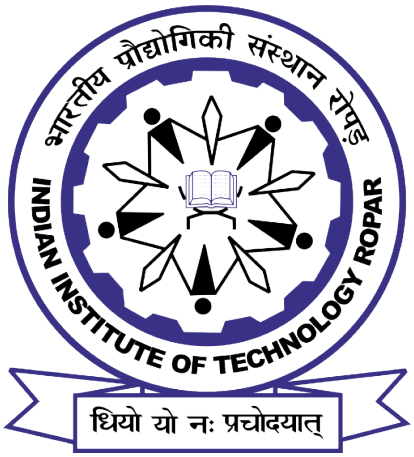
Depressive Symptomatology Among Women in Punjab: An Exploration of Psychological Vulnerabilities, Defenses and Efficacy of a Community-Based Psychosocial Intervention

Doctoral Thesis

by

Navneet Mishra

(2019HSZ0007)



DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

INDIAN INSTITUTE OF TECHNOLOGY ROPAR

April, 2024

Depressive Symptomatology Among Women in Punjab: An Exploration of Psychological Vulnerabilities, Defenses and Efficacy of a Community-Based Psychosocial Intervention

A Thesis Submitted

In Partial Fulfillment of the Requirements

for the Degree of

DOCTOR OF PHILOSOPHY

by

Navneet Mishra
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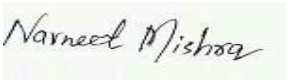
DEDICATED

TO MY

RESPECTED PARENTS

Declaration of Originality

I hereby declare that the work which is being presented in the thesis entitled **Depressive Symptomatology Among Women in Punjab: An Exploration of Psychological Vulnerabilities, Defenses and Efficacy of a Community-Based Psychosocial Intervention** has been solely authored by me. It presents the result of my own independent investigation/research conducted during the time period from July, 2019 to December, 2023 under the supervision of Dr. Parwinder Singh, Assistant Professor, Department of Humanities and Social Sciences, Indian Institute of Technology Ropar. To the best of my knowledge, it is an original work, both in terms of research content and narrative, and has not been submitted or accepted elsewhere, in part or in full, for the award of any degree, diploma, fellowship, associateship, or similar title of any university or institution. Further, due credit has been attributed to the relevant state-of-the-art and collaborations (if any) with appropriate citations and acknowledgments, in line with established ethical norms and practices. I also declare that any idea/data/fact/source stated in my thesis has not been fabricated/ falsified/ misrepresented. All the principles of academic honesty and integrity have been followed. I fully understand that if the thesis is found to be unoriginal, fabricated, or plagiarized, the Institute reserves the right to withdraw the thesis from its archive and revoke the associated Degree conferred. Additionally, the Institute also reserves the right to appraise all concerned sections of society of the matter for their information and necessary action (if any). If accepted, I hereby consent for my thesis to be available online in the Institute's Open Access repository, inter-library loan, and the title & abstract to be made available to outside organizations.



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Certificate

This is to certify that the thesis entitled **Depressive Symptomatology Among Women in Punjab: An Exploration of Psychological Vulnerabilities, Defenses and Efficacy of a Community-Based Psychosocial Intervention**, submitted by **Navneet Mishra (2019HSZ0007)** for the award of the degree of **Doctor of Philosophy** of Indian Institute of Technology Ropar, is a record of bonafide research work carried out under my guidance and supervision. To the best of my knowledge and belief, the work presented in this thesis is original and has not been submitted, either in part or full, for the award of any other degree, diploma, fellowship, associateship or similar title of any university or institution.

In my opinion, the thesis has reached the standard fulfilling the requirements of the regulations relating to the Degree.

Signature of the Supervisor(s)

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Lay Summary

Cases of people experiencing mental health issues have been increasing for nearly past two decades. Mental health is an important part of an individual's overall well-being. Having a member experiencing a mental health issue affects the family as well as the society in many ways. Such conditions prove to be disabling for the individual and inhibits the person's contributions to the society as well. Among the mental health issues, depression is the most common, inflicts disability by affecting functioning across various domains of life, and can be fatal in severe cases. Reports from surveys across the world state that women are more at risk of experiencing depressive symptoms compared to men. Such societal setups where based on gender, women face discrimination, unfairness, violence, and have less autonomy and participation in decision making, render them more vulnerable towards depressive symptomatology. Amid a high treatment gap, and relatively less impact made by the existing therapeutic interventions, the situation looks even more concerning. In such situations where risk is high, availability of treatment and access to it is scarce; community-based interventions may take the management of depressive symptomatology closer to the women in need. These interventions are relatively independent of the requirement of a specialized infrastructure, and hence are seen as a ray of hope. The present study intended to prepare one such community-based intervention keeping the above points in mind to address the depressive symptomatology among women, and to see if it happens to be effective. Before preparing such an intervention it was important to select which factors are negatively or positively related to depression and can be targeted in the intervention to ultimately reduce depressive symptomatology among Indian women in the state of Punjab. Therefore, this study was conducted in two-phases. The first phase involved the selection of relevant positive and negative associates of depressive symptomatology which were either important factors to look for when a person is assessed for presence of depressive symptomatology, or could be enhanced or reduced. Neuroticism (negative emotionality), extraversion (sociable and enthusiastic temperament), rumination (repetitive thinking about negative things), reappraisal (seeing events in a positive light), resilience (ability to bounce back in face of stress), and self-efficacy (belief in one's own actions being capable enough to achieve goals) were selected to be tested in association with depressive symptomatology among women in Punjab. It was found that these factors were significantly related to depressive symptomatology and hence the relatively more changeable ones were suitable to be targeted in the community-based intervention. In the second phase, a five-session community-based

intervention was devised and given to women who were screened for reporting above minimal range of scores on depressive symptomatology. It was found that the intervention was effective and brought about improvement both in depressive symptomatology as well as the associated factors. This study showed the importance of identifying and testing relevant factors associated with depression across different contexts. Also, the study highlighted that community-based interventions can be effective and therapeutic help can be delivered effectively in non-specialized healthcare settings.

Abstract

The prevalence of mental health issues has been witnessing a hike for the last couple of decades. Mental health is an important component of well-being for both an individual as well as the family and the society. Mental health issues affect individual functioning in the personal, social, and occupational domains of life. These issues also hamper the contributions that the affected individuals could have made to society. Among the mental health issues, the most prevalent and disabling is depression, which may also lead to suicidal deaths in severe cases. Global surveys pertaining to mental health have observed that compared to men, vulnerability to depression is higher among women. This vulnerability becomes more concerning when, due to the gender bias in society, women face imposed gender roles, discrimination, injustice, and violence and are left with less participation and autonomy in decision-making. The societal diathesis supplemented with a high treatment gap and scarcity of resources at disposal highlights the need for community-based interventions as the existing approaches have not been able to make a significant impact on the bigger picture. The present study aimed to devise a community-based intervention that could address the issues of relatively higher prevalence of depression and limited access to treatment among Indian women living in the state of Punjab. But prior to the intervention, the identification of relevant psychological vulnerabilities and defences related to depression, as well as the empirical test of their association in this particular context, was important. Therefore, this study was conducted in two phases. The first phase dealt with the identification of relevant factors of transdiagnostic and therapeutic importance in depression, and their association was empirically investigated by assessing 671 women (N=671, Mage=23.71, SDage=6.09) across five districts of Punjab using standardized measures. The results showed that neuroticism, extraversion, rumination, reappraisal, resilience, and self-efficacy were significant predictors of depressive symptomatology among women in Punjab. The results also suggested a pattern, i.e., Psychological Defensive Syndrome (PDS), where women with high scores on extraversion, reappraisal, resilience, and self-efficacy and low scores on neuroticism and rumination experienced less severe symptomatology compared to their counterparts. The second phase targeted the more malleable factors identified and assessed in the first phase by employing a five-session community-based intervention devised to manage depressive symptomatology among the women (Exp. Group: N=114, Mage=23.03, SDage=5.29; Control group: N=37, Mage=24.89, SDage=6.44) screened for depressive symptomatology in non-specialized healthcare settings. The five-session intervention effectively improved the PDS as

well as the depressive symptomatology. These findings shed light on the significance of identified and tested psychological vulnerabilities, as well as the employability and effectiveness of community-based interventions in non-specialized healthcare settings to prevent and manage depressive symptomatology among women in India. While the PDS can serve as a potential criterion for early identification of depressive symptomatology, the community-based and modular nature of the intervention provides a viable framework for the growth and sustainability of mental health programs in non-specialized healthcare settings.

Keywords: Depressive symptomatology, community-based intervention, Indian women, non-specialized healthcare settings, rumination, reappraisal

List of Publications from Thesis

Journal

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Singh, P., & Mishra, N. (2023). Exploration of a Psychological Defensive Syndrome Against Depressive Symptomatology in a Community Sample of Indian Women. *Psychological Reports*, *126*(5), 2237-2265. https://doi.org/10.1177/00332941221092657

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Conference presentations

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Notations and Abbreviations

ANOVA	Analysis of Variance	GSE	General Self-efficacy Scale	R^2	Determination coefficient
APA	American Psychiatric Association	HFERST	Heidelberg Form for Emotion Regulation Strategies	RMSEA	Root Mean Square Error of Approximation
B	Unstandardized regression coefficient	HIV	Human Immunodeficiency Virus	SD	Standard Deviation
BAT	Behavior Activation Therapy	ICD	International Classification of Diseases	SD_{age}	Standard deviation Age
BDI-II	Beck Depression Inventory-II	IPIP-NEO-120	International Personality Item Pool NEO-120	SE	Standard Error
CBT	Cognitive Behavioral Therapy	IPT	Interpersonal Therapy	S-REF Model	Self-Regulatory Executive Function Model
CD-RISC	Connor-Davidson Resilience Scale	LL	Lower Limit	SPSS	Statistical Package for Social Sciences
CFI	Comparative Fit Index	LMICs	Low-Middle Income Countries	SRMR	Standardized Root Mean Square Residual
CI	Class Interval	M	Mean	t	Size of the difference relative to the variation
CMDs	Common Mental Disorders	M_{age}	Mean age	TLI	Tucker Lewis Index
Cohen's f^2	Estimate of effect size	mhGAP	Mental Health Gap Action Program	UL	Upper Limit
Cronbach's α	Reliability coefficient	N	Number of participants	VIF	Variance Inflation Factor
DALYs	Disability Adjusted Life Years	NGOs	Non-Governmental Organizations	WHO	World Health Organization
DSM	Diagnostic and Statistical Manual for Mental Disorders	NIMHANS	National Institute of Mental Health and Neurosciences	YLDs	Years lived with disability
F	Ratio of explained and unexplained variances	p	probability	β	Regression coefficient
FFM	Five-Factor Model	PDS	Psychological Defensive Syndrome	η^2	Estimate of effect size
GABA	Gamma Aminobutyric Acid	PST	Problem-solving Therapy		
GFI	Goodness of Fit Index	r	Correlation coefficient		

Chapter 1
Introduction

1.0 A brief overview of the research work

Maintaining sound mental health is indispensable for one's overall well-being. Issues pertaining to mental health deteriorate an individual's well-being. Among these mental health issues, depression has been a matter of growing concern. Depression is highly prevalent among mental disorders, disabling, and has severe adverse consequences in all domains of life, i.e., social, psychological, economic, and others. A high treatment gap further makes the situation problematic, especially in developing countries where the resources at disposal may not be sufficient. In such a scenario, recent findings about the success of community interventions come as a ray of hope. Since not many studies have been conducted investigating the application of community interventions, there is a need to explore whether a community-based intervention could be an effective solution in a particular setting.

In India, the societal setup may not be as favourable for women as it is for men. It is quite patriarchal in nature, leading to women experiencing more distress in the form of discrimination, gender-based violence, and less social and financial autonomy. This explains why, in line with global statistics, women in India stand at a higher risk of depression than men. Facing a higher risk of a disabling and breaking mental health issue such as depression amid a dominantly less favourable societal setup renders women a population that requires prioritized screening of vulnerabilities and defences as well as devising community-based treatment interventions to address the issue.

The present study intended to devise a community-based intervention targeting identified psychological vulnerabilities and defences to reduce depressive symptomatology.

Before devising the intervention and testing its effectiveness, relevant psychological vulnerabilities and defences for depression were to be identified from the literature, and their association was to be confirmed empirically in the population for which the proposed intervention is meant. Thus, the present study will be conducted in two phases. The first phase would identify the psychological vulnerabilities and defences associated with depressive symptomatology and empirically test the relationship in the concerned population. Thereafter, the second phase would devise an intervention targeting depressive symptomatology based on the findings from the first phase and test its effectiveness.

The following chapter presents the description and status of the mental health scenario in recent years with a focused and detailed elaboration of depression, its modern and previous conceptualizations, theories posing an explanation of mechanics underlying the mental health issue, and its identified correlates across studies. Thereafter, theoretical and therapeutic approaches to depression are covered, followed by the condition of women in the Indian societal setup and how that impacts the onset and development of depressive symptomatology.

1.1 Mental health at a glance

World Health Organization (WHO) defines health as a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity (World Health Organization, 2023). Among the three components of health, mental health is vital as it supports many cognitive and interpersonal abilities that help people respond adaptively to environmental demands (World Health Organization, 2022a). Also, maintaining positive mental health stabilizes constructive behavioural patterns, enhances self-image, and improves relationships (Lee et al., 2019; Taniguchi & Thompson, 2021). Further, Keyes (2014) proposed three components of mental health, namely, emotional well-being, psychological

well-being, and social well-being. Happiness, interest in life, and satisfaction are some examples of emotional well-being; liking most of one's own personality, being adept at handling daily obligations, and self-awareness and realization are examples of psychological well-being; social well-being implies positive social functioning, which includes having something to offer to the society, feeling a part of a community, believing that society is improving for everyone, and having a clear understanding of how society operates (Galderisi et al., 2015). Disturbances in one's mental health may result in physical health issues (Firth et al., 2019), deteriorated daily functioning, problems with cognitive functioning, issues in interpersonal relationships and job performance (Hennekam et al., 2020; Laird et al., 2017; Peltz et al., 2019; Sakuma et al., 2022).

1.2 Mental Health Issues and Common Mental Disorders

Mental health issues comprise mental disorders, psychosocial disabilities, and mental states pertaining to significant distress, impairment in functioning, or risk of self-harm (World Health Organization, 2022c). The Diagnostic and Statistical Manual of Mental Disorders-5 TR (DSM-5 TR; American Psychiatric Association, 2013) defines a mental disorder as a syndrome that features clinically evident and unfavourable changes in thought processes, emotion regulation, and behaviour of any person, which results in dysfunction in their biological, psychological and developmental processes. Another diagnostic approach, the International Classification of Diseases-11 (ICD-11), defines mental disorders as conditions involving clinically significant issues in an individual's functioning at the cognitive, emotional, or behavioural front (World Health Organisation, 2022c).

The World Mental Health Report-2022 (World Health Organization, 2022b) suggests that the prevalence of mental health issues is high across the world. Nearly 970 million people across the globe were living with a mental health condition in 2019, and an increment

of 25% in that number has been witnessed in the past two decades. Across all ages, mental health issues were responsible for around 10% of the disability-adjusted life years (DALYs). Also, mental disorders have a share of around 5% of the global burden of diseases (World Health Organization, 2022b). As an estimate, mental health conditions have cost the world economy around $ 2.5 trillion per year in the form of lost productivity due to poor health, which is projected to hike around $ 6 trillion by 2030 (The Lancet Global Health, 2020).

Mental health conditions take an indirect toll on the society as well. People with mental health conditions face stigma, avoidance, discrimination, and violation of their basic rights. Because of these experiences, mental health issues result in social isolation, interrupted or unfinished education, and unemployment (World Health Organization, 2022b). Despite being prevalent, disabling, and causing economic loss, these issues are underserved to a severe extent. All over the world, mental health systems are struggling due to the lack of information, research, governance, resources, and services. The expenditure by countries on mental health, the ratio of psychiatrists and psychologists to the population, service coverage, and quality of care are insufficient. Betterment of mental health scenarios will lead to favourable changes in the domains of public health, human rights, and socioeconomic development. These changes may be set in motion by strengthening the health system's appropriate and affordable basic interventions in community settings (World Health Organization, 2022b).

Among the mental health issues, depression and anxiety disorders (Common Mental Disorders; CMDs) are most prevalent across countries. Both of these disorders have been quite common across gender and age (Silva Junior et al., 2020). CMDs have been found to be affecting a much larger population across the globe than any other disorder. Depression and anxiety can deteriorate an individual’s overall well-being as well as quality of life (Bastos et al., 2018; Silva Junior et al., 2020). Depressive disorders are comprised of disruptive mood

dysregulation disorder, major depressive disorder (Commonly known as depression), persistent depressive disorder, premenstrual dysphoric disorder, substance/medication-induced depressive disorder, other depressive disorders, and unspecified depressive disorders (American Psychiatric Association, 2013). Among these disorders, major depressive disorder (Depression) is the most prevalent disorder, a disabling condition that significantly deteriorates one's quality of life and, in severe cases, may lead to suicidal attempts as well. Considering the gravity of this mental disorder, researchers have been trying to find ways to address depression. Before discussing the volume of research on depression, the conceptualizations of the disorder need to be briefed.

1.3 Modern conceptualization of depression

For the diagnosis of depressive disorders, most psychologists and psychiatrists follow two documents of classification, i.e., the International Classification of Diseases-11 (World Health Organisation, 2022c) and the DSM-5 TR (American Psychiatric Association, 2013). The preliminary diagnosis of a depressive disorder is assessed by some common presentations at the time of diagnosis. Persistent sadness and significantly lowered interest in pleasure from activities being experienced for the last two weeks are the core symptoms. Additionally, at least five symptoms should be present such as significant weight loss or gain, significant change in appetite, insomnia or hypersomnia, psychomotor agitation or retardation, fatigue, feeling of guilt and worthlessness, diminished ability to think or concentrate, indecisiveness, and recurrent thoughts of death. The depressive episode must be accompanied by distress or impairment in social, occupational, or other critical areas of functioning that are clinically substantial (American Psychiatric Association, 2013).

1.4 Early conceptualization of depression

Entirely different from our modern clinical and academic perception of depression, the concept was actually known as melancholia before the emergence of modern psychiatry in the later part of the eighteenth century (Kendler, 2017; Telles-Correia & Marques, 2015). Hippocrates, the Greek physician, is regarded as a pioneer among those who discussed melancholia or depression clinically in their work. According to him, among the four humours (blood, phlegm, yellow bile, and black bile), the black bile from the spleen, when dominant during the cold, dry, and autumn seasons, causes melancholia (Jackson, 1986). Later, Aristotle explained two types of melancholy: natural and pathological. Natural melancholy, as he proposed, would lead to intellectual genius, whereas pathological melancholy was when an excess of black bile translated into overwhelmingly depressive states. In the second century BC, Galen also subscribed to a similar conclusion about the deterministic role of black bile in melancholy (Telles-Correia & Marques, 2015). At the same time, Aretaeus of Cappadocia considered hyper-religiosity, guilt, and sacrifice to be melancholic traits (Mason et al., 2016).

In the phase between the sixteenth and eighteenth centuries, melancholy was recognized and medicalized as a disease (Bourin, 2020). Philippe Pinel not only started the classification of the illnesses but also initiated and encouraged a clinical attitude toward the illnesses. Out of Pinel's four categories of mental illnesses, melancholy was one which was described as a condition where delirium is confined to an object, and the state might be exalted or cheerful. Later, a student of Pinel, Etienne Esquirol, who was a French psychiatrist, produced a more accurate classification of mental illnesses and specified the detection of melancholy, which he termed as lypemanie (Huertas, 2014).

The nineteenth century marked the postulation of the theory of degeneration by Benedict Augustin Morel. According to Morel, due to the deteriorating influence of the surroundings, odd social factors, and moral pressures, a person's nervous system experiences persistent aggression, which results in conditions such as melancholy (Bourin, 2020). Later, melancholy was defined as depressive feelings with anxiety and delirious thoughts. Still, in this period, structured assessment and diagnostic criteria seemed to be missing among clinicians and nosologists (Hoff, 2015).

At the juncture of the nineteenth and twentieth centuries, the position of melancholy became complicated. The writers used to avoid the word ‘melancholy’; psychiatrists had nearly forbidden it. Meanwhile, melancholy emerged in psychoanalysis with the credit to Sigmund Freud (Bourin, 2020). Freud (1917) published 'Mourning and Melancholia,' which depicted melancholia as the loss of a loved one. The only exception was that the loss in the case of melancholia used to be an unconscious one and not a real one, as in the case of mourning.

1.5 Conceptualization of depression in the Indian context

The Indian knowledge system has long included contemporary ideas about health, medicine, and surgery. The term "Ayurveda" is well-known in this context. As per Ayurveda, health is crucial for the achievement of the four highest goals of human life, i.e., *dharma* (virtue), *artha* (prosperity), *kama* (pleasure), and *moksha* (liberation). Among significant roadblocks to achieving these objectives are illnesses and distress. One should make every effort to maintain good health because it is essential for achieving the objective (Ravishankar & Shukla, 2007). According to Ayurveda, the cosmos is made up of the following five fundamental substances: *Prithvi* (Earth), *Jala* (Water), *Teja* (Fire), *Vayu* (Air), and *Akash* (Space/Ether). These fundamental components combine to form the *Vata*, *Pitta*, and *Kapha*

Tridoshas, which are the three humors that make up the human body. The fundamental psycho-biological processes of the organism are governed and controlled by these humors. The state of optimal equilibrium between the doshas is represented by the body's health condition. Anytime this balance is upset for whatever cause, a disease or disorder develops (Dey & Pahwa, 2014).

Depression is present in old Ayurvedic texts in different references that are dispersed. It is considered a state of emotion (*manasika bhava*) and sometimes also a disease (*manasika vyadhi*). Scholars in the past have tried to link the mental health issue with *vishada* (despair), *avasada* (depression), *manodhukhaja unmade* (depressed mania), and *kaphaja unmade* (phlegm mania). As there are a number of causations, understanding the diagnostics of depression using fundamental ayurvedic principles such as *sharirika dosha* (bodily humor), *manasika dosha* (attributes of the psyche), *satwa bala* (strength of mind), *jnanendriya* (sense organs), *karmendriya* (motor organs), *agni* (biological fire), *dhathu* (tissues sustaining the body), *srotos* (channels or pathways of the body) and *ojus* (vital essence of life) is essential (Tubaki et al., 2021).

Additionally, as far as *gunas*(tendencies) are concerned, in the case of depression, the main *dosha* (imbalance/defect) is *tamas* (dullness), as it is characterized by loss of activity, ignorance, and disinterest. The affected always look dispirited, cynical, and disinclined to the virtuous way of life; they suffer from inactivity, dullness, and hypersomnia. So, depression is a condition of the preponderance of *tamas* over *rajas* (passion). Ayurveda also mentions certain therapeutic and management techniques for the disorder, such as *yukti vypashraya* (pharmacological), *satwawajaya* (counseling), and *daiwivyapashraya* (spiritual techniques) etc. (Tubaki et al., 2021).

1.6 Prevalence of depressive disorders

Looking at some global surveys, depression is a disorder that has been ringing the alarms for a long, but the issue has become more serious after the onset of a seemingly prolonged pandemic of the COVID-19 virus. In 2019, around 280 million people, i.e., 3.8% of the global population, were living with depression (World Mental Health Report, 2022b). Around 50 percent of this population resides in the region of South-East Asia. Additionally, depression, with 7.5% of contribution to the total years lived with disability, has been the single largest shareholder in global disability. Also, with around 800000 casualties, depression stands as a leading cause behind suicidal deaths across the world (World Health Organization, 2017). In India, the prevalence of depressive disorders was 3.3% in the year 2016, and depression was the largest contributor to DALYs among mental disorders (Sagar et al., 2020).

The unprecedented hazardous scenario of the COVID-19 pandemic only further complicated the status of the disease burden, especially through a sharp rise in mental health issues (Santomauro et al., 2021). The period has witnessed a significant surge in the cases of depression. In a study by (Santomauro et al., 2021), the prevalence of depression was found to be around 30%, with increasing infection rates, economic losses, and reduced mobility among people being the potential causes.

1.7 Depression and potential correlates

A range of psychological variables have been identified and highlighted in the literature as potential correlates of depression. For instance, cognitive bias for negative information has been found to be a potential correlate of depression (Beevers et al., 2019; Cristea et al., 2015). It has also been found that persons with low self-esteem and negative body image are more prone to depression (Mu et al., 2019; Şanlier et al., 2016). Vulnerability

to depression has also been found to be associated with helplessness and loneliness (Erzen & Çikrikci, 2018; Salcioglu et al., 2017). Rumination has been identified as a risk factor for depression, whereas reappraisal and social support have been found to be protective against depression (Alsubaie et al., 2019; Everaert & Joormann, 2020; Liu et al., 2020). While people high on neuroticism have been found to be more at risk of depression, higher extraversion is considered protective against it (Pereira-Morales et al., 2019; Watson et al., 2019). Resilience has also been identified as a significant associate of depression (Kyriazos et al., 2018). Optimism, hope, and self-efficacy have been reported to share a similar relationship with depression (Ji et al., 2017; Kaleta & Mróz, 2020; Torrisi et al., 2018).

1.8 Theories of depression

This section briefly discusses various theoretical approaches to understanding depression. Following are some of the dominant perspectives.

1.8.1 Psychoanalysis and depression

The beginning of the psychoanalytic understanding of depression is marked by the works of Karl Abraham and Sigmund Freud in the early 1900s. Abraham (1911), in his works, put an emphasis on hostility and orality in depression. The work postulated four factors that are significant for the psychogenesis of depression. Firstly, a child must go through all the psychosexual stages successfully to become an adult who is psychologically well, while fixation during any stage can continue into later phases of life and translate into adult neurosis. Secondly, the person will be likely to experience early disappointments in love repeatedly. Thirdly, the first among the disappointments will possibly occur before the fulfilment of oedipal wishes. Finally, an initial disappointment in love may be repeated afterward in the life of the person going through melancholia. These factors lead to the origin of melancholia (Abraham, 1911).

