection: This sub-variable is defined as a problem solving reflective strategy viewed as an adaptive coping mechanism during emotionally distressing time.

- **Depressed:** This sub-variable is defined as engaging into ruminative tendencies by focusing on the depressive content.

Alexithymia, defined as difficult experience in identifying feelings and expressing emotional moods.

- **Negative—Difficulty identifying feelings:** This sub-variable is defined as difficulty being aware, naming and acknowledging the negative emotional feeling.
- **Positive—Difficulty identifying feelings:** This sub-variable is defined as difficulty being aware, naming and acknowledging the positive emotional feeling.
- **Negative—Difficulty describing feelings:** This sub-variable is defined as difficulty in expressing and sharing negative emotional feelings one is experiencing.
- **Positive—Difficulty describing feelings:** This sub-variable is defined as difficulty with expressing the positive emotional states one may be noticing.
- **Externally oriented thinking (general):** This sub-variable is defined as a thinking style which focuses on external factors than turning attention to inwards conflicts, emotions.

Sample

For the purpose of this research study, young adults represented the target population using purposive sampling. The total number of sample consisted of 346 participants, and after using screening criteria (inclusion criteria), the included sample was of 267 participants chosen to undergo data analysis. Sample comprised both male participants ($n = 82$) and female participants ($n = 185$), ranging in age from 18 to 25 years.

Below are the sample representation characteristics –

- **Inclusion criteria:** Participants were eligible between 18 and 25 years old who possessed proficiency in the English language. Additionally, participants needed to be enrolled in an academic study program and/or employed. This inclusion criteria were ensured to select young adults falling in the age range as given by WHO and could read and fill the responses.
- **Exclusion criteria:** Participants formally diagnosed with a psychiatric and/or medical/terminal illness by a professional were excluded from participation. This criterion was used to avoid confounding factors of pre-existing illnesses to affect the results.
- **Sampling technique:** Purposive sampling technique was employed to gain valuable and relevant data from the participants focusing on the research question.

- **Participant characteristics:** Participant characteristics included sex, geographical background, number of siblings, and an existing stressor.
- **Sex:** The distribution of male and female participants in the sample was noted, allowing for an analysis of potential gender differences in the study variables.
- **Geographical Background:** Participants' residences were categorized as urban, semi-urban, or rural, providing insights into the potential influence of geographic factors on the study variables.
- **Number of Siblings:** Information on a single child, having one sibling, two siblings, or more than two siblings was collected. This characteristic was issued to note if family systems and birth order can influence these dynamics.
- **Stressor:** The presence or absence of a current ongoing stressor was determined for each participant. Additionally, COVID19 was significantly impacting throughout the world.

Measures

Forms of self-criticising/attacking and self-reassuring scale (FSCRS)

In 2004, Gilbert, Clarke, Hempel, Miles and Irons published the forms of self-criticising/attacking and self-reassuring scale. This is a self-report with twenty-two items assessing levels of self-criticism and self-reassurance when things aren't right. The three subscales are- inadequate self (IS) assessing personal inadequacy, hated self (HS) assessing persecutory desires towards self, and reassured self (RS) exploring self-soothing behaviour towards self when upset. The responses are calculated on a Likert scale, five point (0 to 4).

Psychometric properties such as reliability and validity of FSCRS includes high correlation of Cronbach alpha in both, clinical and non-clinical sample (Baião et al., 2015).

Ruminative response scale (RRS)

Ruminative Response Scale (RRS) is a subscale of Response Style Questionnaire, developed by Nolen-Hoeksema (1991). RRS is a self-report measure of assessing repetitive thinking when in a negative state. RRS consists of twenty-two items with three sub-factors namely, brooding, reflection and depression. The responses are evaluated on a Likert scale, that is four point (1 to 4). The higher score suggests higher degrees of ruminative tendencies are present.

RRS has well established and validated psychometric properties. The reliability between brooding and reflection subscales are high ($\alpha = 0.77$ and 0.72) (Trenor et al., 2003).