Freud (1917) stated that melancholia may be experienced by people in reaction to an imaginary or vaguely perceived loss that deprives the ego. The melancholic's self-accusations were seen as manifestations of hostility toward the lost loved object. Individuals may unconsciously suppress their hostility or aggression in order to avoid negative consequences and maintain their position within the family or society. This self-regulation is influenced by an internal set of standards and values known as the superego. The aforementioned process gives rise to internalized hostility, which in turn creates a predisposition towards experiencing symptoms of depression. Freud postulated that the association between sadness and inwardly directed violence is influenced by the superego and can be attributed, at least in part, to an individual's anticipation of hostility (which stems from distinct impressions of their parents) and their inherent predisposition towards aggression.

Later, Rado (1928) opined that depressive people have intense narcissistic needs and insecure self-esteem. When they lose their love object, they react with angry rebellion and then try to restore their self-esteem by letting the superego punish their ego. Klein (1934) believed that the susceptibility to depression depended not on continuing traumatic incidents but on the mother-child relationship in the first year of life. Her contribution re-centred psychoanalytic speculations back to the infant's first year to explain the effects of introjection and projection on psychic development. Klein felt that the child, as a defensive technique, denies the complexity of his or her love object and sees it as either all good or all bad. This is a characteristic of the manic-depressive adult. Bibring (1953) departed from classical theory and affiliated himself with the line of thought that viewed depression as an affective state featuring loss of self-esteem. Bibring felt that proneness to depression originated from traumatic experiences in early childhood. However, he added that self-esteem might be decreased, not only by the frustration of the need for love and affection but also by frustration

of other aspirations. In line with the postulates of Bibring, Jacobson (1954) also proposed that loss of self-esteem is at the centre of the issue of depression.

1.8.2 Depression and behaviourism

Proponents of behaviourism school were of the opinion that depression could be a reaction to controlling practices that are aversive, such as aversive social control (Kanter et al., 2008); however, they did not throw much light on the understanding of depression. Later, Ferster (1974) theorized that depression may be a reduced frequency of adjustment behaviour or behaviour that maximizes reinforcing outcomes. Similarly, Lewinsohn (1974) put forward the idea that inadequate reinforcement causes a reduction of behaviours as well as dysphoria, which characterize the main symptoms of depression. There could be three tentative answers to how a lack of reinforcement could happen: Firstly, the reinforcement provided by the environment does not suffice; secondly, the individual lacks the social skills required to avail reinforcement even in such environments where it is actually there; and thirdly, despite obtaining the reinforcement, the individual is unable to relish it (Abreu & Santos, 2008).

1.8.3 Cognitive perspective

Beck (1967), in his cognitive theory, postulated that negative thoughts generated by dysfunctional beliefs are typically the primary cause of depressive symptoms. A direct relationship occurs between the amount and severity of someone's negative thoughts and the severity of their depressive symptoms. A cognitive triad, including negative beliefs about oneself, the world, and the future, predisposes an individual to experience distress and depression. These beliefs in the forms of automatic thoughts, rules, attitudes, and assumptions, as well as core beliefs, happen to be embedded across several levels of cognitive processing. This maladaptive cognitive structure develops a negative worldview towards everything, hopelessness, worthlessness, etc., and results in the presentation of depressive complaints.

1.8.4 Evolutionary perspective

Nesse (2000) considered the adaptive nature and functions of low mood and clinical depression from an evolutionary viewpoint. The possible survival functions include communicating a need for help, signalling one's place in a hierarchy conflict, promoting disengagement from unreachable goals, and regulating patterns of investment of energy. Ongoing theorizing on the evolutionary advantages of depression has focused on identifying how low mood may increase an organism's ability to cope with adaptive challenges within unpropitious environments. Such environments would include those in which effort to pursue a goal is counterproductive, perhaps resulting in danger, loss, or wasted effort. In this manner, depression and its related phenomena may serve adaptive survival functions within environments where it is advantageous to be pessimistic, thus inhibiting certain actions (Hollon et al., 2021).

1.8.5 Depression and Contemporary Models

It is pertinent here to discuss and develop an understanding of some other contemporary models and theoretical formulations in order to have a comprehensive and better understanding of depressive symptomatology and associated mechanisms. One of the most prevalent models to discuss here is the diathesis-stress model (Monroe & Simons, 1991). The diathesis-stress model opines that people possess varying levels of sensitivity to the development of depression. These levels of sensitivities are called diathesis. Diatheses comprise some of the biological and psychological vulnerabilities (Engel, 1980). Some people may have more of these vulnerabilities for the development of depression compared to others. Further, this model states that having sensitivity towards developing depression on its own is not sufficient to cause the condition. However, upon interaction with stressful life events in any domain of life, the sensitivities could cause the condition. According to this

model, the more a person possesses these sensitivities, the less environmental stress is required to make that person experience depression. If someone happens to be less sensitive, higher levels of stress will be required for experiencing the condition.

Similarly, in the low self-esteem model of depression (Brown et al., 1990), it was proposed that negative experiences while interacting with the social environment develop a low self-esteem in a person. This low self-esteem tends to become a diathesis for depression. Meanwhile, the advent of any stressful experience while the person is low on self-esteem translates into depression. Several theoretical formulations have found that depressive symptomatology also has an association with self-esteem, which is contingent and associated with significant others, interpersonal interactions, and set goals (Oatley & Bolton, 1985; Schöne et al., 2015). When the expected outcome in the aforementioned domains is not achieved, it causes a sudden loss of self-esteem. This loss inculcates feelings of hopelessness and worthlessness and leaves the person in a depressive state.

Beck and Bredemeier (2016) proposed a unified model of depression. According to this model, depressogenic beliefs, comprised of negative cognitive triads and negative cognitive appraisals, form a mutually contributing relationship. This relationship, therefore, gives rise to negative automatic thoughts as well as responses, which again contribute to the rise of each other. Negative automatic thoughts result in cognitive and emotional symptoms, whereas autonomic responses cause sickness behaviours. Ultimately, the model postulates that there are few protective factors that are responsible for the reversal of the process, resulting in well-being. Examples of those key reversal factors are restructuring, problem-solving, social support, etc.

In another approach, learned helplessness was highlighted as a significant antecedent factor responsible for depression (Miller & Seligman, 1975). It was theorized that reinforcement contingency, for instance, inescapable punishment, could be a factor

responsible for clinical depression. Two types of learned helplessness were mentioned by Abramson and colleagues (1978). In order to comprehend the claimed correlation between learned helplessness and depression, it is imperative to gain a comprehensive understanding of the two distinct classifications of learned helplessness. Universal helplessness refers to a psychological state characterized by a profound sense of helplessness, wherein individuals perceive their circumstances as being beyond their control and believe that no effective actions can be taken to improve their position. The individual holds the belief that the mitigation of pain or discomfort is beyond the capabilities of any individual. Conversely, personal helplessness is characterized by a more limited scope of perceived powerlessness. The individual may have the belief that others possess the ability to discover a resolution or circumvent the anguish or unease while concurrently perceiving their own personal incapacity to achieve such a resolution. Both forms of helplessness have the potential to result in a state of depression. However, the nature of this depressive state may exhibit variations. Individuals who experience a pervasive sense of helplessness often exhibit a tendency to attribute their issues and their perceived inability to resolve them to external factors. On the other hand, individuals who experience a more localized sense of helplessness tend to attribute their problems and their perceived incapacity to internal factors.

1.9 Broad therapeutic approaches to depression

Depression has been targeted differently by adopting various theoretical approaches. One of these approaches is the psychoanalytic approach. Psychoanalytic researchers view depression in the context of pathological developmental processes driven by unconscious fantasies and conflicts (Corveleyn et al., 2005). For a long-lasting change in depressive symptoms, it is believed that identifying the unconscious determining factors resulting from developmental failures (such as archaic unconscious fantasies stimulated by traumatization,

pathological relationships, burdened life situations, etc.) and resolving idiosyncratic unconscious conflicts are essential (Beutel et al., 2012).

According to the behavioural approach, depression symptoms emerge and persist as a result of diminished environmental rewards, accompanying a decrease in positively rewarded healthy behaviour, reinforcement for depressive or passive behaviours, and punishment for healthy behaviours (Lewinsohn, 1974). According to behavioural theories of depression, behaviours that are intended to escape or avoid stimuli result in a pattern of inactivity and withdrawal. It further lowers the frequency of behaviours that are reinforced positively, which in turn causes, maintains, or exacerbates depressive symptoms (Martell et al., 2001). The major goals of behaviourism as a treatment approach for treating depression are to make the sufferer learn adaptive behavioural patterns and re-develop personal goals in the form of short-, medium--, and long-term life goals (Dimidjian et al., 2011). The therapeutic approach aims to (a) increase engagement in adaptive activities, which are frequently connected to the experience of pleasure or mastery; (b) decrease engagement in activities that maintain depression or increase the risk for depression; and (c) address issues that restrict access to reward or maintain or intensify aversive control (Chan et al., 2017).

Cognitive theory, a prominent, much-explored approach to understanding and treating depression, gives a comprehensive glance at the mechanism of this mental health issue. According to the cognitive theory, depressive symptoms are frequently brought on by negative thoughts and dysfunctional beliefs. The role of a therapist involves assisting the client in recognizing negative or erroneous cognitions and facilitating the substitution of these cognitions with more adaptive and accurate ones. For instance, the individual seeking therapy may experience feelings of low self-worth or hold the belief that their life is characterized by adversity and will continue to deteriorate. Alternatively, individuals may exhibit a tendency to fixate on their own imperfections and deficiencies. Initially, cognitive-behavioural therapy

(CBT) facilitates the individual's recognition of their cognitive processes. Subsequently, it instructs individuals to replace the aforementioned thoughts with more optimistic ones. A shift in mind-set results in an alteration in actions. This intervention has the potential to alleviate symptoms of depression (Scott & Freeman, 2010).

According to positive psychology, people can strive for and achieve a sense of well-being even while they are going through a difficult phase of life (Compton & Hoffman, 2013). Peterson (2006) emphasized that mental health is not just a reduction of the intensity of negative symptoms or their alleviation, but it also comprises the concept of well-being. When faced with hardship on a regular basis, many people start to think negatively and come to the conclusion that they have no influence over their environment. As a result, they become deactivated. Given that positive emotion, engagement, and meaning, together with the subsequent development of positive cognitions and affect, are the opposite of the characteristics that define depression, the positive psychotherapy approach may, therefore, be an effective treatment for depression. Positive psychology interventions aim to elevate the well-being of individuals by enhancing positive emotions, engagement, and meaning in life, thereby mitigating depression (Seligman et al., 2006).

Van Zoonen and colleagues (2014) found that psychological interventions have the potential to reduce the risk of depression by 21% on average. Various studies studied the effectiveness of different therapeutic interventions against depression (Cuijpers et al., 2019), such as cognitive behaviour therapy (CBT; Cuijpers et al., 2013), behaviour activation therapy (BAT; Hirayama et al., 2019), interpersonal psychotherapy (IPT; Cuijpers et al., 2016), problem-solving therapy (PST; Cuijpers et al., 2018), non-directive counselling (Cuijpers et al., 2012) and brief psychodynamic therapy (Driessen et al., 2013). Interventions that can be easy to administer in community samples, non-specialized healthcare settings, and similar non-clinical environments need to be devised.

1.10 Gender differences in depression

Gender differences in depression are quite evident. According to the World Health Organization (2022b), the prevalence of depression among females (4.5%) is quite higher than among males (3.0%). And this difference has been observed across the world and across all age groups. The onset of these differences appears around the age of 12. The difference can be attributed to biological, affective, cognitive factors, negative life events, and other sociocultural factors (Salk et al., 2017); a brief description of each is given below.

1.10.1 Biological factors

Concerning the biological reasons potentially contributing to the gender disparity in depression, genetic studies have found mixed evidence (Howard et al., 2019). However, pubertal hormones have been found to play a significant role in gender differences. Raised levels of adrenal androgens result in early pubertal development, and this creates a different social environment for girls, which may be a risk factor in itself (Ullsperger & Nikolas, 2017). The later phase of pubertal development also leads to higher production of hormones such as estradiol, progesterone, and testosterone. Among these, estradiol has been found to be involved in the regulation of certain systems, such as neural plasticity, stress axis, etc., which play a role in depressive symptomatology (Byrne et al., 2017).

1.10.2 Affective factors

Among affective factors, negative emotionality may be one factor that could explain gender differences in depression. Females have been found to experience higher levels of negative emotionality in infancy, which happens to increase later in life, whereas among males, high levels of negative emotionality witness a lowering effect in the later stages of life (Bradley et al., 2011). Females tend to perceive events as more stressful compared to men, which starts in early adolescence. Negative emotionality may, directly or otherwise, in

interaction with negative cognitive style or stressful events could result in depression (Hyde & Mezulis, 2020).

1.10.3 Cognitive factors

Literature does not posit considerable support for gender differences as far as cognitive style as a vulnerability for depression is concerned (Hyde et al., 2008). However, rumination is a cognitive factor that may explain the gender differences in depression (Johnson & Whisman, 2013). Rumination has been a significant predictor of depressive symptomatology, and it is evident that women engage in rumination more than men do (Spendelow et al., 2017).

1.10.4 Significant life events

Negative life events also contribute significantly to gender differences. These differences are more evident at the level of exposure and appraisal (Hyde et al., 2008). Literature depicts that females are more exposed to harassment than males, and harassment is a negative event linked to depression (Dahlqvist et al., 2016). The higher prevalence of childhood sexual abuse and sexual assault among women also contributes majorly to the gender differences in depression (Stoltenborgh et al., 2015).

1.10.5 Cultural factors

Depression may be considered different from several other medical conditions as it is caused by various psychological and cultural factors and is not just explained by biological factors (Ryder et al., 2011). As discussed in the previous section, gender differences in depression vary across different cultural contexts. In cultural groups that reinforce gender roles that are quite clear and of equal importance, gender differences are negligible in depression (Chentsova-Dutton et al., 2010). In other cultures, wherein women tend to face discrimination or their role is considered inferior to men, depression rates are found to be

higher in women. The experiences of sadness among Indian women have been intricately intertwined with their social environments. It has been observed that women see several factors, such as interpersonal conflict, caring load, marital violence, financial insecurity, adverse reproductive occurrences, and widowhood, as potential causes of depression (Bhattacharya et al., 2019). Women employed various cultural forms of expression to articulate experiences of physical, emotional, and cognitive anguish. The adverse effects of discriminatory social circumstances, gender disparities, and conventional gender norms on the mental well-being of women in India underscore the necessity for gender-sensitive research and implementation of mental health interventions. These approaches should take into account the sociocultural environment of women and strive to uphold principles of gender equality and social justice (Bhattacharya et al., 2019).

1.11 The present study

A review of existing literature highlights four critical aspects of depressive disorders and their treatment: 1) the prevalence of depression, a disabling mental health issue, is surging globally as well as in India; 2) financial and human resources deployed in the community health system to cater the needs of affected people are scarce, 3) reach and feasibility of existing therapeutic interventions is limited and a challenge, and 4) women due to dominant societal setup and other factors are highly vulnerable for depressive disorders especially in cultures where gender roles are biased. Considering these factors, the present study was designed to study the latter aspect, i.e., depression among women and its management. The first phase of the present two-phased study aimed to test vulnerabilities and defences for depressive symptomatology among women. The second phase of the study intended to test the effectiveness of an intervention devised to mitigate depressive symptomatology. Before devising intervention to change any condition, it was important to identify and test the vulnerabilities and defences present among the women living in India

empirically. The study first screened the women in different districts of Punjab with above minimal scores on depressive symptomatology, and then the relationships among various factors associated with their depression were explored. Based on the findings, the intervention was devised to target the malleable factors out of all the factors observed. The second phase of the study was aimed to test the devised intervention. In a non-clinical setup, similar studies have been suggested by the Mental Health Gap Action Program (World Health Organization, 2016), which could address the issues of feasibility in the concerned context along with incorporating the scientific insights and vigour of existing therapeutic approaches.

1.11.1 *Motivation for the study*

There were multiple reasons with varied significance for conducting this kind of study. Some of those are highlighted below.

1.11.1.1 Higher prevalence of depression among Indian women

While the percentage of males suffering from depression stood at 3.0% according to WHO in 2019, it was 4.5% in the case of females. Across all age groups, the prevalence of depression among females was much higher than that of males (World Health Organization, 2022b). The difference between the prevalence of depression among men and that of women found in the global data has also been observed in the Indian context. As per National Mental Health Survey of India 2016, the prevalence and incidence of depressive disorders among men was found to be 2.7%, whereas it was 3.9% among women. Suicidal risk has often been associated with the dimensions of depression, such as psychological pain (Conejero et al., 2018). In the case of both moderate suicide risk and high suicide risk, females with 0.83% and 1.14%, respectively, showed higher prevalence than men with 0.61% and 0.66%, respectively (National Institute of Mental Health and Neuroscience, 2016).

Indian culture, i.e., heavily patriarchal with an entrenched history of men in dominant and women in subordinate roles, may be an important factor behind the higher prevalence of depression among Indian women. Women's disempowerment through a not-so-favourable societal setup in India starts at birth in the way that raising female children is more authoritarian, meticulous, and relentless compared to male children who happen to be more privileged and bear with fewer restrictions (Bhattacharya et al., 2019). Mostly, women learn to carry out domestic chores and cater to the needs of men, whereas men are taught superiority over women and entitlement to be an authority to women (Ram et al., 2014). Women are expected to keep adjusting to the role of a daughter to a wife and further to a mother without any dissent. Additionally, women do not enjoy significant participation in decision-making at home. Therefore, women come across more obstacles to autonomy and independence than men do, and gender roles assigned to Indian women tend to be limiting and promote subservience. Moreover, discrimination based on gender (such as violence encountered in natal and marital families, role expectations, and the burden of imposed roles) exposes Indian women to high-stress levels (Maitra et al., 2015). Recently, research on resilience and survivorship among women in India has been scaling up; still, Indian women continue to report high rates of mental health challenges due to violence and discrimination (Shanthakumari et al., 2014).

As far as seeking help in the case of depressive symptomatology is concerned, qualitative studies based on women in India have had some crucial inputs. Psychological issues were seldom seen as something worth seeking help (Andrew et al., 2012). Many women choose home remedies and seek refuge in religion (Pereira et al., 2007). Weaver (2017) found that women saw distress as something that could not be escaped; they discussed it only after any prompt from the doctor in that regard and did not seek help to alleviate the distress. Women found it difficult to decide the threshold of distress, which, when crossed,

help must be sought. Upon the presentation of emotional or cognitive symptoms, women were prescribed antidepressants, while those with physical pain and tiredness would receive a prescription of vitamins (Pereira et al., 2007). A few women found improvement in their symptoms, while others witnessed no change in their complaints after medications (Rao et al., 2012). For some women, the barrier to treatment was financial limitation (Weaver, 2017). Among working mothers with low income, most of the women experienced depressive symptoms, but none of them asked for professional help (Travasso et al., 2014).

1.11.1.2 The gravity of the situation in Punjab

The severity of depression and how it requires rigorous investigation and appropriate intervention in specific contexts has been discussed in previous sections. As far as the prevalence of depression is concerned, it has been found that Punjab has a prevalence closer to 2% in cases of depression (National Institute of Mental Health and Neuroscience, 2016). Though it is less than the national average, as per the National Mental Health Survey of India (National Institute of Mental Health and Neuroscience, 2016), the prevalence of depression among women (2.7%) is almost three times higher than among men (0.97%) in Punjab. Also, the treatment gap for depression in Punjab is 82.2%. It is pertinent to make this observation that the ratio of female to male depression prevalence in Punjab is higher compared to the ratio at the national level (3.9% for females and 2.7% for males). Moreover, as discussed in the earlier sections, the societal factors responsible for depression, similar to those found in India by Bhattacharya and colleagues (2019), have also been observed to be inherent in the society in Punjab (Sharma & Kaur, 2021). Additionally, the apparent effects of issues prevalent in Punjab, such as debt-ridden suicides in the family and having any member involved in drug abuse, have also been contributing to depression among female members of the family (Singh et al., 2022; Kumar, 2002).

1.11.1.3 Resources at disposal are not enough

Making an observation about the treatment resources availability in the state of Punjab, the National Mental Health Survey of India (National Institute of Mental Health and Neuroscience, 2016) report found that the treatment gap for mental disorders was 79.59%. The gravity of the scenario in this domain may be better understood with the statistical inferences that there were only 0.75 psychiatrists, 0.04 clinical psychologists, and 0.12 psychiatric social workers for 100000 people. Additionally, only 380 MBBS doctors (12.18%) and three nurses (<0.01%) were trained in mental health (National Institute Of Mental Health And Neuroscience, 2016).

Considering the high prevalence of depression in the region, the catalysing effect of the pandemic and the resultant lockdown, and the axis of the building block of the society, i.e., women being at the centre of this alarming situation amid a high treatment gap, Researchers and policymakers highlight the need to address the issue of depression on a priority basis. An elementary interventional approach, which may immediately prove to be an important first step in the area of women's empowerment, is needed. This premise seems very much in line with the recommendations of WHO given under Mental Health Gap Action Program 2.0 (mhGAP 2.0). In 2016, WHO encouraged the delivery of pharmacological as well as psychosocial interventions in non-specialized healthcare settings by academic institutions, NGOs, philanthropic organizations, and researchers in order to reach the goal of universal health coverage. WHO advised devising such interventions that can be applied in any non-specialized healthcare setting administered by a person in any of the allied fields. But initially, for an effective intervention to be devised, the preliminary task is to find out what the key factors associated with depressive symptomatology are in a given context. These key factors may comprise associated vulnerabilities and defences in the context of depressive symptomatology. To identify these potential factors, a survey of the established

and prevailing theories, as well as other contemporary theoretical formulations, needs to be carried out. Moreover, interventions focused on reducing identified vulnerabilities and promoting defences are required (World Health Organization, 2016).

1.11.1.4 Lack of research on community samples and women

Clinical psychology and psychiatry research has been largely focused on designing therapeutic interventions and testing their efficacy; nevertheless, despite years of research, the existing interventions have not been able to address the needs of community settings (Ebert & Cuijpers, 2018). Only a few intervention-based studies could be found that have been done in India, and almost none in Punjab. Among those few studies, the majority comprised particular conditions as focus and specific populations such as pregnant women (Raghuveer et al., 2020), women from southern India experiencing postnatal depressive symptoms (George et al., 2020), and women in Andhra Pradesh and Kolkata living with HIV infection (Garfin et al., 2019; Swendeman et al., 2015). Psychosocial intervention and an exercise module against depression were given to women from Bengaluru and Kerala, respectively (Indu et al., 2018; Roy et al., 2018). In another study which was conducted in urban slums in Dehradun among disadvantaged women, a mental health and resilience intervention was found effective against psychological distress (Mathias et al., 2018).

More research centred on effective, easily adaptable, context-suited, community-based interventions, as well as a concise and relevant preliminary assessment of depressive symptomatology and associated vulnerabilities and defences among women, is required in India, especially in Punjab. Most of the above-mentioned studies have covered a stringently defined population of women. The present study adopts a more inclusive approach and covers a broad demographic range to assess, understand, and cater to the needs of women who may be left out in the strict classifying approach.

1.12 Objectives of the present study

The core objective of this study was to devise an intervention suitable for Indian women living in the state of Punjab and to test its effectiveness in alleviating their depressive symptomatology. Planning a potentially effective intervention requires an understanding of potential factors that can make a person vulnerable to depression or can be protective against it. Thus, the study becomes a two-phased research work, with phase 1 identifying risk and protective factors for depression and phase 2 testing the intervention devised to mitigate identified risk factors and promote protective factors. Details of both phases are presented below.

1.12.1 Objective 1 (Phase-I)

The preliminary objective of this research work was to identify potential psychological vulnerabilities and defences associated with depression. The first phase of the research work would mainly explore the association between depression and its risk and protective factors in the Indian context.

After reviewing the literature concerning factors associated with depressive symptomatology, three domains, namely emotion regulation, psychological capital, and personality, were considered important for exploration. Thereafter, two variables from each domain (rumination and reappraisal from emotion regulation, resilience and self-efficacy from psychological capital, and neuroticism as well as extraversion from Big-five personality factors) were included. The rationale for the selection of these variables over others was threefold. First, the affective models of depression, e.g., the tripartite model (Clark & Watson, 1991) and the integrated hierarchy model (Mineka et al., 1998), posit that negative affectivity resulting from maladaptive emotion regulation is an established vulnerability for depression (Dunn et al., 2020). Also, few studies have observed that some pre-existing

tendencies are involved in the maintenance and development of psychopathology, including depression (Jeronimus et al., 2016). In line with these observations, factors included in this study have been either associated with negative affectivity and emotion regulation or represented pre-existing tendencies that affect negative affectivity that leads to depression. Understanding these tendencies is essential, considering their utility in designing interventions and preventing mental health issues (Khazanov & Ruscio, 2016; Klein et al., 2011). The observation that all these included factors were found to be interrelated was another reason why these were selected for this study. Association of emotion regulation tendencies with self-efficacy (Luberto et al., 2014), resilience with extraversion and neuroticism (de las Olas Palma-García & Hombrados-Mendieta, 2014; Hsieh et al., 2016), and neuroticism with reappraisal (Campbell-Sills et al., 2006), have been documented in the literature. These interrelationships persuaded the inference that an intervention targeting the variables would result in a consequential positive impact, directly or indirectly, on depressive symptomatology (Clarke et al., 2014; Kring et al., 2007). Malleability was the third reason for the inclusion of the selected factors. Most of these attributes are amenable to change and can be enhanced or reduced by administering psychotherapeutic interventions (Armstrong & Rimes, 2016; Brown et al., 2007; Clarke et al., 2014; Merluzzi et al., 2019; Moltrecht et al., 2021). A brief introduction of the association between depression and the factors representative of all three domains (emotion regulation, personality disposition, and psychological capital) is as follows:

1.12.2 Depression and Emotion Regulation

Emotion regulation (ER) is a crucial aspect of depressive symptomatology. It is essential for adaptive functioning, and suboptimal or dysfunctional ER is perceived as counterproductive and results in adverse consequences, including poor well-being (Gross & Muñoz, 1995). ER is defined as the regulation of affective states, in its broadest sense,

covering all dimensions such as overt (perceivable by others) to covert (internal regulation not perceivable by others), explicit (conscious) to implicit (unconscious), and voluntary to automatic (Gross, 1998). ER includes changes in the emotion itself (e.g., changes in intensity duration; Thompson, 1994) or in other psychological processes (e.g., memory, social interaction). Vulnerability to depression has been found to be associated with the endorsement of maladaptive emotion regulation strategies (Kovacs et al., 2009; Shukla & Pandey, 2021). For the present study, two such emotion regulation strategies, i.e., rumination and reappraisal, have been selected, considering their core association with depressive symptomatology. A brief description of both is as follows.

1.12.2.1 Rumination

Lynn et al. (2010) describe rumination as repetitive and passive thinking that dominates attention. Nolen-Hoeksema et al. (2008) described rumination as a mode of responding to distress, one that entails repetitively and passively focusing on the distress as well as its possible causes and consequences. Rumination has also been defined as a tendency to persistently think about something that is negative, has the potential to cause harm, or is pessimistic for a long time (Ito et al., 2006).

Rumination is considered a potentially maladaptive emotion regulation strategy (Sansone & Sansone, 2012). Rumination has a significant relationship with prolonged episodes of low mood. Additionally, there is an association between rumination as an emotion regulation strategy and depressive symptoms or diagnosis (Nolen-Hoeksema et al., 2008). It has been observed that people who experience depressive symptomatology and tend to ruminate are not actually aware of the deteriorating impact that rumination has on them. Instead, the person thinks that this way of thinking is actually yielding certain benefits for him/her (Rottenberg, 2017). Similar findings about the association of depressive

symptomatology and rumination have been observed in Indian studies as well. In a study conducted by Mitra and Rangaswamy, (2019), it was found that rumination had a positive and significant relationship with depression. This relationship has also been found among Indian women having high levels of depression. However, some inconsistencies have also been observed (Liu et al., 2020; Thompson et al., 2021). Finally, to mitigate depression, it is suggested that rumination needs to be addressed (Cook et al., 2019).

1.12.2.2 Reappraisal

Changing and reformulating the way one thinks about an emotionally eliciting event is another way to regulate emotions. This strategy of emotion regulation is known as reappraisal (Cutuli, 2014). Reappraisal is a type of emotion regulation strategy that involves volitional reframing of the meaning of an emotion-eliciting stimulus (Gross, 2013). Reappraisal is a complex and sometimes effortful cognitive change strategy that relies on the interaction of multiple component processes, including cognitive control, working memory, monitoring, attention regulation, perspective-taking, and linguistic processing. Reappraisal has been shown to reduce negative emotional reactivity, reduce autonomic hyperactivity, and enhance physical and mental well-being (Goldin et al., 2008; Gross, 2015). Reappraisal is considered a potentially adaptive emotion regulation strategy by most researchers (Gross, 1998). Depression has been associated with less frequent habitual usage of reappraisal (Dryman & Heimberg, 2018a; Joormann & Gotlib, 2010; Lavanya & Manjula, 2017). In consonance with the global literature, Rukmini et al. (2014) found that reappraisal was negatively associated with depressive symptomatology in the Indian context, too. However, a few studies reported inconsistent results (Haver et al., 2023; Perchtold et al., 2019). Despite being the basis of several therapeutic interventions, evidence regarding the association between depression and reappraisal has been inconclusive and needs further attention and evaluation (Aldao et al., 2010; Long & Hayes, 2014; Rottenberg, 2017). Considering its

antidepressant effect on depression, reappraisal needs to be targeted in an intervention intended to reduce depressive symptomatology (Wang et al., 2022b).

1.12.3 Depression and Psychological Capital

Apart from potentially related emotion regulation strategies, psychological capital is also an important defence against depression (Li et al., 2021). It includes the strength and positive aspects of human behaviour (Çavuş & Gökçen, 2015; Seligman, 1999). An individual with positive psychological capital is characterized by the extent to which the person feels efficacious about his/her efforts, optimistic about the future, has hope, and is resilient enough to bounce back in the case of odds. The positive psychological capital is comprised of self-efficacy, resilience, optimism, and hope (Luthans et al., 2007). All dimensions of psychological capital have a significant negative correlation with depression (Kwok & Gu, 2017; Toukhsati et al., 2017). A brief description of two facets selected for the present study is as follows:

1.12.3.1 Resilience

Resilience may be defined as the tendency to bounce back and make active adjustments to adverse situations and stress (Reid, 2016). Resilience has been found to be favourably influenced by various psychological characteristics, including optimism, self-efficacy, high intelligence, and the utilization of adaptive emotional regulation mechanisms (Afek et al., 2021).

Recent studies reported a significant relationship between depression and psychological resilience and have found that resilience is a potential protective factor against depressive symptomatology (Yusuf et al., 2022; Zhang et al., 2020). Results from the Indian studies have had similar observations (Mathias et al., 2018). In a study by Singh and colleagues (2021), resilience was found to have a negative association with depression.

Literature shows that resilience can be a significant protective factor against depressive symptomatology (Mak et al., 2011).

1.12.3.2 Self-efficacy

Self-efficacy is a person's perception of their ability to deal with the various difficulties and challenges in life (Caprara et al., 2012). Self-efficacy represents the general belief of people while they exhibit their performances (Lippke, 2020). People who are self-confident can choose and develop ways to attain their goals (Caprara & Cervone, 2003), and they are aware of how motivation can be increased. They pursue demanding goals to uplift their performance and also push their motivation against the roadblocks in the path of the goals.

Socio-cognitive theory asserts that expectation plays a very important role in depression (Basen-Engquist et al., 2013). Self-efficacy is one such expectation (Pu et al., 2017). Individuals with high self-efficacy tend to make more significant efforts in the face of setbacks, failures, and suffering (Caprara et al., 2008), thereby maintaining relatively positive mental health (Bandura, 1990; Joo et al., 2013). Depression occurs when a person, for certain behaviours, expects highly desired outcomes but happens to have low self-efficacy (Bandura, 2004). Similar findings have also been observed in the studies conducted in India (Kumar et al., 2014; Mathias et al., 2018). It has been found that increasing self-efficacy through therapeutic interventions reduced depression symptoms significantly (Mathias et al., 2018; Nash et al., 2013; Negi, 2019), and therefore, it can be an important defence factor to be targeted in any intervention meant for reducing depressive symptomatology.

1.12.4 Depression and Personality

The depression-personality association can be traced back to the remote past. Hippocrates and Galen stated that different personality types and psychopathologies could be

attributed to different humours. Prior to further advancing into personality and depression relationships, some personality-related concepts must be discussed. Personality has traditionally been conceptualized as having two components: First is temperament, which refers to biologically based, early-emerging, stable individual differences in emotion and its regulation, and second is character, which refers to individual differences due to socialization (Klein et al., 2011).

Although a number of different personality classifications were given in the last hundred years, they were integrated into the five-factor model (FFM) in the 1980s. The FFM identified a hierarchical arrangement in personality, such as many specific traits, which culminated into five general characteristics (Goldberg, 1993; Markon et al., 2005). These characteristics, known as the Big Five, comprise neuroticism, extraversion, conscientiousness, agreeableness, and openness to experience. The FFM can be integrated further into these three dimensions, namely, positive and negative emotionality and disinhibition versus constraint (Markon et al., 2005). Both hierarchies, neuroticism and extraversion, are closely related to negative and positive emotionality, respectively (Clarke & Watson, 1999; Markon et al., 2005). Common Psychological disorders can be strongly predicted by the presence of a personality trait (Kotov et al., 2010). In the present study, only two personality traits, i.e., neuroticism and extraversion, were studied in relation to depression. A brief description of each one is given below.

1.12.4.1 Neuroticism

Neuroticism is the trait disposition to experience negative effects, including depression (Widiger & Oltmanns, 2017). Persons with high levels of neuroticism do not respond to the environment adaptively, find situations that are not unusual, as threatening, and can be extremely overwhelmed by circumstances involving minor frustrations (Widiger,

2009). Neuroticism has also been found to be related to a deteriorated quality of life, with a lack of will, a lot of worry, disappointments at work, and interpersonal relationships. Neuroticism, or negative emotionality, has been an important trait in personality evaluation, and individuals who scored high on this trait were more likely to get depression (Costa & McCrae, 1992). Neuroticism correlates negatively with adaptive emotion regulation strategies such as reappraisal and positively with depression and rumination (Liu et al., 2020). Similar inferences have been made from studies based on the Indian population (Nudelman et al., 2021). For health implications and studies focusing on such aspects, it is important for populations to be screened for neuroticism as it leads to a range of psychopathologies (Widiger & Trull, 2007).

1.12.4.2 Extraversion

Extraversion is the dimension underlying a broad group of traits, including sociability, activity, and the tendency to experience positive emotions such as joy and pleasure (Costa & McCrae, 1992). Extraversion describes active people who are sociable, talkative, and assertive (McCabe & Fleeson, 2016). Extraversion has been found to be a protective factor against depression (Boudouda & Gana, 2020; Nouri et al., 2019). Studies conducted in India also support that depression and extraversion share a negative association, and the latter can be a protective factor against the former (Madalaimuthu, 2022). However, Watson et al. (2019) found something in dissonance with the existing array of literature. The study found that extraversion shows both positive and negative associations with psychopathology. Therefore, the association of the personality trait of extraversion with depression, in particular, needs to be verified further in specific study contexts.

1.12.5 Objective 2 (Phase II)

Considering the less favourable societal setup for women's mental health, higher prevalence of depressive disorders, lack of resources to manage the disorder's burden, and need to address the issue at the community level and in a non-specialized healthcare setting, the present study intended to devise and test the effectiveness of a psychosocial intervention against depressive symptomatology among Indian women in the state of Punjab. The intervention intended to enhance the psychological defences of the women and diminish their vulnerabilities to reduce depressive symptomatology. The details of the intervention will be discussed later in the coming chapters.

1.13 Conclusion

The rising prevalence of depression across the globe is a matter of concern as depression is a disabling disorder that has grave consequences on an individual's functioning. Despite a number of therapeutic approaches available, the efforts to contain depression have not been fully successful. A high treatment gap further adds to the misery. The situation in India is also quite similar to the global picture. The high prevalence of depression is posing a serious threat to the already stressed and under-resourced public health system of the country. The prevalence of depression and the treatment gap are not different when it comes to the state of Punjab. Decreasing the financial health of the farmer, resulting in debt, maladaptive behaviour patterns of the youth, indulgence in substance abuse, etc., have been indirectly catalysing the situation pertaining to depression. Among such concerns, women in India, struggling with marginalization amid a patriarchal societal setup, are more at the receiving end as compared to men. Women are also reported to be higher on the risk factors and lower on the protective factors related to depression. These points suggest that depression among women needs to be addressed on a priority basis. The present research work aimed to devise

an intervention that could be administered in a non-specialized healthcare setting to reduce depressive symptomatology among women in Punjab. Prior to that, relevant potential attributes associated with depressive symptomatology were required to be identified from the literature and tested in the present context. For this purpose, three closely associated domains, Personality factors, emotion regulation strategies, and psychological capital, have been identified. Two variables from each domain respectively, i.e., neuroticism and extraversion, rumination and reappraisal, resilience and self-efficacy, are selected on the basis of transdiagnostic nature, importance in screening for depression, as well as malleability and utility in an intervention. The justification for the selection of these variables has been presented in the next chapter, dealing with the review of literature about the association of these variables with depression.

Chapter2

Review of the relevant literature

2.0: A brief overview of the chapter

The chapter summarizes the existing literature on the relationship between depressive tendencies and factors explored in the present research. The review was conducted mainly to serve three objectives. Initially, the aim was to explore potential factors associated with depression across various domains, including biological, social, and psychological aspects. Subsequently, the focus shifted to identifying potential psychological factors that have been integral to therapeutic interventions and are deemed modifiable. This exploration was aimed to pinpoint factors that hold promise for intervention and treatment strategies. Lastly, the review investigated the extent to which these identified factors have been studied in the Indian context, particularly among women.

In the realm of biology, specific neurochemicals such as acetylcholine (Arias et al., 2021; Zhang et al., 2016), serotonin (Healy, 2015; Kraus et al., 2017), norepinephrine (Briley & Chantal, 2011), dopamine (Dunlop & Nemeroff, 2007; Peciña et al., 2017), glutamate (McCarthy et al., 2012; Murrough et al., 2017), GABA (Kalueff & Nutt, 2007; Möhler, 2012) are identified as correlated with depression. Social factors, including parental hostility/rejection (Karsli & Anli, 2011; Liu & Merritt, 2018), marital distress (Aggarwal et al., 2017; Whisman, 2007), social class differences (Muntaner et al., 2015), gender experiences (Muntaner et al., 2015), social rejection (Ophir et al., 2019; Slavich et al., 2010), were found to be significant predictors of depression. An array of psychological variables, such as cognitive biases (Beevers et al., 2019; Cristea et al., 2015), resilience (Kyriazos et al., 2018; Southwick & Charney, 2012), self-esteem (Mu et al., 2019; Orth & Robins, 2013),

optimism (Ji et al., 2017), hope (Kaleta & Mróz, 2020), self-efficacy (Torrisi et al., 2018), body image (Şanlier et al., 2016; Silveira et al., 2015), social support (Alsubaie et al., 2019), helplessness (Salcioglu et al., 2017), rumination (Liu et al., 2023; Sun et al., 2014), reappraisal (Dryman & Heimberg, 2018; Everaert & Joormann, 2020), neuroticism (Paulus et al., 2016; Pereira-Morales et al., 2019), extraversion (Spinhoven et al., 2014; Watson et al., 2019), loneliness (Erzen & Cikrikci, 2018; van Winkel et al., 2017), life stressors (Housen et al., 2019; Lester, 2014), and cognitive flexibility (Johnco et al., 2014; Wu et al., 2021), were found to be comparatively more significant for the development and maintenance of depression.

After reviewing the literature, three key domains—emotion regulation, psychological capital, and personality—were identified for exploration. Within each domain, two variables were chosen for the present research: rumination and reappraisal from emotion regulation, resilience and self-efficacy from psychological capital, and neuroticism and extraversion from personality. The rationale for selecting these variables was threefold. Firstly, established affective models of depression, such as the tripartite model (Clark & Watson, 1991) and the integrated hierarchy model (Mineka et al., 1998), propose that negative affectivity resulting from maladaptive emotion regulation is a recognized vulnerability for depression (Dunn et al., 2020). Additionally, some studies suggest that pre-existing tendencies play a role in the maintenance and development of psychopathology, including depression (Jeronimus et al., 2016). In alignment with these insights, the chosen factors in this study are either associated with negative affectivity and emotion regulation or represent pre-existing tendencies influencing negative affectivity, thus contributing to depression. Understanding these tendencies is crucial for designing interventions and preventing mental health issues (Khazanov & Ruscio, 2016; Klein et al., 2011). Secondly, the interconnectedness of these included factors was another reason for their selection. The literature documents associations

such as emotion regulation tendencies with self-efficacy (Luberto et al., 2014), resilience with extraversion and neuroticism (de las Olas Palma-García & Hombrados-Mendieta, 2014; Hsieh et al., 2016), and neuroticism with reappraisal (Campbell-Sills et al., 2006). Recognizing these interrelationships led to the inference that intervening in these interrelating variables could impact depressive symptomatology more strongly (Clarke et al., 2014; Kring et al., 2007). Lastly, the malleability of the selected factors was the third consideration for their inclusion. As observed in the literature, many of these selected attributes can be modified through psychotherapeutic interventions (Armstrong & Rimes, 2016; Brown et al., 2007; Clarke et al., 2014; Merluzzi et al., 2019; Moltrecht et al., 2021). These variables have been introduced in the previous chapter, and the current chapter presents the detailed existing literature regarding their relationship with depressive tendencies.

2.1 Review

The review of relevant literature for the selected variables in the present study is presented in the upcoming sections.

2.1.1 *Neuroticism and Depression*

Neuroticism is one of the five factors of the Big Five model of personality (Costa & Mccrae, 1998). In addition to its relationship with other pathological conditions (Gale et al., 2016), neuroticism has been consistently viewed as a vulnerability for the onset and development of depression (Boyce et al., 1991). Neuroticism is a personality characteristic or vulnerability to experience negative emotions. Individuals high on neuroticism tend to give more weight to negative information in their perception and undermine the positive aspects of an event or a person. Negative views about others, the world, and oneself that a depressed person happens to have may possibly stem from this bias, taking a toll on an individual's willpower for change.

Various theoretical models posed different explanations for the relationships between neuroticism and depression. Most of the models recognize neuroticism as a vulnerability to depression (Boyce et al., 1991). This stance on personality-depression association had been aligned with the predisposition model of personality and depression (Akiskal, 1983). The predisposition viewpoint proposes that an individual who happens to be high on neuroticism has a higher chance of developing depression as compared to an individual with low levels of neuroticism (Vinograd et al., 2020). Among the models such as the pathoplasticity model, complication model, common cause model, etc. (Bagby & Ryder, 2000; Klein et al., 2011; Krueger & Tackett, 2003), some pose a shared etiology between depression and personality dimensions, while others deal with either how depression could affect personality, or how personality shapes the representations of depressive symptoms. However, the predisposition model maintains that it is a complicated interaction between risk and protective variables involving moderation and/or mediation through intermediate factors such as stress, maladaptive behaviours, emotion regulation, etc. that determine depressive tendencies (Chadha et al., 2019; Klein et al., 2011; Peris-Baquero et al., 2023).

Several studies have observed that neuroticism could be an important predictor of depression (Duggan et al., 1998; Hankin et al., 2007; Saklofske et al., 1995). One meta-analysis included 175 studies published from 1980-2007 and investigated the relationship between personality and depression. The analyses showed that high neuroticism was associated with depression, and the association was the strongest as compared to other personality characteristics (Kotov et al., 2010). Another meta-analysis, which pooled 117899 participants' data from 10 prospective cohort studies, investigated the neuroticism-depression association using both cross-sectional as well as longitudinal methods. The results showed that high neuroticism was found to be a vulnerability for depression. However, after the onset, depression predicted changes in personality characteristics (Hakulinen et al., 2015).

Similar findings providing corroborating evidence were observed in a meta-analysis done on 59 prospective studies and 443313 participants. The researchers concluded that neuroticism poses a significant risk prior to the progression and onset of depression. Additionally, the effect was found to be powerful and hardly diminishing (Jeronimus et al., 2016). Support for these findings about neuroticism-depression association has been reaffirmed in recent meta-analyses also (Fu et al., 2021; Wachowska et al., 2022).

Neuroticism is an enduring personality feature characterized by the presence of bad emotional experiences, a proclivity to avoid stress, a predisposition to engage in catastrophic thinking when faced with stressful circumstances, and an increased susceptibility to emotional illnesses. Individuals characterized by elevated degrees of neuroticism often exhibit a diminished capacity to effectively regulate unpleasant emotions, resulting in a heightened susceptibility to experiencing negative emotional states, including symptoms associated with depression (Liu et al., 2020). An array of empirical studies has been there in the literature in line with the findings of the discussed meta-analyses supporting the standpoint that neuroticism as a disposition may pose a vulnerability for depression. For instance, a study with 242 participants aimed to find out the risk factors for depression and also assess the role of personality variables and emotion regulation. The findings stated that neuroticism was positively associated with depression (Van Loey et al., 2014). Another study based in the Netherlands intended to investigate the mechanisms involving depression and other related factors. The study included one general (N=563) and another replication sample (N=2274) within the age range of 18-65 years. The results showed that neuroticism was a significant predictor of depression (Vinkers et al., 2014). Another study conducted on 1255 participants (M_{age}=54.50, SD_{age}=11.50) supported that significant variance in depression was being explained by neuroticism (Cukic & Bates, 2015). A research study conducted in Greece with 415 women found a similar result. The data analysed after the mixed method study

depicted that neuroticism was strongly associated with the diagnosis as well as the severity of depressive symptoms (Mandelli et al., 2015). Researchers conducted a cross-sectional survey in the outpatient department of a Spanish hospital in which 134 individuals (M_{age}=40.24, SD_{age}=11.25) participated. The results showed that neuroticism shared a significant positive correlation with depression. Also, this relationship was mediated by maladaptive emotion regulation (Merino et al., 2016). Another cross-sectional study on 477 participants (Females=272) revealed that depression was significantly predicted by neuroticism. The findings reiterated that neuroticism has been a risk factor for depression (Simon, 2016). Another study based on the Thai population assessed the mechanisms through which depression and anxiety symptoms are associated with various risk factors. The study involved 644 participants (M_{age}=28.28, SD_{age}=10.60), and based on their responses, it was revealed that neuroticism is a strong correlate of depression (Wongpakaran et al., 2021). Blanco et al. (2021) aimed to investigate the symptoms and prevalence of depression on 871 individuals (M_{age}=20.70, SD_{age}=2.80). The data depicted that neuroticism significantly predicted depression.

To understand the underlying mechanism in the relationship between neuroticism and depression, researchers, using a cross-sectional research design, collected responses from 148 participants (M_{age}=19.48, SD_{age}=1.12). The analyses revealed that direct as well as indirect association between neuroticism and depression was significant. The indirect relationships involved emotion regulation strategies and other cognitive processes (Lu et al., 2017). A cross-sectional research study recruited 970 adult participants from Arab-Algerian society. The study proposed to assess the interaction of different personality dimensions to predict depressive symptoms, and the symptoms were significantly predicted by scores on neuroticism (Boudouda & Gana, 2020).

Individuals with elevated degrees of neuroticism are more susceptible to experiencing depression in comparison to those with lower levels of neuroticism, may be due to their heightened exposure to stressful events (Vinkers et al., 2014). Based on 274 responses (M_{age}=21.30, SD_{age}=4.00), the study showed that neuroticism had a significant association with depression, and this association was mediated by perceived stress (Pereira-Morales et al., 2019).

Van Eeden et al. (2019) hypothesized that neuroticism may predict adverse course trajectories of depression over long-term follow-ups. Participants (n=362, M_{age}=42.70, SD_{age}=12.10) for this study were selected from the Netherlands Study of Depression and Anxiety cohorts. Analyses revealed that neuroticism did predict individuals' course of depressive symptoms over years on follow-up. Whisman and colleagues (2020) intended to assess the longitudinal association between depression and certain risk factors that might contribute to the disorder. In order to do this, the researchers recruited 5891 participants within the age range of 18-64 years in the probability sample from three age cohorts. The findings showed that neuroticism shared a significant positive association with depression. In another study, 1128 participants (M_{age}=18.74, SD_{age}=0.48) from a university in China were included. The study tested the role of neuroticism in depression in the context of social media usage. The study used three wave longitudinal design for data collection. The responses, when analyzed, showed that neuroticism and depression shared a positive association (Mu et al., 2020).

The Big Five research has indicated that individuals with elevated levels of neuroticism exhibit a greater propensity for experiencing guilt, being easily flustered, particularly when faced with stressful situations, possessing diminished self-esteem, and feeling insecure in their interpersonal interactions (Caspi et al., 2005; Vazsonyi et al., 2015). It has been shown that these characteristics exhibit a significant correlation with the

manifestation of internalizing psychopathology (Conway et al., 2019; Uliaszek et al., 2010). In this line, a study, conducted on 3482 individuals from the United States, Spain, Argentina, and the Netherlands observed significant association between neuroticism represented by emotional stability and depression (Vidal-Arenas et al., 2022). Wongpakaran et al. (2022), in a study based in Thailand, administered a set of questionnaires on 644 individuals (M_{age}=28.28, SD_{age}=10.60) in a cross-sectional design. The responses were analyzed, and it was found that neuroticism was positively and significantly correlated with depression. Similar results regarding depression neuroticism association were found in other recent studies as well (Clague & Wong, 2023; Peris-Baquero et al., 2023).

The relationship between neuroticism and depressive symptomatology has been observed in the Indian research literature (Bohra et al., 2015; Chattha et al., 2008). However, only a few studies explored the association among women. In a study by John and colleagues (1977), it was found that high neuroticism increased the likelihood of women experiencing depressive symptoms. In another study by Chattha and colleagues (2008), on a sample of Indian women, neuroticism and depression were found to be positively correlated. Similar observations were made by Bohra et al. (2015) as well.

Thus, the association between neuroticism and depression has been there in the literature. This association is explained with the help of different frameworks involving stress (Kendler et al., 2004), rumination (Lu et al., 2017), irrational thoughts (Jibeen, 2015), maladaptive behaviours (Chadha et al., 2019), maladaptive schemas (Mącik et al., 2019), sleep disturbances (Wong et al., 2017), dysfunctional emotion regulation (Peris-Baquero et al., 2023) such as rumination (Roelofs et al., 2008), cognitive bias (Chen et al., 2023). Individuals high on neuroticism may tend to have maladaptive schemas and dominantly negative cognition. These schemas and biases towards negative information lead to irrational thinking patterns and dysfunctional emotion regulation, such as ruminative thinking, which

worsens the condition. These presentations translate into maladaptive behavioural patterns and dysfunctional daily routines, setting the stage for the onset of depression.

Studies in support offer a potential explanation that the moderately heritable personality characteristic has been associated with increased sensitivity to negative stimuli as well as proneness to sad mood (Kercher et al., 2009; Terracciano et al., 2011). Neuroticism, being a transdiagnostic factor, an important predictor, and a significant risk factor for depression, especially among females (Bunnett, 2020), holds an important place in any research focusing on a comprehensive understanding of depressive symptomatology as well as relevant mitigation efforts. Studying the neuroticism-depression association in different contexts is also important, as there have been inconsistent findings about the relationship as well (Aldinger et al., 2014; Cloninger, 2006; Weber et al., 2012). Therefore, it seems justified that neuroticism needs to be studied in relation to depressive symptomatology among Indian women. Thus, neuroticism was included in the present research to understand depressive symptomatology among Indian women, in order to understand and cater to the needs of the women who tend to be at more risk than others for mental health issues.