Cronbach alpha of RRS ranges between 0.88 to 0.92 (Ruiz et al., 2017).

Perth alexithymia questionnaire (PAQ)

Preece, Becerra, Robinson, Dandy and Allan distributed Perth Alexithymia Questionnaire (PAQ) in 2018. PAQ is a self-report consisting twenty-four items, assessing the trait of alexithymia. The questionnaire consists of five subscales. The responses of the questionnaire are evaluated using a Likert scale, seven point (1 to 7).

Associations between TAS-20 and PAQ subscales reported good reliability. However, TAS-20 only measures for negative emotions, while PAQ measures for both, positive and negative emotions. PAQ is considered to be more apprehensive (Preece et al., 2020).

Data collection procedure

Given the unprecedented times of pandemic (covid19), all the data was gathered by a virtual medium to ensure convenience. Google forms were used to seek consent of the participants, inform the purpose of the study, explained about withdrawal rights, and share the risks/benefits if any to the participants.

The responses obtained through Google forms were then screened based on the criteria outlined in the study to finalize the sample. Only those participants who were eligible were included in the end sample. To score and code the responses, standardized instructions provided in the assessment tools (FSCRS, RRS, and PAQ) were followed which are publicly available. Additionally, permission was taken from the respective authors. The scoring process was custom-made to meet the requirements of the analysis software used for data processing.

The obtained scores were then subjected to further analysis for descriptive statistics (correlational analysis) using IBM SPSS Software Version 28.0 as it was widely available for efficient use. However, it is important to note that a trial version may have limitations such as number of variables and time period for it is available. None of those concerns impacted this research study. For inferential statistics, Stata Version 13 was used to conduct regression analysis such as structure equation modelling and mediation analysis.

Data analysis

Correlation and series of regression analysis were employed to explore the relationships and patterns within the collected data.

- **Correlation:** To assess linear associations between variables of self-criticism, rumination and alexithymia, Pearson product moment coefficient was used.
- **Structural equation modelling (SEM):** To examine the direct effect of the predictor on the outcome without considering the mediators, such as inadequate self with brooding, reflection and depressed this technique was employed.
- **Mediation Analysis:** It's used to investigate the indirect effect of a mediator on the relationship between predictor and dependent variable. For example, to understand the effect of difficulty identify emotions on inadequate self to transform hated self.

Ethical considerations

The research study adhered to several ethical considerations to ensure the rights and well-being of the participants:

- **Informed consent:** A written consent was received virtually from all participants, explaining participation and withdrawal rights; risks and benefits; confidentiality and anonymity.
- **Participant information:** Voluntary participant rights were explained to all the participants. Personal information of all participants was kept confidential and anonymous. This information is only accessible to the researcher. No form of deception was used during the study.
- **No monetary incentives:** Monetary incentives or compensation of any kind were not offered.
- **Researcher contact details:** Contact details of the researcher and supervisor were shared with the participants for any clarification, ensuring open channels of communication and suggestions.
- **Screening for psychological/medical conditions:** Participants were screened for any psychological/medical conditions. Further follow-up was initiated with participants if any severe problems were suggested from collected data. No screening tools were used, except demographic reference form.

Ethical guidelines

- The researchers followed the code of ethics enlisted by American Psychological Association, to report honestly; safe storing of the raw data for 5 years; and shared acknowledgements of ownerships, funding, and participation.

Results

The socio-demographic findings reveal the sample $n = 267$ participants were on average 20.82 years old ($SD = 1.81$). It comprised both male participants ($n = 82$) and female participants ($n = 185$), ranging in age from 18 to 25 years. The sample consisted of 69.3% from female sex wherein, the data relied partially on 77.5% from urban backgrounds such as regions of North India. The participant family composition such as number of siblings include 64.8% to have one sibling, 16.5% have two siblings and 14.6% are single child. 64% of the sample ($n = 171$) agrees to presence of a stressful factor such as academic, family and pandemic (COVID19) (Table 1).