2.1.2 *Extraversion and depression*

Another personality dimension significantly associated with depression is extraversion (Hakulinen et al., 2015). Extraversion, opposite to neuroticism, is viewed as a general tendency to experience positive emotions (Martin & Ford, 2018). Extraversion is represented by characteristics such as being sociable, assertive, and exhibiting high energy levels (Lo et al., 2017). Additionally, individuals high on extraversion have been observed to exhibit warmth, positivity, an inclination towards engagement in social interactions, and a desire for excitement (Nguyen et al., 2013).

Higher extraversion would help a person attract considerable affiliations and social support, and both of these may prove to be protective factors against psychopathology. The high energy level is also one characteristic of people high on extraversion. A higher energy level may help a person engage in self-care behaviours as well as remain behaviourally activated. On the contrary, low extraversion may result in an inhibition of the characteristics discussed above and pose a vulnerability to depression (Watson et al., 2022).

Different facets of extraversion represented by sociability, positive emotions, and behaviours may be treated either as a vulnerability (low extraversion) or as a defence (high extraversion) with respect to depression (Yu & Hu, 2022). The predisposition model states that personality dimensions could be potential diathesis for the onset of depression (Akiskal, 1983); like neuroticism, extraversion also fits in the explanation by this model. The predisposition model renders low extraversion as a diathesis for an individual to develop depressive symptoms, while high extraversion acts as a defence against depression (Grav et al., 2012). The relationship between personality and depression may be explained by a number of other theoretical frameworks. Models such as the pathoplasticity model, complication model, and common cause model deal with how depression may affect personality or how personality affects depressive symptoms (Klein et al., 2011; Krueger & Tackett, 2003). Nevertheless, the predisposition model stands apart from the other models in the way that it postulates a complex interaction between risk and protective variables involving moderation and/or mediation by variables, e.g., stress, anxiety, etc. (Kim et al., 2016; Klein et al., 2011; Roman et al., 2019).

Some biobehavioural theories shed light on the relationship between extraversion and depression. These theories suggest a causative role for low extraversion in depression, including those pertaining to the closely related behavioural activation and inhibition systems, approach and withdrawal systems, and behavioural facilitation systems (Khazanov

& Ruscio, 2016). These theories emphasize an approach system that regulates goal-directed behaviour. Studies have found that a passive approach system is regarded to be the cause of depression (Shankman & Klein, 2003). The dimension of extraversion is also represented by positive emotionality (Naragon-Gainey et al., 2009). Poor positive emotionality is identified as a key component and potential risk factor for depression (Clark et al., 1994). An individual high on positive emotionality exhibits increases in the levels of positive mood states, for example, energy, confidence, happiness, and interest. Whereas anhedonia, a lack of pleasure and interest in usual activities, is a core symptom of depression (Cooper et al., 2018). Negative emotionality is regarded to be a component that is common to both depression and anxiety, whereas positive emotionality is thought to be more specifically related to depression. Many individuals, when going through depression, show a decreased tendency to experience pleasure and interest even in the presence of desirable and satisfactory stimuli (McFarland & Klein, 2009).

There are meta-analyses that provide ample support to the nature of the relationship between extraversion and depression. In one such meta-analysis, the researchers analysed longitudinal studies (59 effect sizes) assessing the relationship between depression and positive emotionality. It was found that positive emotionality was negatively associated with depression. Low extraversion and low positive emotionality, therefore, may be considered a vulnerability for depression, and it may potentially influence the course of psychopathology (Khazanov & Ruscio, 2016). Another study, a multilevel hierarchical review, which took into account many levels of facets of extraversion to assess its relationship with depression, observed that there was a negative correlation between extraversion and depression (Watson et al., 2019b). In a meta-analysis that took into account a large number of participants across numerous studies (n=334567, k=462), the researchers revealed that extraversion had a

significant association with well-being. Additionally, in one of the models, extraversion was found to be the strongest correlate of well-being (Anglim et al., 2020).

The findings from the other empirical studies have been aligned with what the meta-analyses and reviews have found out about the extraversion-depression relationship. A positive correlation has been shown between high levels of extraversion and increased participation in social activities, as well as a larger perception of social support. These factors, in turn, have been found to have an impact on reducing feelings of depression. These findings suggest that those with extroverted personality traits tend to experience fewer symptoms of depression, likely due to their increased participation in social activities and the better support they receive from their family and friends (Olawa & Idemudia, 2020). Rees et al. (2014) compared the factors related to mental health issues in patients (N=322, M_{age}=36.27, SD_{age}=11.15) with certain risk factors. The analysis of the data revealed that the patients had significantly low scores on extraversion. Another study conducted by Kikhavani (2015) included one group each of 100 depressed (M_{age}=35.90, SD_{age}=10.59) as well as 100 healthy participants (M_{age}=37.97, SD_{age}=12.49). It was observed that healthy participants scored significantly higher on extraversion as compared to the depressed participants. It has been found that extraversion is a positive correlate of well-being (Spinhoven et al., 2014). These findings imply that extraversion uniquely contributes to the total affective appraisal of happiness and emotional well-being, among other personality variables. Another study investigated the symptom structure of depression in relation to personality dimensions in addition to certain other factors. The study included 962 participants (M_{age}=36.66, SD_{age}=14.82) receiving in-patient treatment at a psychiatric care facility. The results depicted that extraversion was significantly and negatively correlated with depression. The findings emphasized that lack of positive affectivity was an important risk factor as well as diagnostic criteria for depression (Subica et al., 2016).

Extraversion is associated with traits such as talkativeness, outgoingness, humour, and being intriguing. Individuals who score high on extraversion are more inclined to seek social support (Lee & Martin, 2019), or openly communicate their need for assistance. This way, extraversion may ensure lower depressive symptoms in individuals. Research on the extraversion-depression relationship has observed a similar nature of association. In a cross-sectional study (N=3950, Age=18-69 years), researchers aimed to explore the connecting link between extraversion and depression and found that extraversion was negatively correlated with depression (Kim et al., 2016). Another study involving 461 university students (M_{age}=22.00, SD_{age}=3.34) showed that extraversion significantly predicted depression (Kövi et al., 2017). Naragon-Gainey & Simms (2017) intended to find evidence of disorder specificity in internalizing disorders in relation to personality dimensions and their interactions. Among the outcomes of the study, it was a significant finding that extraversion happened to be a risk factor for depression. Extraversion is not only considered a defence against depression itself, but it has also been found that it acts as a buffer against deleterious effects of neuroticism on depression.

A study that intended to test this interaction included 1684 individuals aged 18 years and above from Norway. The analyses revealed that extraversion moderated the adverse effect of neuroticism on depression (Bonsaksen et al., 2018). Another study based in Iran, in which 3177 participants within the age range of 19-65 years were included, assessed the relationship between personality and depression. The outcome from this cross-sectional study depicted that extraversion, psychological distress, and depression were correlated significantly. Low scores on extraversion were predictive of psychological distress and depression (Nouri et al., 2019). Researchers conducted a study in Romania with 672 female participants (M_{age}=29.33, SD_{age}=5.44), which yielded results reiterating that extraversion could be a potential protective factor against depression (Roman et al., 2019). Similar claims

regarding the association of extraversion and depression were reaffirmed in recent studies as well (Kluwe-Schiavon et al., 2022; Li et al., 2023; Lyon et al., 2021; Weib et al., 2022).

The findings from the Indian studies regarding depression and extraversion relationships among women are also aligned with the literature presented in the previous paragraphs. However, only a few studies explored this phenomenon among Indian women. Among the studies conducted in India, low extraversion has been found to be a vulnerability to depression in women (Waghmare, 2020). In a study by Ambhore and Puri (2018), a negative correlation was found between depression and extraversion among women participants. Therefore, among Indian women, extraversion is a factor significantly associated with depression.

The association between extraversion and depression has been found in the literature, as discussed in the previous paragraphs. A number of factors influence the effect of extraversion on depression, for instance, intensity and frequency of positive affect experiences (Koh et al., 2015), self-efficacy (Wang et al., 2014), stress (Kim et al., 2016), positive cognitions (Lauriola & Iani, 2017), anxiety (Roman et al., 2019), resilience (Lü et al., 2014), and rumination (Lyon et al., 2021). Although extraversion is a recognized vulnerability (low extraversion)/defence (high extraversion) in the context of depressive symptomatology, there have been observations inconsistent with the negative relationship as well where extraversion was observed as sharing very weak or insignificant association with depressive symptomatology in some cases (Farmer et al., 2002; Kendler et al., 2006). But in addition to that, it has also been found that interaction of neuroticism with extraversion has also been found to significantly alter the effect that neuroticism alone would have on depression (Yu & Hu, 2022). This implies that as compared to a person high on neuroticism, a person high on neuroticism as well as low on extraversion would be at higher risk of

experiencing depressive symptoms. This makes extraversion an important component both independently as an associated factor and also along with neuroticism when it comes to understanding and assessment of vulnerability towards depression. Hence, the present study included the variable along with neuroticism to understand the dispositional diathesis in the case of depression and its contribution to identifying a psychological syndrome for individuals going through depression.

2.1.3 *Rumination and depression*

The use of conscious and non-conscious endeavours to enhance, control, and reduce one or more aspects of emotional response is termed as emotion regulation. These actions that an individual takes, either consciously or otherwise, are called emotion regulation strategies (Gross, 2001). Some of these strategies are categorized as adaptive and others as maladaptive based on the effectiveness in altering the affect with or without future considerations. Rumination has been seen as one such potentially maladaptive emotion regulation strategy (Aldao et al., 2014). Rumination involves repeated contemplation around emotional experiences, about the causes and potential outcomes (Nolen-Hoeksema et al., 2008).

Rumination is a tendency to keep the mind reverberating with the thoughts revolving around an emotional experience that an individual would come across. This tendency, in the presence of any traumatic, emotionally hurtful event or in the presence of any other diathesis or vulnerability, becomes an additional risk factor in itself. An individual may engage in rumination or repeated thinking about an event in order to reach a solution, closure, or conclusion. However, the strategy becomes problematic in itself if the person has been through a traumatic event or happens to be high on negative emotionality. This situation may deteriorate the cognitive processes of the individual, and the cognitive space would be

flooded with negative content. This loop of negative thoughts may further lead to feelings that the situation can never change. This could be a pretext for a psychopathological condition such as depression.

There are models that pose explanations for understanding the path through which rumination usage could lead to depression. The self-regulatory executive function model (S-REF; Wells & Matthews, 1996) of emotional disorders attributes the psychopathological conditions to the information processing mechanisms that start and tend to maintain rumination and the consequential mental health issues (Wells & Matthews, 1996). The information processing mechanisms include an attentional syndrome that involves repetitive negative thinking, increased self-focus, maladaptive coping behaviour, and threat monitoring (Wells & Carter, 2001). The attentional scope model (Whitmer & Gotlib, 2013) proposes that under the influence of negative mood, the attentional scope gets narrowed owing to the decrease in the volume of thoughts, actions, and percepts in the working memory at that time. Also, the availability of cognitive content for selection from long-term memory is reduced. This breadth of attentional scope determines rumination, which may later translate into depression. Another model, the metacognition model (Papageorgiou, 2003), postulates that individuals consider rumination helpful, which acts as a motivation for individuals to be involved in rumination in a sustained manner. Once initiated, rumination makes it difficult not to recall negative experiences and emotions from the past. This sets the stage for depression. There are a number of explanatory pathways via which rumination has been found to cast its influence over depression. A few examples of such factors are negative beliefs (Papageorgiou, 2003), anxiety symptoms (Carnevali et al., 2018), maladaptive schemas (Balsamo et al., 2015), emotion differentiation (Liu et al., 2020), self-efficacy (Takagishi et al., 2013), resilience (Min et al., 2013), problem-solving (Hasegawa et al., 2018). As a maladaptive strategy to regulate one's emotions, rumination removes the

cognitive inhibition of negative information into the memory, and negative thoughts are set in motion. These negative thoughts instil uncertainty and irrational fear in the mind. This impairs the understanding of emotions related to triggering events and also the problem-solving skills. The inability to address problems and solve them effectively depletes one's self-efficacy and lowers resilience. Through these distressing changes in the behaviour and cognition of an individual, rumination translates into depression.

Meta-analyses render consolidated support to the conclusion that has been made by the models in the literature regarding the rumination-depression association. A meta-analysis that tried to investigate this association among individuals going through depression and bipolar disorder identified 12 relevant studies (N=2071). The study concluded that rumination plays a significant role in depressive disorders, and interventions should be devised to reduce rumination in individuals going through mood disorders (Kovács et al., 2020). Another meta-analysis that aimed to study the role of rumination across different disorders, including depression, identified 585 abstracts published from 2013 to 2021 and found that rumination, along with its components, i.e., brooding and reflection, was strongly related to depression (Rickerby et al., 2022). There have been several other meta-analyses as well, which have reaffirmed these findings and claimed a robust relationship between rumination and depression (Aldao et al., 2010; Olatunji et al., 2013; Visted et al., 2018).

The process of rumination poses significant challenges in terms of disengagement, as individuals find it difficult to separate themselves from negative ideas (Nolen-Hoeksema, 1991). When ruminating, individuals dwell on problems repetitively and passively, neglecting an active approach to resolving problems, which perpetuates a depressed mood (Wisco & Harp, 2021). Similarly, as the meta-analyses also indicate, the nature of the association between depression and rumination has been reflected in numerous empirical studies. A cross-sectional study assessed the effect of rumination on depression, involving

517 individuals (M_{age}=20.58, SD_{age}=1.44). The result showed that rumination was a significant predictor of depression (Sun et al., 2014). Another study included two groups of women. One group had 109 women who had previously experienced depression, whereas the other group had 64 women who had never gone through depression, all within the range of 18 to 65 years. The results depicted that previously depressed women had more engagement in rumination as compared to women who were never depressed (Aker et al., 2014). Zawadzki (2015) compared the association of different emotion-regulation strategies with depression. The researcher recruited 218 participants who were undergraduates within the age range of 18 to 32 years. The analyses revealed that rumination was the only emotion regulation strategy independently and consistently associated with depression. Everaert et al. (2017) explored the interplay between cognitive biases, depression, and emotion regulation on a sample of 112 individuals (M_{age}=21.84, SD_{age}=4.20).

A significant positive association was found between rumination and depression. In a study based in Portugal, 258 college students (females=79.8%) participated at two points of time spaced by one year, and it was observed that depression was significantly predicted by rumination (Macedo et al., 2017). Another study assessed the difference in emotion regulation between three groups of participants: The Major depressive disorder group, the bipolar disorder group, and the control group. Each group had 30 participants who responded to self-report measures for assessment of relevant variables. Rumination was found to be a frequently used emotion regulation strategy by the participants in the depressed group (Weinstock et al., 2018).

According to researchers, it is posited that individuals who encounter traumatic life events and subsequently feel unpleasant emotions, such as depression, tend to engage in persistent rumination over the origins and consequences of these negative emotional states. The process of excessive rumination triggers the retrieval of past adverse memories, leading

to a negative response towards the current situation. The experience of failure and powerlessness is thereafter intensified. Hence, when individuals engage in ruminating, it might potentially impact the social function of their psychology, leading to the emergence of a pathological condition that may ultimately manifest as various emotional disorders, such as depression (Chen & Li, 2013). A study exploring the relationship of rumination with depression through the activities of the autonomic nervous system found that rumination was positively correlated with depression, and the maladaptive emotion regulation strategy was used by women more than men (Carnevali et al., 2018). In another study, it was hypothesized that rumination would be a significant predictor of depression. The researchers included 80 participants aged 18-35 years and asked them to perform a computer-based task. Rumination was found to be significantly predicting depression (DeJong et al., 2019).

There have been several recent studies as well that have explored the association of rumination with depression through different methods and on different populations. The findings in the literature strongly assert that rumination is a positive correlate, a significant predictor, and an important vulnerability factor for depression (Aslan & Baldwin, 2021; Bean et al., 2021; Lincoln et al., 2022; Niu & Snyder, 2023; Rosenbaum et al., 2022; Vanderlind et al., 2020; Yalçınkaya-Alkar, 2020).

The relationship of rumination with depression is evident on the global level and there have been some studies on the Indian population as well, which have had the same conclusion. Though, only a few studies have been conducted on women in India., Indian women have been observed to be high on rumination as compared to men, and rumination has been a significant predictor of depression among women (Isaacs et al., 2023). However, there have been a few pieces of evidence inconsistent with the majority of observations considering the rumination-depression predictive relationship wherein it was found that not all individuals with high rumination were at risk of depression and in some instances

treatment outcome in depression was not found to be associated with improvement in rumination (Chu et al., 2023; Liu et al., 2020).

Thus, the review suggests that including rumination in research on depression among women holds significance as they tend to engage in rumination more frequently than men. Being a transdiagnostic factor in psychopathology, especially depression (McLaughlin & Nolen-Hoeksema, 2011), rumination provides an important vantage point for the understanding of the mental health issue. Being a crucial mediator between a number of risk factors or dispositions and depression, rumination also poses as a modifiable factor in order to cater to the therapeutic requirements in the case of depression, and the basis of several therapeutic approaches (Chu et al., 2023). As discussed previously, rumination is also more prevalent in women than in men. Therefore, the use of rumination in regulating one's emotions was included as an important vulnerability as well as a target to influence depression in the present research work.

2.1.4 *Reappraisal and depression*

Reappraisal, like rumination, is another emotion regulation strategy. Reappraisal is considered an adaptive strategy of emotion regulation (Van Cauwenberge et al., 2017). Reappraisal modifies the affective regulation process of emotional responses by reinterpreting the meaning attached to an emotional stimulus (Shore et al., 2017). The use of reappraisal to regulate one's emotions may give the person an alternative perspective on the situation. It may not only provide some time and a little distance from an emotionally laded experience but also open up the scope for finding out the positives in a situation. Discovering positive aspects could be an initial step to realizing that a problem can be identified and possibly solved. Incorporated with such potentially relieving elements, reappraisal as an

emotion regulation strategy may be an important defensive tool against depression. On the other hand, the inability to reappraise may pose a vulnerability for depression.

Different theoretical frameworks in the literature highlight the role of reappraisal in mitigating depression. Reappraisal is considered an effective emotion regulation strategy through which dysfunctional schemas could be restructured cognitively. With the decrease in the frequency of negative thoughts and irrational interpretations as a result of reappraisal, emotional and behavioural symptoms of depression may start getting reduced (Long & Hayes, 2014). These assertions about reappraisal protecting against depression are also reinforced positively by the observation that reappraisal has been targeted to reduce depression in different programs (Morris et al., 2015). The protective consequences of reappraisal may be because of its being a close associate of less negative affect and high life satisfaction (Garnefski & Kraaij, 2006; Gross, 2002). Along with decreasing negative emotions, reappraisal also lowers physiological arousal, thereby lowering depressive symptoms (Moore et al., 2008).

Meta-analyses have also found that reappraisal could be a potential defence against depression. A meta-analysis, including 48 research articles, 51 independent samples, 151 effect sizes, and 21150 participants, revealed that reappraisal was positively associated with positive mental health indicators and shared a negative relationship with depression and other mental health issues (Hu et al., 2014). Another meta-analysis that concerned emotion regulation and depression had its observation along the same line. The authors found 72 studies meeting the inclusion criteria. The results depicted that reappraisal usage was significantly and negatively associated with depression (Visted et al., 2018). Another meta-analysis (Picó-Pérez et al., 2017) yielded similar results (Schäfer et al., 2017).

A number of other empirical studies have reported similar results about the reappraisal-depression relationship, which stand in alignment with what the theoretical frameworks propose and meta-analyses have established. Diedrich et al. (2014) studied a sample consisting of 48 clinically depressed patients (M_{age}=35.70, SD_{age}=12.10). The study used both the experimental and the survey methods to record the responses and found that reappraisal was negatively associated with depression. Another intervention-based study with 166 participants aged between 18-35 years yielded similar results. The increase in reappraisal usage was found to be significantly associated with a decrease in depression scores (Morris et al., 2015). In a study intended to assess the connection between facets of emotional awareness, emotion regulation, and depression, 919 adult participants were recruited online. The data collected in the cross-sectional study depicted that reappraisal was a significant predictor of depression (Boden & Thompson, 2015).

Cognitive reappraisal is a valuable strategy since it facilitates the identification of instances when our cognitive processes have adopted a negative orientation. Consequently, it enables the timely regulation of negative emotions, facilitating their transformation into positive affective states. In this way, reappraisal could be helpful in reducing the negative affect and, thus, the depressive symptoms (Xu et al., 2020). Juang et al. (2016), recruited 1279 college students (M_{age}=19.60, SD_{age}=1.57) and explored the association of reappraisal and depression. The analysis showed that reappraisal was negatively correlated with depression. Another study investigated the association between depression and emotion regulation strategies. The study included 1178 Australian university students (M_{age}=24.95, SD_{age}=7.50), and the results showed that there was a significant negative relationship between reappraisal and depression (Richmond et al., 2017). Ford et al. (2017) studied reappraisal as a multi-component process. The study involved 219 participants aged between 21 and 60 years and found that low reappraisal was associated with depression. Kalibatseva and Leong (2018)

conducted a cross-sectional survey on 204 Chinese and 315 European American college students. The findings of the study reiterated that reappraisal was negatively correlated with depression. Another study compared different strategies of emotion regulation based on effectiveness in lowering depressed mood. The study included 30 participants each across three groups marked by recovered depression, never depressed, and currently depressed individuals. The findings revealed that reappraisal was an effective emotion regulation strategy to reduce depressive symptoms (Ehret et al., 2018).

If an individual's cognitive processes undergo a transformation in response to stressful life events, it is possible for the individual to subsequently experience emotions in a normal manner. Cognitive reappraisal is a psychological technique that enables individuals to reframe their perception of stress, transforming it from a detrimental danger into a constructive challenge. By adopting this approach, individuals are able to enhance their ability to effectively cope with and regulate stress. The findings of the study indicate that the regular application of cognitive reappraisal is linked to heightened levels of positive affect, reduced negative affect, and improved interpersonal functioning. This way, reappraisal becomes a protective factor against depression (Cutuli, 2014). A study conducted on 468 participants showed that reappraisal as an emotion regulation strategy shared a negative association with depressive symptoms (Everaert & Joormann, 2019). Parmentier et al. (2019) intended to assess the association of different protective factors with depressive symptoms on 1152 adults (M_{age}=36.34, SD_{age}=14.34), including 900 women. The findings revealed that reappraisal was a significant predictor of depressive symptoms.

In a study based in Nigeria, 308 adult participants were assessed to investigate the connection between certain therapeutic techniques and depressive symptoms. The results showed that higher scores on reappraisal significantly predicted depressive symptoms (Aliche & Onyishi, 2020). Similar results were found in other recent empirical studies as well, where

low reappraisal scores were predictive of depression and high reappraisal would pose as a protective factor against depression (Mahali et al., 2021; Dolcos et al., 2021; Eisma et al., 2023; Everaert et al., 2022; Hui et al., 2022; Ranney et al., 2020; Xu et al., 2023). Similar findings have been reported from the studies conducted in India as well (Lavanya & Manjula, 2017).

The potentially adaptive emotion regulation strategy of reappraisal, as discussed above, has been seen in the literature as a defence against depressive symptomatology. Reappraisal, by giving a positive and distant perspective on emotionally overwhelming situations and events, reinforces one's problem-solving endeavours (Pizzie et al., 2020). It also decreases the negative affect and improves emotional well-being (Cohen et al., 2014). Also, reappraisal has been found to improve individuals' self-esteem, resilience, and aspects of self-efficacy, thereby defending against depression (Han et al., 2023; Zhao et al., 2022; Zuzama et al., 2023). However, the predictive relationship of reappraisal with depression has also been questioned by a few contrary observations. It was found that reappraisal was not effective in reducing mental health issues such as depressive symptoms, and in some cases the ability to regulate one's emotion through reappraisal usage was not correlated with depressive symptoms (Dawel et al., 2023; Troy et al., 2010).

Reappraisal as an emotion regulation strategy, and that too an ostensibly adaptive one, was included in the present research work to explore its defensive role against depressive symptomatology. Cognitive reappraisal has been an important pathway to target depression in a number of therapeutic programs (Sloan et al., 2017). Additionally, the adverse impact and the role of rumination in development of depressive symptomatology is also countered by reappraisal which helps in alleviating depressive symptoms (Wang et al., 2022). Considering this all, reappraisal, along with its potentially maladaptive counterpart, was included to help in a comprehensive understanding of different aspects of depressive symptomatology among

women and possible therapeutic mechanisms to counter the same. If reappraisal shows a significant association with depression, it can be incorporated into evidence-based interventions tailored specifically for women.

2.1.5 *Resilience and depression*

Resilience is another factor that is treated as a defence against depressive symptomatology (Song et al., 2021). Resilience is the underlying psychological capability in a person that helps the person stay strong in the face of adverse circumstances. It is an individual's ability to deal with odds and adapt to life events that are stressful in nature (Southwick & Charney, 2012). It represents the adaptive coping and the strength of a person to maintain health even when going through a stressful episode in life (Fletcher & Sarkar, 2013).

Resilient individuals tend to develop a comprehensive understanding of how they are feeling in an emotionally overwhelming situation and then modulate their response to the surroundings in an adaptive way. The ability to take positives from the odds and have a progressive outlook towards life as a whole facilitates one's affiliation with others, which serves as an aid under stressful situations. Being positive in worldview, a considerable circle of helpful affiliations, and flexibility in approach towards problematic scenarios make resilient individuals survive adversities and shield against mental health issues such as depression. Although resilience has also been treated as a stable characteristic in psychological literature, it tends to vary in different domains and phases of life (Song et al., 2021). Due to this, researchers have been suggesting that resilience should be studied and understood in specific population groups (Aburn et al., 2016).