Note. Significant correlation between constructs (inadequate self, reassurance self, hated self) of self-criticism and constructs (brooding, reflection, depressed) of rumination, $p < 0.01$

Inadequate self has positive association with brooding ($r = 0.61$, $p < 0.01$) and depressed ($r = 0.71$, $p < 0.01$). Results of the study are constant with past studies of Satyshur et al. (2018) and Gilbert et al. (2004).

Hated self also has a positive correlation with brooding ($r = 0.45$, $p < 0.01$) and depressed ($r = 0.54$, $p < 0.01$) (Table 2).

Note. Significant correlation between constructs (inadequate self, reassurance self, hated self) of self-criticism and constructs (difficulty identifying & describing negative emotions, difficulty identify & describing positive emotions, external oriented thinking) of alexithymia, $p < 0.01$

Results indicate a weak positive correlation between hated self and difficulty identifying negative emotions

Table 1 Demographic characteristics of participants

Characteristic	<i>n</i>	%
Sex		
Male	82	30.7
Female	185	69.3
Geographical background		
Urban	207	77.5
Semi-Urban	46	17.2
Rural	14	5.2
Siblings		
Single child	39	14.6
One	173	64.8
Two	44	16.5
More than two	11	4.1
Stressor		
Present	171	64
Absent	96	36

$N = 267$. Participants were on average 20.82 years old ($SD = 1.81$)

Table 2 Pearson correlation between variables of self-criticism and variables of rumination

Constructs	<i>n</i>	Brooding	Reflection	Depressed
Inadequate Self	267	0.610**	0.335**	0.714**
Reassurance Self	267	0.450**	-0.178**	0.532**
Hated Self	267	0.453**	0.292**	0.547**

**significant at 0.01 level

($r = 0.25$, $p < 0.01$). Consistent with past literature, people with self-criticism traits are not able to identify emotions and show higher association with negative affect (Lumley, 2000; Sifneos, 1987). Inadequate self has a positive link with difficulty in identifying emotions ($r = 0.340$, 0.322); difficulty in describing emotions ($r = 0.303$, 0.302) and externally-oriented thinking ($r = 0.201$) (Table 3).

Note. The result findings indicate that model fit is not significant and only causal linear regression coefficients were noted.

Inadequate self significantly predicts—brooding with a regression coefficient of 0.200 ($p < 0.001^*$); reflection with a regression coefficient of 0.096 ($p < 0.001^*$); and depressed with a regression coefficient of 0.460 ($p < 0.001^*$). These findings indicate higher levels of inadequate self are associated with increased levels of brooding, reflection and depressed.

Inadequate self significantly predicts difficulty identifying negative feelings with a regression coefficient of 0.209 ($p = 0.001^*$); difficulty identifying positive feelings with a regression coefficient of 0.125 ($p = 0.020^*$); and difficulty describing negative feelings with a regression coefficient of 0.327 ($p < 0.001^*$). This implies that higher levels of inadequate self are associated with greater difficulty in describing negative feelings.

Hated self significantly predicts depressed with a regression coefficient of 0.190 ($p = 0.028^*$). This suggests that higher levels of hated self are associated with increased levels of depression.

Reassurance self significantly predicts brooding with a regression coefficient of -0.097 ($p = 0.002^*$); and depressed

Table 3 Pearson correlation between variables of self-criticism and variables of alexithymia

Constructs	<i>n</i>	Inadequate self	Reassurance self	Hated self
NDIF	267	0.340**	-0.253**	0.250**
PDIF	267	0.322**	-0.273**	0.298**
NDDF	267	0.303**	-0.188**	0.149**
PDDF	267	0.302**	-0.253**	0.220**
GEOT	267	0.201**	-0.243**	0.222**

** significant at 0.01 level

with a regression coefficient of -0.234 ($p < 0.001^*$). The findings suggest that individuals with a higher reassuring self tend to exhibit lower levels of brooding and depression.

Reassurance self significantly predicts difficulty describing feelings with a regression coefficient of -0.132 ($p = 0.055^*$). The p -value is marginally significant, suggesting that individuals with a higher reassuring self may exhibit a tendency towards faintly lower difficulty in describing negative feelings.

Reassurance self significantly predicts external oriented thinking with a regression coefficient of -0.288 ($p = 0.016^*$). This indicates that individuals with a higher reassuring self tend to exercise lower levels of external thinking (Table 4).

Note. The result indicates reassurance self has strong significant negative predictive relationship with rumination with coefficient -7.94 ($p = 0.003^*$). This implies an inverse relationship such that, when reassurance self increases, rumination tends to decrease.

Analyzing the indirect effect reveals that external oriented thinking mediates the relationship between reassurance self and rumination with coefficient -2.40 ($p = 0.017^*$). Reassurance self has a significant negative predictive relationship with external oriented thinking with coefficient of -4.10 ($p = 0.000^*$). Reassurance self shares an inverse relationship with external oriented thinking. While, external oriented thinking has a significant positive predictive relationship with rumination with coefficient 2.96 ($p = 0.003^*$). This indicates that as external oriented thinking increases, rumination also tends to increase.

This model indicates that there is 35% variance in rumination which is the combined effect of reassurance self and external oriented thinking ($mc2 = 0.348$) using Bentler – Raykov squared multiple correlation coefficient. The findings indicate young adults with reassuring self will engage

Table 4 Structural equation modeling (SEM) to determine influence of variables of self-criticism on variables of rumination and alexithymia

Relationships	Standardized regression coefficients	z-values	p-values	Hypothesis results
IS → Brooding	0.200	7.42	0.000*	Supported
IS → Reflection	0.096	3.30	0.001*	Supported
IS → Depressed	0.460	9.77	0.000*	Supported
HS → Brooding	0.062	1.25	0.210	Not Supported
HS → Reflection	0.100	1.86	0.063	Not Supported
HS → Depressed	0.190	2.20	0.028*	Supported
RS → Brooding	-0.097	-3.16	0.002*	Supported
RS → Reflection	0.006	0.20	0.841	Not Supported
RS → Depressed	-0.234	-4.34	0.000*	Supported
IS → DIF (negative)	0.209	3.44	0.001*	Supported
IS → DIF (positive)	0.125	2.32	0.020*	Supported
IS → DDF (negative)	0.327	4.11	0.000*	Supported
IS → DDF (positive)	0.172	2.86	0.004*	Not Supported
IS → External oriented thinking	0.056	0.54	0.592	Not Supported
HS → DIF (negative)	0.056	0.50	0.614	Not Supported
HS → DIF (positive)	0.171	1.73	0.084	Not Supported
HS → DDF (negative)	-0.154	4.28	0.000	Not Supported
HS → DDF (positive)	0.030	0.27	0.784	Not Supported
HS → External oriented thinking	0.296	1.54	0.123	Not Supported
RS → DIF (negative)	-0.105	-1.51	0.131	Not Supported
RS → DIF (positive)	-0.114	-1.85	0.065	Not Supported
RS → DDF (negative)	-0.083	-0.92	0.359	Not Supported
RS → DDF (positive)	-0.132	-1.92	0.055*	Supported
RS → External oriented thinking	-0.288	-2.41	0.016*	Supported

IS Inadequate Self; HS Hated Self; RS Reassurance Self; DIF Difficulty Identifying Feelings; DDF Difficulty Describing Feelings. Fit indices: $Chi-square/df = 990.77$, $CFI = 0.350$, $RMSEA = 0.35$; *significant at 0.05 level

less on external cognitive thinking styles and ruminative tendencies (Tables 5 and 6).

Note. The findings suggest relationship between inadequate self with rumination has no significant mediating effect of alexithymia (Tables 7 and 8).

Discussion

The study examines the correlation between self-criticism, rumination, and alexithymia, and the influence of variables of self-criticism on variables of rumination and of alexithymia. It also investigates the role of mediators, thinking style and alexithymia.