There have been a number of studies indicating the protective role of resilience against psychopathology, but the explanation for this role was initially provided by Tugade

and Fredrickson (2004). The researchers proposed that resilience shares an association with positive affect. This observation could be used to infer that resilient people utilize positive emotions to bounce back from the odds. Still, the question of how positive emotion is acquired remains unanswered. As per the cognitive model of depression, the way in which people view and interpret adverse situations has an influence on their feelings and relationship with the world. Individuals, when going through a depressed mood, start viewing their world, future, and themselves in a negative light, referred to as the negative cognitive triad (Beck et al., 1987). Later, the positive cognitive triad model postulated that resilient people tend to have a positive opinion about themselves, their future, and the world, and the positive cognitive triad fosters positive emotions and acts as a shield against depression (Mak et al., 2011). There are few other frameworks that establish resilience as a defence against psychological distress. One such framework, the compensatory model, views resilience as a factor that may neutralize exposure to risks (Werner, 2004). The model suggested that compensatory factors may be self-esteem, determination, and perseverance (Ungar, 2004). In the protective factor model of resilience, protection and risk factors interact in a way that lessens the likelihood of adverse outcomes and moderates the effects of exposure to risk (O'Leary, 1998). It suggests that despite adverse or unfavourable life circumstances, these protective elements generate positive results and healthy personality traits. The ability to rebuild self-esteem, planning abilities, life skills, and problem-solving abilities were all found to be significant protective factors (Bonanno, 2004).

There are several instances in the literature where resilience has been found to share a significant association with depression. One meta-analysis conducted to investigate the relationship between resilience and depression included 23 studies and found that psychological resilience and depression were significantly associated. Low resilience was found to be related to high scores on depression (Imran et al., 2022). Another meta-analysis

conducted with a similar objective selected 33 studies and reached the conclusion that resilience shared a moderate negative association with psychological distress, including depression (Jeamjitvibool et al., 2022). Similar results were found in another meta-analysis that included 60 studies and 111 effect sizes in order to assess the connection between mental health and resilience. The analyses revealed that resilience shared a negative correlation with mental health (Hu et al., 2015). Ang et al. (2022) intended to evaluate the effectiveness of an intervention designed to enhance resilience and reduce depressive symptoms and found that targeting resilience indeed helped reduce depression.

There are other empirical studies that provide evidence for the nature of the association between resilience and depression proposed by the models and reiterated by the meta-analyses discussed in the previous paragraphs. In a cross-sectional study, the researchers included 1205 participants in the age range of 25-44 years, and the analyses revealed that resilience was a significant predictor of depression (Yu et al., 2014). In another study, on 388 participants (M_{age}=25.31, SD_{age}=7.87), the association was investigated, and the hierarchical regression analyses showed that depression was significantly predicted by resilience (Dunn et al., 2014). A cross-sectional study on 527 Japanese individuals (M_{age}=38.3, SD_{age}=9.0) tested the nature of the association shared between resilience and depression and found a significant relationship between these variables (Yoshikawa et al., 2015). Min et al. (2015) conducted a study with 436 participants (M_{age}=37.3, SD_{age}=13.3) diagnosed with common mental disorders. The responses of the participants depicted resilience as a significant predictor of depression.

Resilient individuals reportedly possess positive social orientation and better interpersonal interactive abilities, which makes social support and help easily accessible to the individuals. In this way, resilience may have a mitigating effect on depressive symptoms (Dai & Smith, 2023). A study reported similar findings, which assessed 715 Japanese

individuals (M_{age}=39.9, SD_{age}=9.4) to investigate the relationship that resilience and depression share. The findings reiterated that resilience was an important predictor of depression (Yoshikawa et al., 2016). Resilience was found to be significantly and negatively associated with depression in another cross-sectional study based in Australia. Similar results were found in another study in which researchers assessed 100 individuals with depressive symptomatology and suicidal ideations. The data collected on relevant survey tools revealed that resilience shared a negative correlation with depression (Rossetti et al., 2017). Another study based in South Korea recruited 438 medical students (M_{age}=25.2, SD_{age}=2.45) and found resilience as a strong predictor of depressive symptomatology (Lee et al., 2018). In an interventional study, conducted on 61 individuals going through depression and undergoing cognitive therapy, it was found that scores on resilience at baseline, post-intervention and on follow-up were significantly different, and significant increase in the scores over the course of the assessment was associated with a reduction in the severity of depressive symptoms (Konradt et al., 2018).

Individuals who possess resilience are less prone to experiencing depression, even when they encounter specific forms of stress, such as significant life events or ongoing daily stressors. This cohort exhibits a range of attributes, including a heightened positive attributional style, reduced levels of anxiety, and increased participation in social endeavors (Goldstein et al., 2013). In a study based in the United States, 225 Bhutanese individuals were assessed for investigating the association between depression and its relevant vulnerabilities. The data was gathered through structured self-report questionnaires. The analyses revealed that depression was found to have a significant negative correlation with resilience (Poudel-Tandukar et al., 2019). Similar results highlighting the nature and direction of the relationship between resilience and depression have been found in recent studies as

well (Kelifa et al., 2021; Lee et al., 2022; Lyall et al., 2023; Mętel et al., 2020; Ran et al., 2020a; Takiguchi et al., 2023; To et al., 2022; Zhao et al., 2021).

Resilience as a protective factor against depression has also been seen among women in India-based studies. Among Indian women, it has been observed that resilience was negatively correlated with depression (Kishore et al., 2018a). Resilience building has been found to be a significant protective factor against mental health issues such as depression among females (Rathore et al., 2015). Therapeutic interventions achieved a reduction in depression by enhancing resilience among women (Mathias et al., 2018).

Several explanatory links have been investigated that connect or translate the influence of resilience on depression. Empirical research has highlighted certain key variables that significantly link resilience with depression. These are physical activities (Wermelinger Ávila et al., 2018), stressful life events (Semkovska et al., 2022), sleep disturbances (Chao et al., 2023), and positive and negative affect (Shi et al., 2019). Additionally, resilience itself poses as a mediating factor and relatively more malleable target to counter the effect of dispositional vulnerabilities on depression (Liu et al., 2023). Also, resilience is an important element in therapeutic approaches to mitigate depression (Watkins, 2015). However, some contrary observations have also been seen in the resilience-depression association wherein resilience was reported to have an unstable association with depressive symptoms and the reduction in the distress wasn't associated with resilience enhancement (Lau, 2022; Pakalniškienė et al., 2016).

Resilience may be a crucial risk or protective factor in the case of depressive symptomatology. Low resilience has been a vulnerability for depression, whereas high resilience is found to have a defensive impact against psychopathology. Resilience, being the ability to overcome odds when under stressful situations, helps the individual to start adaptive

changes in order to hope and act for restoring well-being. It pushes the person to mobilize will and engage in physical activities, make adaptive changes in one's routine, and look for positive emotions to cherish oneself and feel better.

Inculcating resilience is itself a pathway for improvements in depressive symptomatology as it may counter the diathesis of different relatively stable vulnerabilities (Ito et al., 2022; Wang et al., 2022). Resilience is also a key target to be addressed in different therapeutic approaches devised to address depression (Helmreich et al., 2017; Sood et al., 2014). This suggests that resilience could be a crucial factor to be tested for understanding of depressive symptomatology in different contexts, and when enhanced, it may also serve as a facilitating factor in depression mitigation. Therefore, the present research included resilience, keeping in mind both its significant role in the comprehension of the mental health issue along with other identified factors, along with its therapeutic significance in potential interventions to address the issue of depression.

2.1.6 *Self-efficacy and depression*

Self-efficacy is considered one of the crucial correlates of depression (Tak et al., 2017). Self-efficacy is an important factor for an individual's well-being as it represents the belief in one's capacity to initiate actions to get a desired outcome and face challenges. Self-efficacy leads to behaviour through certain goals, expectations, and other factors in the surrounding environment (Bandura, 2012).

Self-efficacy may be an important factor related to depressive symptomatology. An individual low on self-efficacy may be at risk for depression, whereas high self-efficacy may act as a protection against depression. When an individual goes through a stressful situation, unfavourable outcomes and other associated factors, it lowers the belief in oneself that nothing could change the situation for the better. This may reduce the mobilization of will by

the affected person and lower the behavioural activation. The person may show no intent to look towards positive aspects of a situation and does not initiate any action to achieve the desired goal and maintain the vicious cycle. This vicious cycle may result in depressive symptoms.

Certain theoretical frameworks have shed light on how self-efficacy and depression are related. Social Cognitive Theory proposed by Bandura (2012) claims that low self-efficacy might lead to depressive symptomatology through disparity in goals and perceived skills to achieve those goals. Individuals feel that they are low on skills to fulfil certain aspirations, but they should be capable of achieving those. Such standards, relatively less realistic ones, create the disparity due to which an individual becomes less likely to act in order to achieve the goal. Negative conceptions about oneself deplete self-efficacy further and might lead to depression. Also, low self-efficacy in forming and regulating interpersonal relationships may obstruct the creation of positive interpersonal connections that help in dealing with stressful events. This scarcity of positive interpersonal relationships may result in a sense of isolation and depressive symptoms (Bandura, 2012). Another framework, i.e., the hopelessness theory, maintains that the causal attributions made by an individual in response to negative life events often make negative inferences about their own capabilities and believe this to be stable over time. The person also extends this inference to negative future outcomes and becomes hopeless. This hopelessness in the context of one's own capability to act and bring about a change in the future depletes self-efficacy and results in depression (Abramson et al., 1989). Additionally, the behavioural activation theory highlights the role of self-efficacy in setting the stage for adaptive behaviours and maintaining such behaviours to induce positive mood and ensure well-being. In this way, self-efficacy may act as a defence against depressive symptomatology (Lewinsohn, 1975).

The relationship between self-efficacy and depression has been observed in the literature. A meta-analysis including 18 studies found a significant negative association between self-efficacy and depression (van Diemen et al., 2017). Empirical support for the claims about the nature of self-efficacy-depression association has been found in studies. Clum et al. (2014) conducted a study on 743 women (M_{age}=46.7, SD_{age}=10.8) to test the relationship between depression and other associated variables. It was found that self-efficacy, along with its components, was significantly associated with depression. In a study intended to investigate the interplay between personality dispositions, self-efficacy, and depressive symptoms, 1832 Chinese citizens (M_{age}=34.88, SD_{age}=10.59) participated. The results showed that self-efficacy was a significant predictor of depression (Wang et al., 2014).

Individuals exhibiting high levels of self-efficacy possess a strong belief in their ability to effectively manage and mitigate any external dangers, hence enabling them to uphold their mental well-being through the implementation of positive coping mechanisms. Such beliefs act as a protective mechanism against depression (Chen et al., 2020). Another study, which proposed to assess the association of depressive symptomatology with few relevant risk and protective factors, recruited 204 participants aged 18 years and above. The results depicted that depression was being predicted by self-efficacy significantly (Soysa & Wilcomb, 2015). Sim and Moon (2015) studied factors associated with the adjustment of college students in South Korea. In this study, 1134 students participated, and the analysis revealed that self-efficacy was significantly and negatively associated with depression.

Self-efficacy has also been a key target to address depressive symptoms in therapeutic interventions. In a randomized control trial of a self-care intervention for depression, 215 participants were assessed in a cross-sectional design, and 158 participants were studied in a longitudinal design. The intervention was effective in enhancing self-efficacy, and this increase was associated with improvement in depressive symptoms (McCusker et al., 2016).

Zhang and Jin (2016) studied 427 women (M_{age}=26.17, SD_{age}=2.16) and found that self-efficacy explained a significant proportion of variance in depression. In an experimental study with 80 participants, a multidisciplinary intervention was administered to address depression. Self-efficacy was one of the targets through which the intervention intended to reduce depression. The intervention was found effective, and, more importantly, self-efficacy was found to be accounting for a significant proportion of change in depression (Feldstain et al., 2016). Another study recruited 535 university students (M_{age}=20.67, SD_{age}=1.43) and explored the nature of the association between self-efficacy and depression. The analysis showed that self-efficacy was negatively associated with depression (Pu et al., 2017). Guo et al. (2017) conducted a randomized control trial with 76 participants ($N_{control}$=42, N_{exp}=34) to test how effective positive psychotherapy might be against depression. Positive psychotherapy was found to be efficacious, and improvement in self-efficacy was followed by a reduction in depressive symptomatology.

The concept of self-efficacy pertains to an individual's emotional state in relation to their level of self-control. It suggests that individuals are more likely to engage in positive actions if they possess a sense of capability to successfully do a certain task. The ability to exercise self-control necessitates the possession of personal resources that enable individuals to regulate their behaviour. In addition, self-efficacy, a positive emotional state, can serve as a valuable supplement to this capacity. This capacity can play an instrumental role in depression mitigation (Chen et al., 2020). Santos et al. (2018) proposed to explore the longitudinal network structure of depression and self-efficacy in 306 women suffering from depression. The findings of the study revealed that self-efficacy, in the resulting network, was negatively correlated with depression. Begun et al. (2018) intended to explore and investigate the risk and protective factors associated with depression among 601 American students (age 18 years and above). The analysis revealed that self-efficacy was a protective factor against

depression. In a study proposed to evaluate the effectiveness of a domain-targeted cognitive behaviour therapy intervention, 168 participants based in the Netherlands were recruited. After the intervention, it was found that high baseline self-efficacy was acting as a protective factor against depression (Brenninkmeijer et al., 2019). Schönfeld et al. (2019) intended to study the association of self-efficacy with depression among a sample of 2160 Chinese university students aged 18 years and above. For this purpose, the researchers used a longitudinal design and involved measurements at multiple points in time. Self-efficacy, as it was observed, predicted depression and negative mental health outcomes significantly.

Recent studies investigating depression and self-efficacy relationship observed and derived similar inferences. Self-efficacy has been found to be significantly and negatively associated with depression and has been affirmed as an important defence against depression (Bueno-Pacheco et al., 2023; Camp et al., 2023; Chen et al., 2020; Chen et al., 2020; Hua & Ma, 2022; Melo et al., 2021; Sharma & Kumra, 2022; Wen et al., 2021).

Self-efficacy has been found to be associated with depression among women in the studies conducted on the Indian population as well. Ghaderi and Rangaiah (2011) studied a sample of 80 Indian participants (Female=40) and observed that lower self-efficacy was associated with higher scores on depression. Another study that investigated women's well-being found that self-efficacy plays an important role in maintaining well-being and, therefore, may be an important protective factor against mental health issues such as depression (Sahu & Rath, 2003).

Several explanatory factors have been found in the literature that enhance our understanding of how self-efficacy may either make a person vulnerable to depression or protect against depression. These factors are coping strategies such as problem-solving (Wu et al., 2023), stress experienced by an individual (Madson et al., 2022), rumination to manage

emotional experiences (Zeng et al., 2021), self-esteem (Tak et al., 2017), psychological resilience (Qin et al., 2023), etc. However, the recent literature on the depression-self-efficacy relationship has observed such findings that are not in consonance with the established nature of association. The dissonant observations reported that predictive relationship was not found between self-efficacy and depressive symptomatology (Tak et al., 2017; Yang et al., 2022).

Self-efficacy is the belief in effectiveness in one's own actions that gives the person a push to engage in action to turn the table around against adversities and distress. Self-efficacy aids the problem-solving approach and skills and thereby reduces the stress of impending problems. It also tends to lift the barrier for positive information and appraisals of situations and consequently puts a bar on ruminative thinking. Such changes translate into uplifted self-esteem and increased resilience, therefore making the person capable of fighting back against the mental health issue of depression.

It has been found that self-efficacy enhancement may further promote resilience against psychological distress (Schwarzer & Warner, 2013). Moreover, self-efficacy has been observed to be a changeable factor which can be improved through interventions (Prestwich et al., 2014). Also, many interventions for depression management target self-efficacy to reduce depressive symptomatology (Duggal, 2019). The present research work, therefore, took into account self-efficacy as another crucial contributor to the understanding of depression through a potential syndrome involving different vulnerabilities and defences pertaining to depressive symptomatology. Also, as discussed in the presented literature, self-efficacy may be a potential pathway in therapeutic interventions to mitigate depression. Therefore, self-efficacy may also be instrumental in any intervention against depressive symptomatology.

2.1.7 *Conclusion*

As outlined in the preceding chapter, the primary goal of this research was to develop and evaluate the effectiveness of an intervention designed to alleviate depressive symptoms in women. Prior to creating such an intervention, it was imperative to identify the vulnerabilities and defences prevalent among women in India. This chapter presented literature review discussing the association between relevant vulnerabilities and defences that were highlighted in the preceding chapter. Neuroticism, extraversion, rumination, reappraisal, resilience and self-efficacy represent three key domains associated with risk assessment and management of depressive symptomatology. While high neuroticism and rumination seem to pose risk for depression; high extraversion, increased usage of reappraisal, and enhanced resilience and self-efficacy may provide protection against depressive symptomatology. Although it is pertinent to test these vulnerabilities and their associaytion with depressive symptomatology in the present context. Consequently, a comprehensive exploration of the most pertinent vulnerabilities and defences was undertaken, drawing on both existing literature and empirical investigation. The initial phase of the research involved testing empirically the vulnerabilities and defences associated with depressive symptomatology among women. Subsequently, an intervention was designed targeting the identified vulnerabilities and defences. This intervention was specifically devised to be applicable in non-specialized settings. Its effectiveness in reducing depressive symptoms among Indian women was then tested in the second phase. Thus, the current research comprised two distinct studies, the details of which are presented in the following chapters.

Chapter 3

Examining Psychological Defenses Against Depressive Symptoms in Women

3.0: A Brief overview of the chapter:

This chapter presents the findings from the first phase of the current research, which focuses on assessing and targeting vulnerabilities and defences against depressive symptomatology in women. The primary goal of the first phase was to establish empirical support for identifying variables to be addressed in the depression intervention for women. Subsequently, the second phase of the study aimed to devise and evaluate the effectiveness of an intervention designed to mitigate depressive symptomatology in women. The prevalence of depressive symptoms among Indian women, coupled with a significant treatment gap, underscores the need for community-level interventions. The success of such intervention hinges on the precise identification and targeting of specific risk and protective factors. Recognizing these factors may indicate the existence of a Psychological Defensive Syndrome (PDS) against depressive symptomatology, with the potential to aid individuals in managing such symptoms through tailored interventions. The primary objective of this initial phase was to investigate into the association between depressive symptomatology and various factors, including rumination, reappraisal, resilience, self-efficacy, neuroticism, and extraversion. A total of 671 women (M_{age}=23.71) recorded their responses on standardized psychological measures in a semi-structured interview setting. The collected data underwent correlational, regression, and path analysis. The results support all hypotheses, revealing that women who showed lower rumination usage and higher reappraisal usage, along with lower neuroticism and higher extraversion, resilience, and self-efficacy, exhibited less severe depressive

symptoms compared to their counterparts. This pattern can be conceptualized as a Psychological Defensive Syndrome against depressive symptoms in Indian women. These findings underscore the critical importance of addressing these factors in the prevention and alleviation of depressive symptomatology in this population. This chapter presents in details the need and motivation, objective, methodology, and the significant findings and discussions concerning the first part of the research work. These findings offer a promising direction for preventing and easing depressive symptoms in women.

3.1 Need and Rationale of the study

Mental health issues are significant contributors to the global burden of disease. As far as Years Lived with Disability (YLDs) are concerned, depressive disorders are one of the three highest contributors (James et al., 2018; Sagar et al., 2020). Review of the existing literature revealed that nearly 264 million people were living with depressive disorders, a rise of more than 14.3% in its count occurred in the decade of 2007-2017, and 0.8 million people lose their lives every year due to suicide (World Health Organization [WHO], 2020). A similar situation could be seen in India where the estimated prevalence of depressive disorders ranged between 3.3% (Sagar et al., 2020) and 2.7% (Gururaj et al., 2016). As reported by Sagar et al. (2020), 45.7 million individuals had depressive disorders in India in 2017, and the prevalence of depressive disorders among women was significantly higher (3.9%) than among men (2.7%). The prevalence of depressive disorders was positively associated with the suicide death rate for both men and women; however, the relationship was stronger among women as compared to men (Sagar et al., 2020). In addition to the increasing prevalence, high treatment gap for mental disorders makes the scenario more critical. The treatment for mental disorders is estimated to be between 76% and 85% in low- and middle-income countries. The treatment gap for mood disorders in India was 85.2% in 2015 (Gururaj et al., 2016). As per the National Mental Health Survey of India, 2015–2016

(Gururaj et al., 2016), 150 million individuals in India require short- or long-term mental health intervention. In the prevailing scenario, resulting from globalization, urbanization, migration, modernization, and the COVID-19 pandemic, mental health issues are likely to increase in the coming years. Acknowledging the significance of mental health issues and resulting problems, the World Health Assembly resolved to address mental health issues at the country level and conduct awareness campaigns at the community level. It was advocated to involve non-specialized healthcare settings and workers in providing psychosocial care to the vulnerable population (WHO, 2016). Effective implementation of such interventions require thorough understanding of the dynamics of depression—its specific risk and protective factors associated with a targeted population. Identifying such factors may suggest a Psychological Defensive Syndrome (PDS) against depressive symptomatology in a particular population, and interventions targeting that PDS may impact depressive symptomatology. In the present study, such a PDS was explored in women living in the Indian subcontinent.

Review of existing literature indicated various reasons to study and address depressive tendencies in Indian women and explore specific risk and protective factors associated with their depression. Women are more affected by depression than men. As per a recent Global Burden of Disease Study (Sagar et al., 2020), the prevalence of depression in India is higher in women (3.9%) than in men (2.7%). Gender differences may be attributed to unique biological conditions, adversative sociocultural norms, gender discrimination, sexual abuse, and antenatal and postnatal stress (Albert, 2015; Beydoun et al., 2012). The difference may also be attributed to behavioural characteristics, for example, women show more internalizing symptoms and less externalizing symptoms than men (Bartels et al., 2013). However, the underlying mechanisms through which women become more vulnerable remain uncertain; thus, treatment customized as per the specific risk factor for women has not been

devised (Albert, 2015). Overall, the literature on gender and depression suggests that the intervention targeting depression should consider the female gender as a significant risk factor for depression and explore gender-specific differences in the causal dynamics of depression. Also, the treatment plan should be customized as per the sociocultural norms for women in a given community. A recent meta-ethnographic study conducted by Bhattacharya et al. (2019) justified the need to assess unique risk factors before implementing any intervention in a specific culture. Bhattacharya et al. (2019) explored the depression-related perception and subjective experiences of women in the Indian context. The researchers synthesized qualitative data from 13 studies conducted from 1987 to 2017 and maintained that the social worlds of Indian women include most of the ingredients that make them more vulnerable to depression. In addition to relationship issues, financial insecurity, domestic violence, and reproductive problems, the researchers reported the existence of adverse social conditions for Indian women, for example, gender inequalities and discriminatory social norms, that affect women's mental health significantly and make them vulnerable to depressive symptoms.

Indian culture is deeply patriarchal, with men trained to have a dominant role and women to have a subordinate one from birth onwards (Davar, 1999). In most cases, women in India are taught to fulfil domestic duties from an early age, whereas men are trained to exercise authority over women (Ram et al., 2014). Indian women enjoy less independence than men, and their gender-specific roles do not foster autonomy (Maitra et al., 2015). Such gender-specific discriminatory norms may predispose women to suffer more distress (Maitra et al., 2015). Though the resilience and survivorship of Indian women are being acknowledged, victims of violence and discrimination continue to show high rates of mental health challenges (Shanthakumari et al., 2014). Given the contextual and sociocultural factors that make Indian women more vulnerable to depression, it becomes imperative to explore

specific risk and protective factors before devising any intervention to address the issue; the present study is a step in a similar line of thought.

As mentioned earlier, the present study was the first phase of a two-phase research project which aimed to identify the specific predictors of depressive symptoms in women. Initially, the existing literature was reviewed to explore the relevant factors and then the relationship between identified factors and depression were tested empirically. As there are multiple factors associated with depression, devising an intervention should consider including different domains, and within each domain, several relevant modifiable factors should be included. Based on the review of relevant literature, three potential domains were included in the study: emotion regulation, psychological capital (resources available to deal with negative/stressful experiences), and personality traits (relatively stable behavioural tendencies). A total of six factors, two from each domain—reappraisal, rumination, resilience, self-efficacy, neuroticism, and extraversion—were selected and explored to understand their associations with depressive symptomatology among Indian women. The rationale for selecting these variables have been highlighted in the previous chapter. Literature suggested to explore some relevant pre-existing tendencies associated with negative affectivity, for example, strategies used to regulate emotions (emotion regulation), relatively stable tendencies to experience emotion (personality factors), and resources available to deal with stressful situations or emotionally competent stimuli (psychological capital). The exploration was required before including these domains in the intervention to be devised and applied in the second phase of the research work. Among other reasons for selecting these variables, the most significant was that the most of these variables and their effects can be manipulated through psychological interventions to make them more adaptive (Armstrong & Rimes, 2016; Brown, 2007; Clarke et al., 2014; Merluzzi et al., 2019; Moltrecht et al., 2020).

3.2 Relationship between selected variables and depression in Literature

Though the relationship patterns between identified variables and depressive tendencies have been elaborated in the previous chapter, it is important to summarize the observations here before presenting the specific hypotheses of the present study. Concerning emotion regulation and depression, theorists have suggested that vulnerable and non-vulnerable individuals do not differ in their initial response to an adverse event (Rottenberg, 2017); they differ in their ability to recover from the subsequent negative affect (Teasdale, 1988). An insufficient repository of emotion-regulation strategies, selection of the wrong emotion-regulation strategy, and habitual or inflexible use of the specific emotion-regulation strategies might be associated with depressive symptomatology (Bonanno & Burton, 2013). In the existing literature, depressive symptomatology has been linked to more use of maladaptive emotion-regulation strategies but not with less use of adaptive strategies (Aldao & Nolen-Hoeksema, 2010; 2012; Kovacs et al., 2009). In the present study, one of the most studied maladaptive emotion-regulation strategies, rumination, and one of the most studied adaptive emotion-regulation strategies, reappraisal, were selected. Previous research in laboratory and field settings identified rumination as a depressogenic strategy (Nolen-Hoeksema et al., 2008). As a thinking style, rumination prolongs depressive episodes and hinders recovery from negative moods (Nolen-Hoeksema et al., 2008). Moreover, it increases negative cognitions and inhibits the use of effective problem-solving strategies, especially in depressed participants (Whitmer & Gotlib, 2012). In their longitudinal study, Michl et al. (2013) found rumination mediating the longitudinal association between stress and depressive symptoms. Rumination has also been found to reduce positive affect (Werner-Seidler et al., 2013). These observations suggest that rumination may prolong negative mood, decrease positive emotions, and increase cognitive biases, ultimately contributing to depressive symptomatology. Reappraisal is another emotion-regulation strategy that has been associated

with depressive symptoms in both clinical and non-clinical samples (D'Avanzato et al., 2013; Garnefski & Kraaij, 2006). Those who use reappraisal strategies tend to alter a situation's meaning in order to change one's emotional response (Gross & John, 2003). It reduces negative affect and induces arousal (Ray et al., 2010). In a meta-analysis, Aldao et al. (2010) maintained that effective reappraisal is linked to lower depression; however, the relationship and consistency were less robust than other strategies like rumination. Aldao and Nolen-Hoeksema (2012) reported that the efficiency of the reappraisal strategy depends on the extent to which the maladaptive strategies are used. Reappraisal facilitates recovery from negative moods, mainly in individuals using maladaptive strategies frequently. Overall, the studies conducted so far observed that depressed compared to non-depressed participants ruminate more and are less likely to use a reappraisal strategy to regulate their emotions (D'Avanzato et al., 2013; Ehring et al., 2010).