According to Gilbert et al. (2004), inadequate self and hated self, develop from social comparisons made with an out-group with respect to achievements or goals. The underlying or hidden aspects of self-critical traits might develop due to the parent–child relationship. Moreover, self-criticism mediated the relationship of negative parenting on depression (Irons et al., 2006).

The study found that greater levels of brooding, and depression are related with increased levels of inadequate self. This means that if someone tends to focus repeatedly on negative matter, or experience more depressogenic content, they are likely to have higher sense of personal inadequacy. Parallel with past and current review, inadequate-self correlated with depression, anxiety, shame, and pessimism (Castilho et al., 2015; Leboeuf et al., 2020).

New developments emphasize to notice the configuration of the variables of rumination. Such that, Kim and Kang

Table 5 Mediation analysis to assess the indirect effect of external thinking style on relationship of reassurance self and rumination

Effect	Estimate	SE	z	p	% Mediation
Direct	−0.232	0.029	−7.94	0.003*	
Indirect	−0.017	0.007	−2.40	0.017*	35%
Total	−0.249	0.029	−8.41	0.000*	

*Correlation is significant at 0.05 level

Table 6 Path estimates

Path	Estimate	SE	z	p
RS → EOT	−0.418	0.102	−4.10	0.000*
EOT → Rumination	0.042	0.014	2.96	0.003*
RS → Rumination	−0.232	0.029	−7.94	0.003*

RS Reassurance Self; EOT External oriented thinking; *Correlation is significant at 0.05 level

LR test of model: Chi-square (1)=0.04, Probability > chi2=0.845

Table 7 Mediation analysis to assess the indirect effect of alexithymia on relationship between inadequate-self and rumination

Effect	Estimate	SE	z	p
Direct	0.247	0.020	11.84	0.000*
Indirect	0.011	0.006	1.68	0.093
Total	0.259	0.020	12.68	0.000*

*Correlation is significant at 0.05 level

Table 8 Path estimates

Path	Estimate	SE	z	p
IS → Alexithymia	0.222	0.0388	5.73	0.000*
Alexithymia → Rumination	0.052	0.029	1.76	0.078
IS → Rumination	0.247	0.020	11.84	0.000*

IS Inadequate Self; *Correlation is significant at 0.05 level. LR test of model: Chi-square (12)=180.76, Probability < chi2=0.000

(2022) found that brooding comprises of motivational self-focus, highlighting self-thoughts which are distressing in content, and self-judgements. Neurotic self-focused thinking was allied to lower levels of well-being, life satisfaction, self-esteem and emotional states (Newman & Nezlek, 2019). It is noticed that brooding rumination is consistently correlated with reduced capacity of widening conceptual thinking and depression (Raffaelli et al., 2021). This implies that the components of brooding and the dynamic structure of brooding impacts the internal self-perceptive states. The channel between stress to depression is greatly affected by inadequate self (Kotera et al., 2022).

People high on self-critical trait show higher likelihood of ruminative tendencies and negative perfectionism (Thew et al., 2017). Second finding of the study reveals higher levels of hated self are linked to increased levels of depression, while having a reassuring self is correlated with lower levels of brooding and depression. This implies that self-harming behaviours are associated with psychopathological markers of depression. On the other hand, if a person is able to access their reassuring self, they are less likely to engage in passive mood oriented thoughts and experience lower levels of depression. This finding is recently concluded by Kotera et al. (2022) in university students reporting, hated self was connected with depression and anxiety. However, reassuring self was not positively connected to depression. Additionally, inadequate self has greater correlation with depression when compared with hated self. This contrasting finding underlines the relevance of socio-cultural aspects such as gender and cultural coping of self-harming behaviour (Kotera et al., 2022).