Psychological capital, a positive psychological state, may reduce the risk and deleterious effects of depression (Newman et al., 2014). Psychological capital is characterized by a few positive psychological resources such as resiliency, self-efficacy, hope, and optimism. These positive resources moderate negative affectivity and cushion against adverse emotional experiences (Li et al., 2014; van Beveren et al., 2017). Taken together, previous studies have found negative associations of psychological capital with mental ill-health and positive associations with well-being (Finch et al., 2020); thus, it can be considered a protective factor against depression. In the present study, two components of psychological capital, resilience, and self-efficacy, were included in the model to be tested as a part of PDS against depression.

Individuals high on resilience tend to sustain and bounce back when beset by adversity, and they even put more effort into attaining success (Luthans et al., 2007). Resilience capacitates an individual to deal with the potential adverse effects of stress (Ma et

al., 2019). In previous studies, resilience has been negatively associated with depression (Poole et al., 2017; Shapero et al., 2019). Previous findings suggest that inculcating resilience may be one way of preventing and treating depression in women. Fortunately, this resilience can be developed, subject to the availability of the right circumstances (Connor & Davidson, 2003; Richardson, 2002). Self-efficacy—another component of psychological capital—affects the quality of human functioning through different underlying mechanisms (Bandura, 2011). According to the social-cognitive theory, poor self-efficacy leads to depression by increasing the discrepancy in aspirations and perceived skills (Bandura et al., 1999; Milanovic et al., 2018); however, there might be a bidirectional relationship between self-efficacy and depressive symptoms (Hammen, 2005). Also, the sense of control individuals perceive over the causes and consequences of their emotions strongly influence the regulatory strategies they employ; It also affect subsequent behavioural reactions (Ford & Gross, 2018). Individuals' beliefs about the control they can exert on their emotions are crucial to achieving effective emotion regulation and managing negative affectivity (Gross, 2015). All these findings suggest that increased self-efficacy may protect individuals against depression. According to the social cognitive theory, self-efficacy can be enhanced by manipulating certain aspects such as mastery experiences, modelling, and social persuasion (Bandura, 2011). Due to its malleable nature and significant association with depressive symptoms, self-efficacy was also tested as a component of the PDS against depression.

Understanding the link between personality and depression may have many important implications for research and practice. For instance, it may help identify at-risk individuals, tailor treatment plans accordingly, and predict treatment responses (Zinbarg et al., 2008). In the present study, two personality traits, that is, neuroticism and extraversion, generally implicated in affectivity and depression (Klein et al., 2011), were also tested as components of the PDS. In the previous studies, depressed individuals showed elevated levels of

neuroticism and reduced extraverted tendency than non-depressed individuals, and no significant differences were observed in other dimensions of the Big-Five Model (Bagby & Ryder, 2000; Cox et al., 2004). Similar findings were observed in a meta-analysis (Kotov et al., 2010) of 175 studies conducted between 1980 and 2007. Depressed individuals differed from controls by scoring high on neuroticism and low on extraversion and conscientiousness. Based on past observations (e.g., Jeronimus et al., 2016; Khazanov & Ruscio, 2016; Klein et al., 2011), neuroticism and extraversion were also included as components to be tested for their contribution to the PDS against depression.

The six variables discussed so far have been implicated in negative affectivity and depressive symptomatology, either individually or in groups; however, the combined predictability of these variables in a different (Indian) context on a women-only sample has not been explored. It may provide essential additional information and the directions for devising customized interventions. As mentioned earlier, social norms of the Indian culture add more vulnerability in addition to universal biological vulnerabilities of women for depression; therefore, before devising any customized intervention, the association of the selected factors with depressive symptomatology, as observed in the existing literature, should be confirmed.

3.3 Objectives and Hypotheses

The main objective of this study was to assess the predictive association between the selected variables, that is, rumination, reappraisal, resilience, self-efficacy, neuroticism, extraversion, and depressive symptoms to find the total variance that the set of these variables could explain. Drawing inference from the review of literature, it was hypothesized that the model comprising these variables would explain significant portion of variance in depressive symptoms. More specifically, the following hypotheses were formulated:

1. Rumination and neuroticism are expected to have a positive predictive relationship with depressive symptoms.
2. Reappraisal, resilience, self-efficacy, and extraversion are expected to have a negative predictive relationship with depressive symptoms.
3. The model comprised of all six predictors would explain a significant portion of the variability in depressive symptoms.

3.4 Method

3.4.1 *Research design*

A cross-sectional survey design was used, in which 671 females were assessed using standardized measures of depressive symptoms, emotion regulation strategies, anxiety, and neuroticism. The sample of the study was obtained using a multi-stage cluster random sampling method was used; detail is given in the procedure section.

3.4.2 *Participants*

The final sample comprised of 671 female participants aged 18-45 (Mean age=23.71, SD=6.09). A total of 750 respondents initially filled out the standardized questionnaires. The inclusion criteria were: a) above the age of 18 years, b) currently living in the state of Punjab, c) able to read and write Punjabi language (Gurmukhi script), d) Never diagnosed with any mental disorder and not under medication/treatment for any chronic health/mental health issue. The participants were randomly selected from both rural and urban areas across five districts in Punjab. Out of 750 initially shortlisted respondents, only 671 were included in the analysis due to reasons such as incomplete responses on the questionnaires, certain response patterns on control items, age not falling in the specified range, and extreme responses. The distribution of participants based on locality and family type is detailed in Table 3.2.

3.4.3 *Measures*

The Beck Depression Inventory-II (BDI-II; Beck et al., 1996), The International Personality Item Pool (IPIP) NEO-120 (Johnson, 2014), the Connor-Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003), the General Self-Efficacy Scale (GSE; Schwarzer & Jerusalem, 1995) and the Heidelberg Form for Emotion Regulation Strategies (HFERST; Izadpanah et al., 2017) were used in the present study. For the research work, which this study is a part of, all the standardized measures were translated into Punjabi (Gurumukhi script) using the forward-backwards translation method. In this process, the original scales in English were first given to the experts (with Punjabi as their mother tongue and well-versed in English) for translation into Punjabi. After a thorough review, the Punjabi translation of the scales was given to other experts for translating the same into English. Significant correlations observed among the variables like depression, anxiety, neuroticism, and rumination, measured using the translated versions, support the soundness of the scales and indicate the convergent validity of the translated measures. Correlation coefficients between the original and translated versions for all the scales were above 0.96.

3.4.3.1 The Beck Depression Inventory-II

The Beck Depression Inventory (Beck et al., 1996) was used to test the presence and severity of depressive symptomatology. It consists of 21 groups of items, in which four response options are given on a scale of 0 to 3. Participants respond to each item considering their experience in the past two-week period. Raw scores of 0 to 13 show minimal depression, 14 to 19 indicate mild depression, a range of 20 to 28 refers to moderate depression, and 29 to 63 means that the respondent is suffering from severe depression. The reliability and validity of the inventory have been established in previous studies conducted across the cultures; Cronbach-alpha in most of the studies ranged from 0.89 to 0.96 (Basker

et al., 2007; Wang & Gorenstein, 2013). For the present data, Cronbach-alpha came out to be 0.91.

3.4.3.2 The IPIP NEO-120

The IPIP NEO-120 scale constructed by Johnson (2014) was used to assess personality characteristics. The entire inventory is a 120-item tool that measures five domains of personality, i.e., Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness. Each domain includes 24 self-descriptive statements given on a 5-point Likert-type scale (‘strongly disagree’ to ‘strongly agree’). Scores for each domain are computed by adding all 24 responses after adjusting the scoring for reversed items. In the present study, only two scales of the inventory, i.e., neuroticism and extraversion subscales, were used. Further, 12 items representing all six facets of each scale were selected. The author of the inventory reported satisfactory reliability coefficients with Cronbach's-alpha ranging from 0.69 to 0.87 (Johnson, 2014). In the present data, Cronbach-alphas for neuroticism and extraversion came out to be 0.82 and 0.80, respectively.

3.4.3.3 The Connor-Davidson Resilience Scale 25 (CD-RISC 25)

The CD-RISC-25 (Connor & Davidson, 2003) was used to measure the level of resilience in women. It is a 25-item inventory that uses a five-point Likert scale ranging from 0 ("Not true at all") to 4 ("True nearly all the time"). The authors originally identified five underlying factors in the present study. Only a total score representing overall resilience was used. A higher score indicates more resilience of the respondent. Previous studies on both general, non-clinical samples and clinical samples have found acceptable internal consistency with Cronbach's-alpha ranging from 0.87 to 0.91 (Singh & Yu, 2010; Sutherland et al., 2009). For the present data, Cronbach-alpha came out to be 0.96.

3.4.3.4 The General Self-Efficacy Scale

The General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995), a short, 10-item unidimensional scale, measures general self-efficacy in carrying out activities in normal as well as difficult situations. Respondents select one option from the given options ranging from 'not at all true' (scored as 1) to 'completely true' (scored as 4). The total score on this scale ranges from 10 to 40, and higher scores indicate higher self-efficacy. The reliability and validity of the inventory have been rigorously explored in previous studies conducted across the countries; Cronbach-alpha in most of the studies ranged from 0.76 to 0.90 (Luszczynska et al., 2005; Meher & Baral, 2020). For the present data, Cronbach-alpha was found to be 0.91.

3.4.3.5 Heidelberg Form for Emotion Regulation Strategies (HFERST)

The strategies used by participants for emotion regulation in their lives were assessed using the HFERST (Izadpanah et al., 2017). It contains 28 items given on a five-point Likert scale ranging from 'Never' (scored as 1) to 'Always' (scored as 5). The HFERST measures eight specific emotion regulation strategies, out of which only two were measured in the present study, i.e., rumination and reappraisal. The total score on each strategy ranges from 4 to 20, and higher scores indicate more use of the given strategy. The author of the questionnaire reported satisfactory reliability coefficients for rumination and reappraisal subscales with Cronbach's-alpha ranging from 0.71 to 0.91 (Izadpanah et al., 2017). In the present data, Cronbach's-alphas for rumination and reappraisal was observed to be 0.79 and 0.83, respectively.

3.4.4 *Procedure*

Initially, the required sample size was calculated following Cohen's guidelines (Cohen, 1988, 1992) regarding minimum sample size for the given number of predictors. The

guidelines mention that for α=0.01, a small effect size (Cohen's f^2), and power of 0.80, a total of 698 participants are required. G-Power software version 3.1.9.7 also confirmed the required sample size of 698. Researchers approached 750 participants, considering the potential non-response or dropouts, of whom 671 were finally included in the analysis. Before assessment, ethics approval was obtained from the Institute's Ethics Committee. A multi-level cluster sampling (Districts-Villages-Participants) was used. Five districts in Punjab (Jalandhar, Mohali, Fatehgarh Sahib, Patiala and Ropar) were randomly chosen. Four to six villages/wards were chosen from each selected district, and then, from each village/ward, 30 participants were selected randomly and assessed for selected variables. The data collection lasted from November 2019 to February 2020. The premises used for community programmes in the villages were used to gather the participants, with the help of the local administration and elected bodies. The participants were called to the community centres under a mental health awareness program titled 'Mann-Jitt' (a phrase used in Punjabi to refer to conquering the mind). The district authorities permitted the program, and the local administration bodies facilitated the outreach to the participants. The data were collected before the commencement of the awareness program. After discussing the program and introduce the research work along with the risks and benefits involved in it, the invitees were asked for their voluntary participation in the research program. Those who showed willingness and signed the consent form were given the questionnaire and requested to provide their responses. As a check on the quality of responses, a few items were inserted in the questionnaires. One such Likert-scale item was 'I have seen many three-headed elephants'. Another factor, i.e., prior information given about the feedback to be provided by trained psychologists, motivated participants to provide their genuine responses. As promised, all participants were provided with personalized feedback about the assessment.

Once the targeted responses were received from a particular area, a seminar on mental health issues was conducted by trained psychologists as compensation for their participation.

3.4.5 *Statistical analyses*

For testing the stated hypotheses, the obtained data was cleaned, and correlational and multiple regression analyses controlling for the effect of age were conducted using IBM SPSS 25.0. The regression analysis explored the predicting ability of rumination, reappraisal, resilience, self-efficacy, neuroticism, and extraversion for depressive symptomatology, controlling the effect of age. Moreover, path analysis was done to evaluate the goodness of the model fit using IBM AMOS 25.0.

3.5 Results

The findings of the present study are summarized in Tables 3.2-3.5. Table 3.2 shows the sample's demographic characteristics and the prevalence of depressive symptoms in the sample. As shown, 42.77% of the participants reported minimal symptoms, 18.93% reported mild, 21.16% and 17.14% were suffering from moderate and severe symptoms of depression, respectively. Overall descriptive statistics and correlation coefficients for all observed constructs are given in Table 3.3. As shown, a positive correlation was observed among depressive symptoms and scores on rumination, $r\ (671) = 0.23$, $p < .01$ and neuroticism, $r\ (671) = -0.33$, $p < .01$. Depressive symptoms were found to be negatively associated with reappraisal, $r\ (671) = -0.21$, $p < .01$, resilience, $r\ (671) = -0.39$, $p < .01$, self-efficacy, $r\ (671) = -0.41$, $p < .01$, and extraversion, $r\ (671) = -0.36$, $p < .01$. Women who reported high rumination and neuroticism, and low reappraisal, resilience, self-efficacy, and extraversion, showed more depressive symptoms.

Table 3.4 presents a summary of regression analysis for depression scores wherein rumination, reappraisal, resilience, self-efficacy, neuroticism, and extraversion were entered

as predictors. The assumptions about the data, that is, multivariate normality and linearity, were tested using IBM SPSS 25.0 and found satisfactory; linearity was statistically significant ($p < .00$; explored using curve estimation) for all predictors. Multicollinearity was also not a serious issue in the analysis. When all the predictors were included in the equation, the minimum tolerance and highest variance inflation ratio (VIF) were 0.49 and 2.02, respectively. Depressive symptomatology was significantly predicted by all the observed variables, that is, rumination, $\beta = 0.26$, $t (663) = 7.04$, $p < .01$, reappraisal, $\beta = 0.10$, $t (663) = 2.57$, $p = .01$, resilience, $\beta = 0.20$, $t (663) = 4.62$, $p < .01$, self-efficacy, $\beta = 0.17$, $t (663) = 3.93$, $p < .01$, neuroticism, $\beta = 0.24$, $t (663) = 7.27$, $p < .01$, and extraversion, $\beta = 0.18$, $t (663) = 5.07$, $p < .01$. The findings support the hypotheses about the predicting ability of studied factors for depressive symptomatology in women. The overall variance in depressive symptomatology explained by the six predictors has been found to be statistically significant, R^2 (change)= 0.37, Cohen $f^2 = 0.58$, 95% CI [0.44, 0.73], $F (7, 663) = 65.70$, $\eta^2 = 0.37$, 95% CI [0.31, 0.42]. The studied predictors explain 37% of the variance of depressive symptomatology in women.

The proposed model was tested through path analysis, also using IBM AMOS 25.0. We chose maximum likelihood estimation, and input data were item-parcel scores on Likert-type questionnaires measuring the use of emotion regulation strategies and two components each of psychological capital and personality. As mentioned above, multivariate normality and linearity assumptions were tested using IBM SPSS 25.0 and found satisfactory. The final sample size was 671(37.2 participants to one parameter estimated); there were no missing data. The goodness of fit indices is presented in Table 3.5. As shown, the values obtained pertaining to the goodness-of-fit index, the comparative-fit-index, the Tucker–Lewis-fit index, the squared-root-mean-residual, and root-mean-squared-error-of-approximation are found to be acceptable for the given sample size and the numbers of observed variables

(Hairs et al., 2009), GFI=0.99, CFI=0.99, TLI=0.95, SRMR=0.04, RMSEA=.06. These values indicate a near to good fit between the model and the observed data. Standardized parameter estimates are depicted in Figure 3.1.

3.6 Discussion

The present study basically intended to test a model of depressive symptomatology in which the predictive efficacy of selected components of emotion regulation, psychological capital, and personality were explored. It was expected that all the selected components would be significantly related to depressive symptomatology in Indian women. As hypothesized, the model shows a good fit with the data and shows statistical significance. Selected components of emotion regulation, psychological capital, and personality are found to be significantly related to depressive symptomatology in the expected direction. More specifically, individuals who reported less usage of rumination and used reappraisal more scored low on neuroticism and high on extraversion, resilience, and self-efficacy and showed less severe depressive symptoms than their counterparts. This profile may be termed a Psychological Defensive Syndrome against depressive symptomatology in women. This syndrome explains 37% of the variation in depressive symptomatology. Rumination and neuroticism turned out to be the strongest predictors of depressive symptomatology in women. Resilience, extraversion, and self-efficacy were comparatively less strong predictors, while reappraisal was observed as the weakest among all. Overall, model fit statistics provide verifying evidence about the significant relationship of these factors with depressive symptoms. The findings of the present cross-sectional study pave the way for future in-depth explorations to establish the inter-construct causal mechanism using experimental methods. Such findings may provide convincing inputs for devising a customized intervention against depression in Indian women.

In the previous studies conducted mainly in Western countries, emotion regulation strategies were found to be strongly associated with depression (Aldao et al., 2010). Individuals less effective in emotion regulation tend to experience severe distress for an extended period and, thus, are more at risk of developing depressive symptomatology (Nolen-Hoeksema et al., 2008). The results of the present study are well-aligned with the previous studies conducted in different settings. Rumination was a positive correlate and the strongest predictor of depressive symptomatology in the current data. Various pathways have been offered through which rumination may aggravate and extend the duration of depressive symptoms. For instance, the response styles theory (Nolen-Hoeksema, 1987) posits that rumination adversely affects effective problem-solving, depletes social support, and makes the current depressive episodes last long (Nolen-Hoeksema et al., 2008). Similarly, the Self-Regulatory Executive Function Model (Wells & Matthews, 1996) postulated the Cognitive Attentional Syndrome (CAS) in persistent rumination. In this syndrome, the negative information about the self is paid more attention and becomes perseverative, and translates into negative repetitive thinking. The CAS depends on metacognitive beliefs, e.g., "ruminating assists me in dealing with prospective negative situations," and these metacognitive beliefs become the precursors of emotional disorders and psychopathology (Sun et al., 2017; Wells, 2019). Also, rumination has been found to be negatively associated with self-efficacy (Takagishi et al., 2013), and low self-efficacy, which could result from high rumination has been observed as a risk factor for depression (Tak et al., 2017). Similarly, rumination is considered as a maladaptive strategy usage of which reduces a person's resilience to stressful situations (Zhao et al., 2023), and poor resilience leads to depression (Dai & Smith, 2023). Thus, rumination results in depletion of one's self-efficacy and incapability of fighting back in the face of distress, and these deficits in the person's protective resources due to increased rumination may lead to depression.

Rumination in women has a more complex mechanism compared to the one discussed above. As compared to men, women are more attentive to and aware of their emotions and mobilize more efforts to modify their emotions in order to meet environmental demands or pursuit of their goals (Joseph & Newman, 2010). Awareness and understanding enrich the emotion regulation repertoires of most women (Nolen-Hoeksema & Hilt, 2009); however, for some women, this greater attention to emotions may transform into a ruminative focus on emotions (Zahn-Waxler et al., 2008). Excessive engagement in understanding the causes and consequences of emotions may get individuals stuck in rumination. Also, women tend to attribute their emotions internally rather than externally (Barrett & Bliss-Moreau, 2009) and put blame on themselves for their negative emotions.

Another emotion regulation strategy, i.e., reappraisal, came out to be a negatively correlated factor but was the least significant predictor of depressive symptoms in women, among other predictors included in the model. Although various meta-analyses (e.g., Augustine & Hemenover, 2009; Webb et al., 2012) have shown that positive reappraisal is a significant predictor of depressive symptoms, the relationship has been reported to be less strong compared to other emotion regulation strategies such as rumination (Aldao et al., 2010). However, adaptive strategies worked in the presence of maladaptive strategies, showing that they compensate for the effects of maladaptive strategies but are not effective otherwise. Aldao and Nolen-Hoeksema (2010) stated that such a relationship would be possible because the efficacy of adaptive strategies is more dependent on contexts than on the maladaptive strategies. For example, reappraisal may not be adaptive in all situations, as in a bullying relationship, but maladaptive strategies such as rumination may have damaging effects in most of the situations. Engaging in reappraisal has been found to enhance problem solving (Pizzie et al., 2020). Enhanced problem solving is considered a defence against depressive symptomatology (Krause et al., 2021). Reappraisal also increases a person's self-

esteem and high self-esteem has been found to be a protective factor against depression (Cutuli, 2014; Park & Yang, 2017). Similarly, reappraisal usage, it has been noted, cause increase in self-efficacy as well as resilience, which are again defences against depression (Han et al., 2023; Huang et al., 2023; Riepenhausen et al., 2022). It can be inferred from the observations in the literature that reinterpreting a situation in a relatively positive light helps individuals strengthen the belief in themselves and their abilities as well as render themselves more resilient against depressive symptomatology. Moreover, as far as reappraisal in women is concerned, a few questions still need to be answered to satisfaction, e.g., whether women engage in reappraisal more than men and whether it is similarly related to depression in men as it is in women. According to some studies, reappraisal is used more by women than men (e.g., Nolen-Hoeksema, 2012); however, others reported equal use of reappraisal in both genders (Zlomke & Hahn, 2010).

In the present context, wherein we are looking for the relevance of a few variables to be included in the intervention program, it seems that reappraisal, though the relationship is less significant, may help women deal with depression. As mentioned earlier, adaptive strategies such as reappraisal worked better in the presence of maladaptive strategies such as rumination. As women are more prone to rumination—a maladaptive strategy, reappraisal may compensate for the negative effect of rumination and might help prevent depressive symptomatology.

Resilience and self-efficacy were the other two variables investigated in the current study. Previous studies connected resilience with depression, both directly (Poole et al., 2017; Shapero et al., 2019) and indirectly (Anyan & Hjemdal, 2016). In the present study, resilience was found to be a negatively correlated factor and a significant direct predictor of depressive symptomatology in women. It implies that the high level of resilience can be a significant component of the Psychological Defensive Syndrome against depressive symptomatology.

Regarding the relationship with depression, resilience may be conceived as a reduced vulnerability (Hofer, 2006), and the ability to adjust to adversity (Cameron et al., 2007). Garmezy et al. (1984; Compensatory and Challenge models) opined that resilience counterbalances risk exposure; individuals high on resilience tend to perceive risk factors/stressors as a potential challenge that would help in successful long-term adaptation. The Interactive Model of Resilience (Rutter, 1990) maintains that any protective mechanism is essentially an interactive process in which one variable regulates the effect of another, and it is the interaction of many potential risks and protective factors that make an individual resilient and foster desirable consequences (Bonanno, 2004). Also, resilient individuals have been found to actively develop their positive emotionality with thoughtful use of adaptive behaviours such as humour, physical exercises, and relaxation techniques (Tugade & Fredrickson, 2004). These adaptive behaviours and positive emotions may offer protection against depression (Paolucci et al., 2018; Santos et al., 2013).

Previous findings observed lower resilience in women than men (Stratta et al., 2013), and women are more susceptible to developing post-stress traumatic disorders (Donner & Lowry, 2013). The difference may be attributed to their unique gender-based social roles in addition to their biological characteristics. Moreover, women tend to engage more in emotion-focused coping than men, which makes them vulnerable to various adverse outcomes (Morano, 2010; Stratta et al., 2013). Therefore, the gender-specific additional risk factors for low resilience may make the relationship between resilience and depressive symptomatology stronger in women. More studies using experimental methods can further investigate this phenomenon and suggest the inclusion of customized resilience-building training in the interventions devised for depressed women.

Another component of psychological capital, i.e., self-efficacy, was negatively associated with depressive symptomatology in women. Few recent studies conducted on

different samples have come up with similar results (Chen et al., 2020; Wang et al., 2019). Most related theories postulate that poor self-efficacy may lead to more depressive symptoms, even without any significant stressful event, due to perceived discrepancies in aspirations and skills (Bandura et al., 1999, Bandura, 2011). However, a few theories affirm that there might be a bidirectional relationship between self-efficacy and depression (Hammen, 2005). According to Bandura (1992), self-efficacy influences depression mainly in three ways. People may feel less confident about achieving anything. Secondly, people may experience an inability to form good relationships with others. Thirdly, they may feel that their negative, repetitive thoughts are uncontrollable. In addition, the perceived probability of positive and negative life events and poor response-efficacy of their mood regulation strategies (Kirsch et al., 1990) may also be related to depression. Moreover, high self-efficacy has been found to be related to effective problem-solving and high self-esteem among individuals which are considered defences against depression (Becker-Weidman et al., 2010; Brown et al., 2012; Molero et al., 2018; Park & Yang, 2017). Individuals who have stronger beliefs in their abilities mobilize their problem solving skills effectively and have high self-esteem which may protect them against onset and development of depression.

The majority of the previous studies found significant gender differences in general self-efficacy, with women showing lower self-efficacy than men (e.g., Bandura et al. 2003; Wang, 2019); however, a few other studies reported no gender difference in self-efficacy (e.g., Tak et al., 2017). Moreover, the extent of the relationship between self-efficacy and depression differs in men and women. In women, low levels of self-efficacy were more strongly associated with depressive symptoms than in men (Bandura et al., 1999). Though it requires experimental exploration, the gender-specific additional risk factors for low general self-efficacy and the significant negative relationship between self-efficacy and depressive symptomatology observed in the present study suggest that there is a need to include self-

efficacy-enhancing training in the customized interventions targeting depressive symptomatology in women.

Findings related to the role of neuroticism and extraversion in depressive symptomatology support the proposed hypothesis. Both factors were found to be significant predictors of depressive symptomatology in a community sample of women. Results suggest that low neuroticism and high extraversion can be considered important components of psychological defensive syndrome against depression in Indian women; however, further experimental exploration is required. As hypothesized, women who scored high on neuroticism reported more depressive symptoms than their counterparts. The link can easily be understood—the persons high in neuroticism often evaluate themselves more critically, feel personally inadequate, and are more sensitive to criticism, making them more at risk of experiencing depressive symptoms (Watson et al., 1994). There are three mechanisms that explain the association between neuroticism and depressive symptomatology. The first mechanism attributes the association to common genes. Secondly, persons high in neuroticism tend to get themselves into stressful events more frequently and have less social support (Hankin et al., 2005; Suls & Martin, 2005); these stressful life events probably predispose them to mental health issues (Parslow et al., 2006). The third mechanism explains the association between neuroticism and depression through higher emotional reactivity to stressful life events. Persons high in neuroticism respond to a stressful event with negative emotions more intensively than their counterparts (Zautra et al., 2005). Moreover, as they use more emotion-focused strategies and fewer problem-focused coping strategies (Watson & Hubbard, 1996), they remain under stress for an extended time period. All these attributes, i.e., a higher likelihood of experiencing stressful life events and greater emotional reactivity to those events, partly because of their coping strategies, may be sufficient to make individuals vulnerable to developing depressive symptomatology. Additionally, individuals

high on neuroticism have been found to adopt dysfunctional emotion regulation (Peris-Baquero et al., 2023). Using emotion regulation strategies such as rumination makes the person biased towards negative and irrational thoughts which leads to psychopathologies such as depression (Chen et al., 2023; Jibeen, 2015; Lu et al., 2017; Roelofs et al., 2008).

In the previous studies, women were consistently found to have higher neuroticism than men (McCrae et al., 2005), for which biological and sociocultural explanations have been provided (Buss, 1995). Given the predisposition of women to be high on neuroticism and experience more depressive symptoms, it seems crucial that women should be screened for neuroticism to find out and cater to the therapeutic needs of individuals who are more susceptible to depressive symptomatology than others. Despite evidence of neuroticism being relatively malleable, it may not be feasible to influence the disposition in the shorter course. Although several mediating, moderating mechanisms between depression and neuroticism, as discussed in the previous chapter, may provide a pathway to counter its effects and cast a positive effect on depressive symptomatology (Brown, 2007; Clark, 2009; Tang et al., 2009).

As predicted, extraversion has also emerged as a significant predictor of depressive symptomatology in Indian women and was negatively associated with depressive symptoms. Individuals who score high on extraversion are characterized by positive emotionality which may protect them against depressive symptomatology, as the positive affect has been observed as a moderator of the stress-depression link (Wichers et al., 2007). Being high on extraversion makes people more sociable and enjoy considerable social support (Swickert et al., 2002). High social support has been found to enhance one's self-efficacy, and it also fills in for lack of resilience (Li et al., 2021; Wang et al., 2015). In this way, high extraversion could render people with capacity to affiliate socially and have support around. This social support strengthens the belief in their own actions to achieve their goals, make them more resilient to distress. However, the role played by extraversion in depression is less clear and

weaker than neuroticism. In a few previous studies, extraversion has shown direct relationships with depression (Kotov et al., 2010), and a few studies also observed the interaction effect of extraversion and neuroticism on depression (Grav et al., 2012). The relationship may be weaker because extraversion affects some forms of depression (e.g., chronic depression) and not all. Some facets of extraversion, e.g., low positive approach motivation and assertiveness, are associated with depression. Olino et al. (2010) also argued that extraversion might significantly contribute to depression by moderating neuroticism rather than as a main effect. Although extraversion is also a personality disposition like neuroticism and is considered mostly stable, few studies have found it to be malleable in some contexts (Robinson, 2009). However, this requires further investigation. Screening women for personality dispositions may be important to understand the PDS as well as to identify individuals in whom depressive symptomatology needs to be addressed on a priority basis. Though a personality factor that has been considered a trait may not be changed significantly, there are several underlying mechanisms, involving malleable connections that may be manipulated to carry on the positive effect of extraversion on depressive symptomatology.

Although the findings of the present study are explained in light of existing theories, the relationship observed might be due to some other factors, such as biases in self-report responses that come with increased levels of depression. Though, efforts were made to motivate respondents to provide their responses as per their early experiences, the unintentional effect of the current mood state on the responses cannot be ruled out.

3.7 Conclusion & Implications

This chapter addressed the first objective of the proposed research work. Relevant psychological vulnerabilities and defences: neuroticism, extraversion, rumination,

reappraisal, resilience and self-efficacy were selected from the literature. These factors were important as significant correlates of depressive symptomatology. Also, most of the factors either held crucial diagnostic value in depression assessment or of therapeutic importance in prevention and treatment of depression. The factors were to be tested in the present context so as to ensure that these are of importance in the present population when it comes to the association with depressive symptomatology. Additionally, before including and targeting these factors in the intervention modules, it was important to verify the association. It was found that frequent use rumination as well as high neuroticism make individuals more vulnerable towards depressive symptomatology. Also, reappraisal usage, and high extraversion, resilience and self-efficacy were found to be psychological defences against depressive symptomatology. Together, these factors explained a significant amount of variance in depressive symptomatology. An interesting profile, i.e., the PDS was identified in which women who reported less rumination usage and more reappraisal usage, who were low on neuroticism and reported high extraversion, resilience and self-efficacy showed less depressive symptoms compared to their counterparts. These insights about the relationship of the above mentioned psychological vulnerabilities and defences with depressive symptomatology can be useful in understanding and management of depressive symptomatology among women. More exploration with different methods of investigation may provide with more useful insights and evidences. The findings about the associations especially, the PDS and its components may be targeted as important components of an intervention aimed at providing community-based support to women in the management of depressive symptomatology. Health centres and Non-Governmental Organizations (NGOs), in line with the suggestions of the mhGAP program by WHO (WHO, 2016), can draw insights from the observations and sensitize women regarding the role of psychological vulnerabilities and defences in shaping their mental health as well as provide them with

relevant and necessary support. Targeting these factors can also be helpful in early detection and prevention of depressive symptoms and in avoiding experience of severe conditions.

Table 3.1

Showing the measures their reliability coefficient value found in previous studies and the present study

S. No.	Name of the Measure	Reliability (Cronbach's α) range in previous studies	Subscale used	Reliability (Cronbach's α) in the present study
1	BDI-II	0.89 to 0.96		0.91
2	IPIP NEO-120	0.69 to 0.87	Neuroticism	0.82
			Extraversion	0.80
3	CD-RISC	0.87 to 0.91		0.96
4	GSE	0.76 to 0.90		0.91
5	HFERST	0.71 to 0.91	Rumination	0.79
			Reappraisal	0.83

Table 3.2

Demographic characteristics of the sample and descriptive statistics.

Demographic characteristics	N	%	Min.	Max.	Mean	SD	Skew.	Kurt.
Age (Years)		671 (All Females)	18	45	23.71	6.09	1.47	1.34
Locality								
Rural	336	50.07						
Urban	335	49.93						
Family Type								
Nuclear	385	57.37						
Joint	286	42.63						
Depression severity as per BDI Score norms.								
Minimal (0-13)	287	42.77						
Mild (14-19)	127	18.93						
Moderate (20-28)	142	21.16						
Severe (29-63)	115	17.14						
Total Depression (BDI) Score			0	63	17.55	12.14	0.77	0.47
Emotion Regulation								
Rumination			4	20	10.48	4.27	0.45	-0.83
Reappraisal			4	20	12.43	4.73	-0.08	-1.17
Psychological Capital								
Resilience			0	100	63.01	22.33	-0.83	0.37
Self-efficacy			10	40	30.39	6.96	-0.70	0.05
Personality Traits								
Neuroticism			0	44	23.03	6.84	-0.19	0.34
Extraversion			0	48	25.67	6.51	-0.15	0.63

Note. BDI-Beck Depression Inventory

Table 3.3

Descriptive statistics and correlation coefficients among scores on BDI and other studied variables (95% CIs in parentheses).

	Variables	M	SD	1	2	3	4	5	6
1	Depression	17.55 (16.63, 18.47)	12.14	--	--	--	--	--	--
2	Rumination	10.48 (10.16, 10.80)	4.28	0.23** (0.15, 0.30)	--	--	--	--	--
3	Reappraisal	12.73 (12.37, 13.08)	4.73	-0.21** (-0.28, -0.13)	0.45** (0.38, 0.50)	--	--	--	--
4	Resilience	63.01 (61.32, 64.00)	22.33	-0.39** (-0.45, -0.32)	0.15** (0.07, 0.22)	0.46** (0.40, 0.52)	--	--	--
5	Self-efficacy	30.39 (29.86, 30.91)	6.96	-0.41** (-0.47, -0.34)	0.08* (0.01, 0.15)	0.38** (0.31, 0.44)	0.66** (0.61, 0.70)	--	--
6	Neuroticism	23.03 (22.51, 23.54)	6.84	0.33** (0.26, 0.39)	0.28** (0.20, 0.34)	-0.05 (-0.12, 0.02)	-0.02 (-0.09, 0.05)	-0.07 (-0.14, 0.00)	--
7	Extraversion	25.67 (25.17, 26.16)	6.51	-0.36** (-0.42, -0.29)	0.01 (-0.06, 0.08)	0.30** (0.23, 0.37)	0.43** (0.37, 0.49)	0.43** (0.37, 0.49)	-0.01 (-0.08, 0.06)

Note. N=671, *p<0.05, **p<0.01, BDI-Beck Depression Inventory

Table 3.4

Regression analysis summary for depression scores (criterion variable) with Rumination, Reappraisal, Resilience, Self-efficacy, Neuroticism and Extraversion as predictors.

	Effect	Estimates				95% CI (β)		R^2	R^2 Change **(95% CI)**	F-Change **(η2) (95% CI)**	Cohen f^2 **(95% CI)**
		B	SE(B)	β	SE (β)	LL	UL				
1	Intercept	16.98	1.88								
	Age	0.02	0.07	0.012	0.03	-0.07	0.09	0.00	--	--	--
2	Intercept	23.12	2.79					--	--	--	--
	Age	0.18	0.06	0.09**	0.03	0.03	0.16	0.37[a]	0.37 (0.31, 0.42)	65.70** (η2=0.37) (0.31, 0.42)	0.58[b] (0.44, 0.73)
	Rumination	0.74	0.10	0.26**	0.04	0.19	0.33				
	Reappraisal	-0.26	0.10	-0.10*	0.04	-0.18	-0.03				
	Resilience	-0.11	0.02	-0.20**	0.04	-0.27	-0.13				
	Self-efficacy	-0.29	0.07	-0.17**	0.04	-0.24	-0.09				
	Neuroticism	0.42	0.05	0.24**	0.03	0.18	0.29				
	Extraversion	-0.33	0.06	-0.18**	0.03	-0.24	-0.12				

Note. N=671, B- Unstandardized coefficients

*p<0.05, **p<0.01,

a-Cumulative R^2

b-Large effect size (Cohen, 1988), excluding R^2 of age.

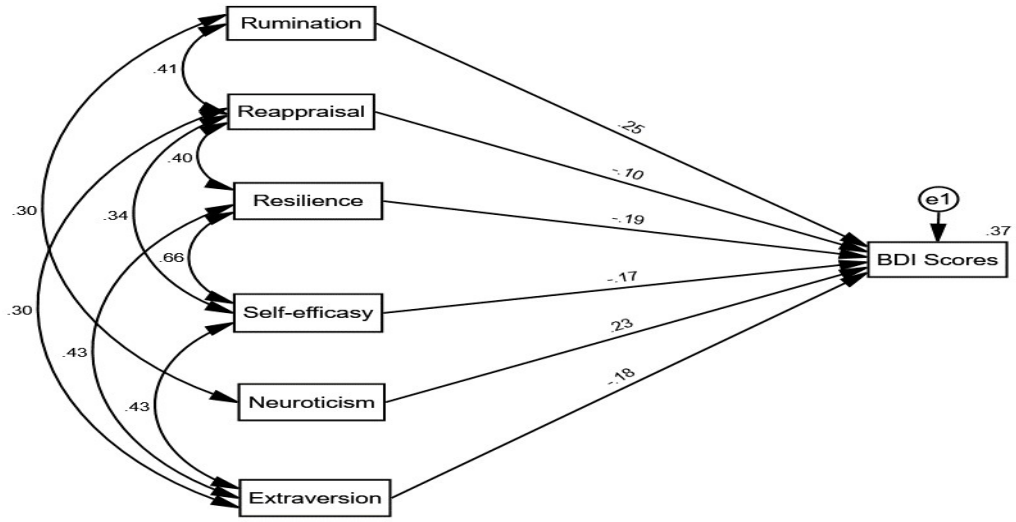
Table 3.5
The goodness of fit indices

Index	Accepted Values for N=671(N>250) and Observed Variables=6(OVs<12)	Model Results
Normed Chi-Square (Chi-square/DF)	Insignificant p-values expected	3.79
GFI	Above 0.95#	0.99
CFI	Above 0.95#	0.99
TLI	Above 0.95#	0.95
SRMR	Below 0.05	0.04
RMSEA (90% CI)	Below 0.07 with CFI of .97 or higher #	0.06 (0.04, 0.09)

Note. #As mentioned in Hair et al. (2009).

Figure 3.1

A model predicting depression scores with Rumination, Reappraisal, Resilience, self-efficacy, Neuroticism and Extraversion as observed exogenous variables



Note. BDI Scores-Scores on Beck Depression Inventory representing depression

Chapter 4

Community-based Intervention against Depressive Symptoms among Women

4.0: A brief overview of the chapter

This chapter presents the findings from the second phase of the current research, which focuses on devising and evaluating the effectiveness of an intervention designed to mitigate depressive symptomatology in women. Given the challenging societal conditions affecting women's mental health, coupled with elevated rates of depressive disorders, limited resources for managing this burden, and the imperative to tackle the issue within community settings and non-specialized healthcare environments, the second phase of this research work aimed to devise and assess the effectiveness of a psychosocial intervention in alleviating depressive symptoms among women in the Indian state of Punjab. Depressive symptomatology casts a more adverse impact on the well-being of women in countries with unfavourable societal norms. The prevalence of depressive symptomatology in Indian women and the treatment gap in case of mental health issues are alarming and thus may require interventions at a community level. Based on theoretical and policy recommendations, and supported by empirical observations made in the first phase of the research, a community-based psychosocial intervention was devised. The intervention was partially motivated by the recommendations of the Mental Health Gap Action Program Intervention Guide, which is an initiative of the World Health Organization (2016) to address the large treatment gap amid a scarcity of resources, especially in Low- and Middle-Income Countries (LMICs). Moreover, the intervention program was devised to target specific risk and protective factors identified for depressive symptomatology in the same (N=671) sample (Singh & Mishra, 2022). It is a

five-session module addressing the critical vulnerabilities and crucial strengths associated with depressive symptomatology. The intervention aims to contain and curb the impact of vulnerabilities and foster the strengths to relieve the individuals from the manifestations of depressive symptomatology. Using a pre-test post-test control group design, a total of 114 (M_{age}=23.03, SD=5.29) and 37 (M_{age}=24.89, SD=6.44) adult females experiencing mild depressive symptoms were included in the experimental and the control group, respectively. A series of ANOVAs showed that, in experimental group, participants' scores on depressive symptomatology and associated vulnerabilities and defences improved as compared to their baseline scores and the scores of control group participants. The findings support the use of such a psychosocial community-based intervention in a non-specialized healthcare setting to manage depressive symptomatology, associated vulnerability and defences. This chapter outlines the need and motivation, objectives, methodology, the nature of intervention, its implementation, and the significant findings and discussions related to the second part of the research work. These findings hold promising implications for preventing and alleviating depressive symptoms in women.

4.1 Need and Rationale of the study

The World Mental Health Report-2022 (World Health Organization, 2022) suggests that mental health issues are highly prevalent worldwide. Across all ages, mental health issues accounted for around 10% of the disability-adjusted life years. An increase of 25% in number of individuals living with a mental health condition observed in the last two decades. Also, mental disorders have a share of around 5% of the global burden of diseases (World Health Organization, 2022b). Among mental health issues, depression and anxiety are the most common and highly prevalent across the countries (Arvind et al., 2019). These disorders can inflict a deteriorating impact on an individual's overall well-being as well as quality of life (Bastos et al., 2018; Silva Junior et al., 2020). Despite being prevalent, disabling, and

causing economic loss (The Lancet Global Health, 2020), these issues are underserved to a severe extent. All over the world, mental health systems are struggling due to a lack of information, research, governance, resources, and services. The expenditure by countries on mental health, the ratio of psychiatrists and psychologists to the population, service coverage, and quality of care are still insufficient (World Health Organization, 2022). It indicates that some alternative, more feasible, interventional strategies need to adopted to curb the rising prevalence and treat the already affected.

Another cause of serious concern, i.e., gender differences in depression, need immediate attention. According to the World Health Organization (2022b), the prevalence of depression among females (4.5%) is relatively higher than among males (3.0%) across all age groups. It is true in the Indian context as well wherein women (3.9%) are more prone to depression than men (2.7%) in India (Sagar et al., 2020). Moreover, the vulnerability of women to depression in the Indian state of Punjab, where the present study has been conducted, is almost three times that of men (National Institute of Mental Health and Neurosciences, 2016).

High treatment gap for mental disorders exaggerates the severity of this issue. Observing the availability of treatment resources in Punjab, the National Mental Health Survey of India (National Institute of Mental Health and Neuroscience, 2016) report found that the treatment gap for mental disorders was 79.59%. The gravity of the scenario in this domain may be better understood with the statistical inferences that there were only 0.75 psychiatrists, 0.04 clinical psychologists, and 0.12 psychiatric social workers for 100000 people.

With the high prevalence of depression in the region, women being at the centre of this alarming situation and a high treatment gap, there is a need to address the issue of

depression immediately at the grass root level, especially among women. The WHO, through Mental Health Gap Action Program 2.0 (mhGAP 2.0), encouraged the delivery of pharmacological and psychosocial interventions in non-specialized healthcare settings by academic institutions, NGOs, philanthropic organizations, and researchers to reach the goal of universal health coverage. To identify these potential factors to be targeted in the intervention, a survey of the established and prevailing theories and other contemporary theoretical formulations needs to be done. In other words, effective interventions should be data-driven and for that preliminary task for the researchers is to find out the vulnerabilities and defences for depressive symptoms in a particular context. Interventions targeting a particular population like women, based on identified defences and vulnerabilities are more likely to be effective. Moreover, there has been an evident lack of gender-sensitive intervention research in India except for a few studies (Garfin et al., 2019; George et al., 2020; Indu et al., 2018; Mathias et al., 2018; Raghuveer et al., 2020; Roy et al., 2018; Swendeman et al., 2015). Also, no such study has been done in Punjab's cultural context targeting depressive symptomatology among women. Thus, the above-mentioned observations motivated researchers to devise a suitable intervention for addressing depressive symptoms in Indian women and evaluate its effectiveness before proposing it for implementation in the community setting. More specifically, recent surveys, statistical data, and review of relevant literature highlight the following points:

1. Prevalence of depression is already high and it is expected to rise alarmingly.
2. Depression and other mental health issues are disabling, inflict economic loss and adversely impact functioning in different domains of life.
3. High treatment gap adds more to the severity of the issue.
4. Lack of resources and personnel are evident and restricting access to relevant mental health care.
5. Women are more vulnerable to depression.

6. All the above facts are true for India and Punjab.
7. Volume of research on community sample is scarce.
8. There is need to devise a community-based intervention to mitigate depressive symptomatology.

4.2 Indian context and depression in women

Heavily patriarchal Indian culture with an entrenched history of men in dominant and women in subordinate roles, may be an essential factor, among others, behind the higher prevalence of depression in Indian women. Different upbringing style of female children, transition from the role of daughter to wife and then mother, limited or no participation in household decision-making, gender-based discrimination (e.g., violence in both natal and marital families, role expectations, and role burden) may lead Indian women to experience elevated levels of distress (Maitra et al., 2015). There is emerging scholarship on resilience and survivorship among Indian women; however, Indian women who experience violence and other forms of discrimination continue to report high mental health challenges (Shanthakumari et al., 2014).

Other reasons may include menstruation and pregnancy-related issues, stress responses, increased negative affect from adolescence onwards, environmental factors such as scarce social support, and gender-based violence (American Psychiatric Association, 2013; Patel et al., 2021). National Institute of Mental Health and Neuroscience (2016) reported Punjab as having one of the highest prevalence of alcohol use disorder (7.9%) and other substance disorders (2.5%). Such disorders may also add to the severity of depressive symptomatology in women because the distress related to alcohol/drug abuse affects women the most in the family (Murthy et al., 2010).

Additionally, women have been experiencing social exclusion in India (Thorat, 2008), and this exclusion depletes their psychological capital and may result in depression (William

& Nida, 2011). A meta-ethnographic study by Bhattacharya and colleagues (2019) reported that, among other conditions, conflicts with the husband and his family members, imposed role of caregiver, domestic violence, financial dependence and insecurity, problematic reproductive events and death of a spouse and consequent widowhood were the most significant influences on depression.

Indian women enjoy less independence than men, and their gender-specific roles do not foster autonomy (Maitra et al., 2015). Such gender-specific discriminatory norms may predispose women to suffer more distress (Maitra et al., 2015). Lack of awareness, sensitization about psychological factors, and therapeutic interventions further deteriorate women's mental health.

Given the contextual and socio-cultural factors that make Indian women more vulnerable to depression, it seems important to explore specific risk and protective factors, and based on this understanding, suitable interventions should be devised and tested.

4.3 Depression and its management

Research in clinical psychology and psychiatry has been concentrating on devising and testing the efficacy of therapeutic interventions; however, despite years of research, the prevailing interventions could not derive satisfactory answers concerning the prevention and management of mental health issues (Ebert & Cuijpers, 2018). The treatment gap is another significant barrier. Most of the persons suffering from the disorder, even in high-income countries, were devoid of treatment (Andrade et al., 2014). WHO (2017) data suggests that 75% of individuals with mental health issues in India do not receive support services. Literature depicts that the unavailability of effective treatment and obstacles related to individual attitudes, such as apprehension of being stigmatized or finding it better to solve one's problem on his/her own, do contribute to the low benefits of treatment programs. Even

when treatment availability and compliance can be considered 100%, only one-third of the burden of depression could have been resolved with the traditional therapeutic approaches (Andrews et al., 2004). Apart from treatment gap-related challenges, there has also been a scarcity of research sensitive to gender and mental health, considering the devastating effect of tradition-based roles and social systems in India (Bhattacharya et al., 2019). This observation is further reinforced by the fact that only a few intervention-based studies were conducted in India and almost none in Punjab. Among the studies conducted, most used purposive samples with specific comorbidities or conditions, such as pregnant women (Raghuveer et al., 2020), women with postnatal depression in southern states of India (George, 2020), and women with HIV in Andhra Pradesh and Kolkata (Garfin et al., 2019; Swendeman et al., 2015). Psychosocial intervention and an exercise module were employed against depression among women from Bengaluru and Kerala, respectively (Indu et al., 2018; Roy et al., 2018). Another study based on urban slums in Dehradun was done among disadvantaged young women, where a mental health and resilience intervention improved the women's mental health (Mathias et al., 2018). Therefore, there has been an evident lack of gender-sensitive intervention research in India, except for the few studies mentioned earlier in the paragraph. Also, no similar study has been done in Punjab's cultural context focusing on women. This aspect and the need to pay attention to it are important as culture has a crucial role in defining, understanding, and resolving a problem (Hernandez et al., 2009).

Until a few decades ago, the onset of depression was considered something that was not possible to be mitigated (Munoz et al., 2012). However, Van Zoonen and colleagues (2014) showed that psychological interventions, on average, could lower the risk of depression by 21%. Various studies observed the efficacy of different therapies and interventions against depression in clinical settings (Cuijpers et al., 2019), such as cognitive behavior therapy (CBT; Cuijpers et al., 2013), behavior activation therapy (BAT; Hirayama

et al., 2019), interpersonal psychotherapy (IPT; Cuijpers et al., 2016), problem-solving therapy (Cuijpers et al., 2018), non-directive counseling (Cuijpers et al., 2012) and brief psychodynamic therapy (Driessen et al., 2013). However, there have still been failures to address the burden of depression at the community level. Alternatively, recent research on the effectiveness of community interventions offers optimism in such a situation. It is necessary to investigate whether a community-based intervention could be an effective solution in a specific situation because there has not been much research looking into the application of community interventions (Ebert & Cuijpers, 2018). Review of relevant literature suggests that for interventions to be effective and therapeutically informed, it is important to understand and address relevant psychological vulnerabilities and defences pertaining to depressive symptomatology. As mentioned earlier, a total of six factors—reappraisal, rumination, resilience, self-efficacy, neuroticism, and extraversion, from three domains—emotion regulation, psychological capital and personality traits, were explored in the present research. Out of these, based on the criteria of relative malleability, four variables were selected to be targeted in the proposed intervention.