Past research evidence suggests inability to identify emotions, maladaptive coping and ruminative style qualify as

predictors of self-harm (Borrill et al., 2009). Related findings are replicated in this study by emphasizing the role of reassuring self and inadequate self, individuals with an accessible reassuring self may have less difficulty in describing their negative feelings. Conversely, individuals with higher levels of inadequate self, have limited awareness of emotional-self aspects. People may struggle to recognise and express their undesirable emotions effectively. Simos (2022) reported compassion focused work can facilitate counteracts on self-criticism and improve internal self-alignment. New findings indicate self-reassurance protects people from thought derailment, which can further be enhanced to improve expressivity by focusing on compassion focused psychotherapy work with such clients (Colman et al., 2022). Thought derailment can often interrupt and interfere in bringing our focus inwards. For example, maintaining a connection with our emotional feelings.

Self-criticism and attributional styles portray the role of culture in shaping thinking styles (Naveeda & Aftab, 2021). The finding of this study indicates reassuring self is also associated with lower levels of external oriented thinking. The mediation analysis findings suggest that people having reassuring self tend to engage less on external factors and reduce brooding, reflection and depressed.

This finding is important for psychotherapists to use in therapeutic intervention such that, clients who can access more self-reassuring version of themselves tend to focus less on external factors. They are able to bring their attention onto internal conflicts and feelings that using defenses. Psychotherapeutic work focusing on inward work with clients such as tone, body expression, experiential work on self-talk can activate the self-soothing styles and reduce variables of self-criticism, particularly inadequate and hated self (Cunha et al, 2023; Gilbert, 2020).

Previous literature on self-compassion and alexithymia have found negative correlations between subscales of Perth Alexithymia Questionnaire (externally oriented thinking) and self-compassion (Mousavi Asl et al., 2020) and positive association was reported between alexithymia and resistance to experiencing compassion (Duarte & Pinto-Gouveia, 2017). In fact, it is vital to notice that a significant gender difference in the Indian population has been reported by Soni et al. (2018) between 18 – 25 years old male and female college goers. Female college goers scored higher on external oriented thinking style compared to male participants. These findings indicate females adopt external thinking styles more than male participants which means to process inner critical conflicts arising in the unconscious may require potential work in psychotherapy setting. However, divergent findings were reported by Naveeda and Aftab (2021) who found that self-criticism did not have a significant gender difference.

Overall, these findings highlight the relationships between the variables and provide insights into how different factors, such as brooding, reflection, depression, hated-self and reassurance- self, can influence feelings and thought patterns without conscious efforts.

Clinical implications

In a non-clinical patient, the results can help to understand how individuals perceive themselves around stressful situations, cope with distress, and explore measures to reactivity. In a clinical patient, the results can help in planning interventions to reduce these traits and improve psychopathological markers. Personal inadequacy in women specifically can be explored by examining cognitive thinking styles and exploring the interplay of cultural factors reinforcing belief system in therapeutic settings. An increase the use of compassionate models when addressing mistakes and failures can be employed by professionals.

Limitations

- **Participants:** Sociodemographic limitations include, presence of partially demographic variables such as geographical background (77.5%) and female sample (69.3%) which cause bias. Influence of COVID19 as an ongoing stressor was not controlled and screening relied on the self-report of participants. Sample was not controlled for substance, relationship status and relevant family history.
- **Tools:** There was a limitation found in using the tools for variable of self-criticism such that the authors have mentioned Likert scale from 0 – 4 which caused statistical concerns which needed to be rectified before using analysis. There were no composite scores shared in the manual for self-criticism and rumination response style.
- **Analysis:** Some of the variables have reverse causal relationship due to which the construing the best fit model was challenging as there was multi-collinearity among the variables.

Future recommendations

Future researchers may control for interaction effects between constructs of same scale and variables (substance). Clinical interview might explore nature of stressors present separately for men and women to explore the predictors of inadequate self, hated self, brooding, depressed and reassuring self.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s12144-023-05132-9>.

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Data availability The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval Ethical approval was waived by the local Ethics Committee of Amity University, Haryana in view of all the procedures being performed were part of the routine care.

Financial interests The author declares they have no financial interests.

Non-financial interests Author is a council member at WICCI: Women's Indian Chamber of Commerce & Industry and receives no compensation as a council member.

Conflict of interest Author has no conflicts to report.

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