Among factors associated with depression, emotions may be a core aspect of depression. From the sufferer's perspective, the most painful aspects of the condition are uncontrollable feelings—sadness, emptiness, and anxiety (Rottenberg, 2017). Researchers have insight that emotional reactions do not simply occur but that people try to change or alter their emotional impulses, distinguishing the emotion generation process from that of emotion regulation (Gross & Thompson, 2007). The interest in emotion regulation has been strong, especially in the clinical domain, where the hope has been that researchers might identify specific patterns of poor management of emotion that contribute to psychopathology, including depression (Sheppes et al., 2015). Therefore, a significant issue has been to consider how emotion regulation influences the onset and development of depression. This

issue has apparent clinical applications: Presumably, if we can determine how emotion regulation and depression are related, the regulatory problem may be correctible with therapy or intervention (Rottenberg, 2017). Potential maladaptive emotion regulation strategies such as rumination, emotional suppression, and avoidance (Mahali et al., 2020) were positively associated with depression. In contrast, problem-solving, acceptance, reappraisal, and social support were ostensibly adaptive emotion regulation strategies that work against depression (Hayes & Lillis, 2014). Thus, interventions targeting emotion regulation strategies may be more efficacious in reducing depressive symptoms.

Another resource that is of utmost importance when it comes to depression management is psychological capital (Li et al., 2021). Empirical research has shown that psychological capital is significantly related to positive emotions, and all dimensions of psychological capital have significant negative correlations with depression (Pu et al., 2017; Toukhsati et al., 2017). Resilience and self-efficacy, dimensions of psychological capital, are negatively associated with depression (Santos et al., 2018; Yusuf et al., 2020; Singh & Mishra, 2022) and selected to be explored in the present research work.

4.4 The present study

With certain identified factors, identified in phase-I of this research, posing as vulnerabilities (potentially maladaptive emotion regulation strategies) and certain other factors as strengths (potentially adaptive emotion regulation strategies and dimensions of psychological capital) in the case of depressive symptomatology, the present study intended to test the effectiveness of a customized psychosocial intervention for the mitigation and management of depressive symptomatology among women in Punjab. The intervention was devised keeping in mind the context; It was sensitive to the requirements and challenges of the given context. The intervention draws various elements from prevailing therapeutic

frameworks such as CBT (Beck, 2021) and DBT (Neacsiu et al., 2014) and motivation from the mhGAP intervention guide program (WHO, 2016). Cognitive Behavior Therapy (CBT) targets the current state of the client; it is a time-bound therapeutic intervention that generally takes a goal-oriented approach (Fenn & Byrne, 2013). Maladaptive cognitions happen to be at the core of depressive symptomatology, and for that, the core of CBT, i.e., cognitive restructuring, has been found to be effective in modifying the distorted cognitions among women (Huang et al., 2018; Reddy & Omkarappa, 2019; Sahranavard & Miri, 2018). Dialectical Behavior Therapy (DBT) has also been effective in enhancing emotion regulation, reorienting problem-solving patterns, and consequently reducing depressive tendencies. The present intervention included elements of DBT such as 'Checking the facts' and 'Problem-solving'. The DBT has been found to be effective against rumination (Ghavasi et al., 2019) and in increasing the use of reappraisal (Navarro-Haro et al., 2018). CBT and DBT have also been found efficacious against depressive symptomatology among women (Huang et al., 2020; Koons et al., 2001). To the best of the researchers' knowledge, no such intervention has been tested among the target sample in this ethnocultural context.

4.5 Objectives and Hypotheses

The primary objective of the present study was to devise a community-based intervention targeting the relevant, malleable and crucial psychological vulnerabilities and defences identified from the first objective, and test its effectiveness against depressive symptomatology. Based on the related literature reviews, it was hypothesized that the community-based psychosocial intervention would lead to a significant decrease in depressive symptomatology. More specifically, the intervention is expected to enhance the strengths, i.e., frequent use of adaptive emotion regulation strategies such as reappraisal, high psychological resilience and self-efficacy, and reduce the vulnerabilities, i.e., frequent use of

maladaptive emotion regulation strategies such as rumination, low psychological resilience, and low self-efficacy. Participants in the experimental group would show a significant change in their post-intervention scores compared to their pre-intervention scores (H1). The second hypothesis of the study stated that there would be a significant difference between the control and experimental groups in the post-intervention scores (H2).

4.6 Method

4.6.1 *Research Design*

The present study tended to be somewhere in between on the continuum from efficacy to effectiveness. Since it was a field study that tested the effects of intervention in real world settings it was slightly more inclined towards effectiveness testing. A pre-test and post-test control group design was used to test the stated hypotheses. Female participants in the experimental (n = 114) and control group(n=37) were tested on the measures of depressive symptomatology, emotion regulation, resilience, and self-efficacy before and after the community-based psychosocial intervention (experimental group) and general awareness sessions (control group).

4.6.2 *Participants*

A total of 671 female participants were assessed for depressive symptomatology during phase one of the research work, and 384 participants scored above the minimum score on relevant measures. All these 384 participants were then divided randomly into experimental and control groups(n=192). Both groups were briefed about phase II and were presented with an overview of the intervention. After briefing, 51 participants from the experimental group, and 137 participants from the control group did not agree to participate in the second phase. A total of 196 participants (experimental group-141; control group-55) agreed to participate in the phase-II of the study; however, 45 participants (experimental

group-27; control group-18) did not attend all the sessions. Thus, a total of 151 participants appeared in and completed all the sessions administered in their respective groups. As far as the experimental group is concerned, 114 participants (Mage=23.03, SDage=5.29) completed the psychosocial intervention and attended all five sessions, whereas 37 participants (Mage=24.89, SDage=6.44) appeared in all four sessions given to the control group. All the participants were Indian nationals living in the state of Punjab. Participants were included on the basis of following criteria: (a) scoring above the minimum range on the measure of depressive symptomatology, (b) currently living in the state of Punjab, (c) not suffering from any chronic physical or mental health issue as per their self-report and not taking any kind of medicine and, (d) possessing the ability to read and write Punjabi language (Gurmukhi script). The sample estimation was found to be sufficient while keeping α error probability of 0.01 and power of 0.95.

4.6.3. *Measures*

4.6.3.1 The Beck Depression Inventory-II (BDI-II)

The Beck Depression Inventory (Beck et al., 1996) was used to test the presence and severity of depressive symptomatology. It consists of 21 groups of items, in which four response options are given on a scale of 0 to 3. Participants respond to each item considering their experience in the past two-week period. Raw scores of 0 to 13 show minimal depression, 14 to 19 indicate mild depression, a range of 20 to 28 refers to moderate depression, and 29 to 63 means that the respondent is suffering from severe depression. The reliability and validity of the inventory have been established in previous studies conducted across the cultures; Cronbach-alpha in most of the studies ranged from 0.89 to 0.96 (Basker et al., 2007; Wang & Gorenstein, 2013). For the present data, Cronbach-alpha came out to be 0.91.

4.6.3.2 *Heidelberg Form for Emotion Regulation Strategies (HFERST)*

The strategies used by participants for emotion regulation in their lives were assessed using the HFERST (Izadpanah et al., 2017). It contains 28 items given on a five-point Likert scale ranging from 'Never' (scored as 1) to 'Always' (scored as 5). The HFERST measures eight specific emotion regulation strategies, out of which only two were measured in the present study, i.e., rumination and reappraisal. The total score on each strategy ranges from 4 to 20, and higher scores indicate more use of the given strategy. The author of the questionnaire reported satisfactory reliability coefficients for rumination and reappraisal subscales with Cronbach's-alpha ranging from 0.71 to 0.91 (Izadpanah et al., 2017). In the present data, Cronbach's-alphas for rumination and reappraisal was observed to be 0.79 and 0.83, respectively.

4.6.3.3 *The Connor-Davidson Resilience Scale 25 (CD-RISC 25)*

The CD-RISC-25 (Connor & Davidson, 2003) was used to measure the level of resilience in women. It is a 25-item inventory that uses a five-point Likert scale ranging from 0 ("Not true at all") to 4 ("True nearly all the time"). The authors originally identified five underlying factors in the present study. Only a total score representing overall resilience was used. A higher score indicates more resilience of the respondent. Previous studies on both general, non-clinical samples and clinical samples have found acceptable internal consistency with Cronbach's-alpha ranging from 0.87 to 0.91 (Singh & Yu, 2010; Sutherland et al., 2009). For the present data, Cronbach-alpha came out to be 0.96.

4.6.3.4 *The General Self-Efficacy Scale*

The General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995), a short, 10-item unidimensional scale, measures general self-efficacy in carrying out activities in normal as well as difficult situations. Respondents select one option from the given options ranging

from ‘not at all true’ (scored as 1) to ‘completely true’ (scored as 4). The total score on this scale ranges from 10 to 40, and higher scores indicate higher self-efficacy. The reliability and validity of the inventory have been rigorously explored in previous studies conducted across the countries; Cronbach-alpha in most of the studies ranged from 0.76 to 0.90 (Luszczynska et al., 2005; Meher & Baral, 2020). For the present data, Cronbach-alpha was found to be 0.91.

For the research work, which this study is a part of, all the standardized measures were translated into Punjabi (Gurumukhi script) using the forward-backwards translation method. In this process, the original scales in English were first given to the experts (with Punjabi as their mother tongue and well-versed in English) for translation into Punjabi. After a thorough review, the Punjabi translation of the scales was given to other experts for translating the same into English. Significant correlations observed among the variables like depression, anxiety, neuroticism, and rumination, measured using the translated versions, support the soundness of the scales and indicate the convergent validity of the translated measures. Correlation coefficients between the original and translated versions for all the scales were above 0.96. Moreover, the items of the scales were evaluated for their use in the Indian context and were found suitable. Previous Indian studies have used either the original or translated versions of these scales and found sound psychometric properties (Basker et al., 2007; Singh & Goel, 2014; Singh & Mishra, 2022; Singh & Yu, 2010).

4.6.4 *Community-Based Psychosocial Intervention*

The community-based psychosocial intervention, devised for the present research work, is a five-session module addressing the critical vulnerabilities and crucial strengths associated with depressive symptomatology. The intervention was partially motivated by the recommendations of the Mental Health Gap Action Program Intervention Guide, which is an

initiative of the World Health Organization (2016) to address the large treatment gap amid a scarcity of resources, especially in Low- and Middle-Income Countries (LMICs). Moreover, the intervention program was devised to target specific risk and protective factors identified for depressive symptomatology in the same (N=671) sample assessed in the first phase (Singh & Mishra, 2022). The intervention aims to contain the impact of vulnerabilities and foster the strengths to relieve the individuals from the manifestations of depressive symptomatology. The intervention accommodates useful elements from the CBT such as cognitive restructuring and being goal/problem-focused. Elements such as emotion regulation training and techniques to deal effectively with stress were adopted from the DBT. Also, the intervention takes less time and has a fixed number of sessions. It keeps in mind the context, relevant variables, the target population, and numerous external challenges women may face. Moreover, the intervention as a whole is structured around an outline, but unlike CBT, no internal structure dictates the sessions. Each session takes 45-55 minutes and have to be spaced with a week gap between them. The intervention can be administered by counselling psychologists and other health workers with basic training in counselling. Knowledge about the dynamics of depressive tendencies (e.g., antecedents, correlates, and consequences) and skills in conducting counselling sessions (e.g., rapport building, listening, questioning, empathy, and organizing) are the main requirements for effectively implementing the intervention. Session-wise description of intervention's content is as follows

The first session commences with a deliberate emphasis on culturally sensitive rapport building, a crucial foundation for the therapeutic journey in the Indian context. As women, especially in rural India hesitate to open-up, nature of initial questions are to be selected very carefully. Creating a conducive and comfortable environment is paramount, ensuring the participant feels at ease. To further strengthen this relationship, the therapist shares relevant aspects of their own experiences. Subsequently, exploration of the

participant's history, involving a comprehensive examination of their life experiences and background is done. Open-ended questions, exploring the impact of cultural factors such as familial expectations or societal norms on her mental health are included. This phase extends to probing into the various symptoms and challenges the individual is currently facing, facilitating a deeper understanding of their unique circumstances. Concurrently, the therapist engages in problem conceptualization, working collaboratively with the client to analyze and interpret the identified issues within the context of their personal narrative. An integral component of this intervention approach is the introduction of homework assignments. These tasks serve as a valuable tool for self-reflection and awareness, empowering the client to actively participate in their therapeutic journey. Specifically, clients are encouraged to observe events that elicit negative emotions and delve into the intricate process of understanding and processing these emotions. Moreover, the therapist guides the client in exploring their responses to these situations, fostering self-awareness and providing valuable insights for subsequent sessions. Furthermore, the client is actively engaged in the process of understanding and formulating therapeutic goals that align with their aspirations and personal growth objectives. To summarize, the initial intervention session integrates rapport building, history taking, symptom probing, and problem conceptualization. Through the inclusion of homework assignments, clients are equipped with practical tools to enhance their self-awareness and contribute actively to their therapeutic progress.

The second intervention session focuses on the depression-based psychoeducation, which equips the client with a comprehensive understanding of their emotional landscape. Psychoeducation is tailored to address the specific cultural stigmas and perceptions surrounding mental health in India. The client is guided to comprehend the interconnected facets of depression and its impact on various domains of functioning. This psychoeducational component serves as a crucial foundation, laying the groundwork for

informed decision-making and proactive engagement in the therapeutic process. Another primary focus of this session is to train clients for effective goal-setting, intended to increase the client's self-efficacy. The therapist discusses how societal attitudes may influence the perception of depression and, in turn, impact the woman's self-efficacy. The therapist collaborates with the client to delineate a path towards well-being by identifying key elements, including the problem state, the desired goal state, and the potential barriers that may impede progress. The therapist facilitates and motivates the client to prioritize and attend to these goals systematically. A practical homework assignment is introduced to augment the therapeutic process. The client is encouraged to compile a comprehensive list of their hobbies and pending tasks. Subsequently, the therapist guides the client to take small, manageable steps towards incorporating these elements into their daily routine or completing portions of the identified tasks. This approach enhances the client's sense of accomplishment. Goal-setting is contextualized within the cultural framework, considering family dynamics and societal expectations that may shape her aspirations. This session also highlights the importance of seeking support from within the cultural community.

The third session addresses rumination, a common and intricate aspect of a depressed client. The therapist collaborates with the client explores layers of their thought patterns, seeking to identify the negative thoughts and underlying beliefs that fuel the cycle of rumination. Through a process of exploration and introspection, the client gains insight into the roots of their recurring thoughts, paving the way for targeted intervention. The therapist employs various cognitive-behavioural techniques to guide the client in challenging and questioning the validity of negative thought patterns. This cognitive restructuring not only enhances the client's awareness of their thought processes but also empowers them to cultivate a more balanced and rational perspective. Cognitive restructuring involves challenging not only individual beliefs but also societal narratives that might exacerbate

depressive symptoms. The homework assignment is framed to include reflections on cultural influences on rumination, fostering a deeper understanding of their impact. The session also introduces practical tools for managing stress and promoting relaxation. The client is introduced to the practice of mindfulness, a tool that encourages present-moment awareness and non-judgmental acceptance. These techniques serve as a tangible coping mechanism, fostering a sense of control over the mind-body connection.

The penultimate session focuses on the cultivation of reappraisal, a powerful cognitive tool to moderate the impact of distressing situations. The therapist guides the client to explore deeper the maladaptive beliefs that may be influencing their perception of self, the world, or the future. Through this introspective process, the client is empowered to identify and challenge these beliefs, creating space for the cultivation of more positive and adaptive perspectives. Integral to this session is the introduction of diary writing as a therapeutic practice. The client is encouraged to engage in reflective journaling which serves as a cathartic outlet but also fosters increased self-awareness, setting the stage for the integration of reappraisal techniques. Additionally, the therapeutic approach incorporates a mild workout as a complementary element. Recognizing the interconnectedness of physical and mental well-being, the therapist demonstrates the incorporation of a gentle exercise routine into the client's daily life. This serves as a holistic strategy, harnessing the benefits of physical activity to enhance mood, reduce stress, and promote overall well-being. The client is encouraged to consistently engage in the cognitive reappraisal process.

The last session of the intervention module involves increasing resilience. The client is made aware of the importance of self-care behaviours and how to accommodate these into his/her routine. An optimistic outlook is fostered. Using some hypothetical scenario, mindfulness is demonstrated and added as homework. Also, the client is made to have a

quick visualization of his/her journey until this session and what positives and learning he/she has got.

The final session focuses primarily on resilience in the context of the woman's role within the family and society. The therapist collaborates with the client to underscore the significance of self-care behaviours as instrumental components of a resilient mind-set. Together, they explore practical strategies to integrate these behaviours into the client's daily routine. The client is guided towards fostering a positive perspective and embracing a mind-set that promotes resilience in the face of life's challenges. Through a supportive and empowering dialogue, the therapist conveys to the client that their capacity to navigate difficulties is within their control. The therapist demonstrates muscle relaxation and deep breathing techniques, fostering a sense of tranquillity and resilience in the face of life's uncertainties. At the end of the session, the therapist and client reflect on the client's journey from the initial session to the present, identifying and celebrating the positives and lessons learned along the way.

Modules	Process
Session 1: Rapport building, case history, and problem identification	• Making the client feel prioritized • Asking the client open-ended questions, appreciating her wherever relevant, and probing wherever necessary • Establishing credibility and trust for a therapeutic alliance by talking about oneself (administrator) and setting ground rules • History taking and inquiries about symptoms/complaints across domains of functioning. • Identification and conceptualization of the problem

	• Observation of thoughts, emotions, and responses during emotional events added as homework
Session 2: Goal formulation to boost self-efficacy and psychoeducation	• What is depression, and how it affects? How can it be approached and worked upon for improvement? (ABC Model and the interventional approach) • Major goals agreed upon by the clients to be addressed in the intervention • Prioritizing addressing the goals as per the intensity of the problem and its effect on functioning • Small steps towards inclusion of hobbies in routine and completion of pending tasks added as homework
Session 3: Targeting and reducing rumination through initiation of cognitive restructuring	• Identification and evaluation of maladaptive thoughts and underlying beliefs • Questioning the thoughts and beliefs with evidence • • Demonstration of mindfulness and assignment of the same as homework in addition to the previously demonstrated techniques and suggested inclusion in daily routine.
Session 4: Enhancement of reappraisal usage and continued cognitive restructuring	• Digging further deep into the beliefs and facilitating the clients to evaluate their beliefs and rules, assumptions, and attitudes subsumed within the beliefs. • Reappraising the associated contexts or beliefs and replacing them with adaptive ones

	• Demonstration of deep breathing and light physical exercises to be assigned as homework till the next session • Initiating termination by discussing the rationale and importance of the same.
Session5: Reinforcing resilience and terminating the intervention	• Promoting self-care behaviours • Fostering an optimistic outlook by referring to goal achievements in the past as well as self-disclosure • Demonstration of Jacobson's Progressive Muscular Relaxation (JPMR) and assignment of the same as homework till next session • A revision and overview of the sessions, derivation of learning, and conclusion of termination

4.6.5 *Procedure*

After getting the approval from the Institute's Ethics Committee, five districts (i.e., Jalandhar, Mohali, Fatehgarh Sahib, Patiala, and Ropar), which are approximately one-fourth of the total number of districts in Punjab, were randomly selected. The district administrations were informed about the program, and they not only gave permission but also facilitated the conduct of the intervention program. The premises of a commonplace such as a community centre were utilized to gather the participants with the help of local administration and elected local bodies.

To avoid stigma related issues, initially, a sensitization program titled "Mann-Jitt' (Often used phrase in Punjab, means conquering the mind) was organized in the target localities. This program was presented as an empowerment or capacity-building program for

the potential participants. The participants who showed interest were informed about the nature, potential benefits, and tolls involved in the study, and after their consent, the questionnaires were administered (Phase-1). As mentioned earlier, phase one of the research involved the assessment of depressed symptomatology in 671 female participants, 384 of whom achieved a score higher than the cut-off on pertinent measures. Then, all 384 of the individuals were randomly assigned to experimental and control groups. Phase II information and an overview of the intervention were given to both groups. Following that, 137 individuals assigned to the control group and 51 people assigned to the experimental group declined to take part in the second phase, mainly due to time constraints. One hundred ninety-six people in all (141 in the experimental group and 55 in the control group) volunteered to take part in the study; however, 45 of them (27 in the experimental group and 18 in the control group) did not attend every session. Finally, 151 individuals attended and finished every session held in their respective groups. Thirty-seven participants (Mage=24.89, SDage=6.44) showed up in all four sessions provided to the control group, whereas 114 people (Mage=23.03, SDage=5.29) completed the psychosocial intervention provided to the experimental group. The standardized intervention sessions were conducted individually by competent counselling psychologists. The control group participants were given four general awareness sessions focusing on nutrition, hygiene, parenting, and the importance of education; the sessions were spaced with a gap of one week between them. The room or sufficiently enclosed spaces for one-to-one interaction during the intervention were arranged in local community centres. After completing all the sessions of the experimental and control groups, post-test scores were recorded. Data were analysed using a series of one-way ANOVAs. After the post-assessment, a group session with a gist of the approach and techniques of the intervention to address depressive symptomatology, along with a suggestion to visit a mental health professional, was provided to the control group participants.

4.7 Results

The findings of the study are presented in Tables 4.1 to 4.5. Means, standard deviations, and other descriptive statistics for the demographic and other study variables are given in Table 4.1. All participants were females. Out of the 114 participants in the experimental group, 50(43.9%) were from a rural background, 44 (38.5%) were from an urban background, and 20 (17.6%) were from semi-urban settings. Similarly, in the control group, there were 22 (59.4%) and 11 (29.7%) participants from rural and urban backgrounds, respectively, whereas 4 (10.9%) participants hailed from the semi-urban background. Regarding family type among the experimental group participants, 71(62.3%) were living in a nuclear family, and 43 (37.7%) were from a joint family. Among the control group participants, 19 (51.3%) were from nuclear families, and 18 (48.7%) were from joint families. The age of participants ranged from 18 years to 40 years in the experimental group (M= 23.03, SD=5.29) as well as in the control group (M=24.89, SD=6.44).

Table 4.2 depicts that the mean scores of control group and experimental group participants at the baseline did not differ significantly, implying that no considerable difference was there between the groups in depressive symptomatology, rumination, reappraisal, resilience, and self-efficacy. Also, there were no significant differences between the groups regarding mean age as well. Similarly, Table 4.4 shows that the mean scores of the control group at baseline and after the general awareness sessions did not have any significant difference. Rather, scores of control group participants on reappraisal and resilience reduced significantly in the later assessment.

Comparison between post-intervention scores of the experimental group and that of the control group has been depicted in Table 4.3. Both the groups differed significantly in the post-intervention assessment on the measures of depressive symptomatology, $t(149)=9.07$,

p<0.01, reappraisal, t(149)=3.90, p<0.01, resilience, t(149)=5.07, p<0.01 and self-efficacy, t(149)=4.52, p<0.01. Though, there was difference in the mean scores of rumination, but it was not statistically significant, t(149)=1.43, p=0.15.

As shown in Table 4.5, the community-based psychosocial intervention significantly affected the depressive symptomatology and other studied variables. The participants' post-intervention scores on depressive symptomatology (M=10.22) demonstrated a significant decrease compared to their pre-intervention scores (M=26.00). This difference was found to be statistically significant, as evidenced by the ANOVA results, $F(1,113) = 282.61$, $p < 0.01$, η^2=0.71). The substantial effect size, η^2=0.71, indicates that 71% of the variance in the scores can be attributed to the intervention, affirming its noteworthy impact on reducing depressive symptoms. The impact of the intervention was significant on rumination as well, $F(1,113)=15.95$, p<0.01,η^2=0.12, wherein post-intervention scores (M=10.00) reduced significantly from the pre-intervention scores (M=12.04). All three other positive attributes improved after the intervention. Post-intervention reappraisal strategy score (M=14.38) was significantly greater than their pre-intervention scores (M = 12.99), and the difference came to be statistically significant, $F(1,113) = 8.52$, p<0.01, η^2=0.07. A significant change was also observed in both the dimensions of psychological capital. Post-intervention scores on resilience (M=73.82) were higher than the pre-intervention scores (M=61.53), and the difference between both assessments was highly significant, $F(1,113)=37.30$, p<0.01,η^2=0.25. Similarly, self-efficacy scores in the post-intervention assessment (M=33.83) were higher than the pre-intervention assessment (M=29.48). The difference in self-efficacy was also found to be statistically significant, $F(1,113)=46.88$, $p < 0.01$,η^2=0.29. Overall, the data supported all the hypotheses proposed in the study. The results suggest a substantial and statistically significant improvement in depressive symptomatology post-intervention, supporting the effectiveness of the intervention.

4.8 Discussion

The present study assessed the efficacy of a community-based psychosocial intervention to reduce depressive symptomatology among women in Punjab. The study also evaluated the intervention's impact on potential variables that might be considered as important strengths against depression, such as potentially adaptive emotion regulation strategies and dimensions of psychological capital. In addition, the intervention's effect on the vulnerabilities for depression, such as potentially maladaptive emotion regulation strategies, was also tested.

The scores of the participants on the measure of depressive symptomatology reduced significantly, and there were significant differences between the control and experimental groups on the respective measures post-intervention. The reduction and the scores' differences were statistically significant, which supported the hypotheses. The findings are similar to a few previous studies conducted in a different context (Cuijpers et al., 2016; Furukawa et al., 2014). Along with improving the symptomatology of depression among participants, the intervention also enhanced the usage of adaptive emotion regulation strategies such as reappraisal and dimensions of psychological capital, i.e., psychological resilience and self-efficacy. In contrast, use of rumination, a potentially maladaptive emotion regulation strategy, was significantly reduced after the intervention's administration. All these variables mentioned above were the ones identified as strengths and vulnerabilities constituting a Psychological Defensive Syndrome (PDS) observed in the previous phase of the research. The intervention addressed a range of psychological, social, and environmental factors through various activities, potentially aiding participants in managing their depressive symptoms. Specifically, increasing engagement in meaningful activities aimed to counteract common negative behavioural patterns associated with depression might have relieved participants from depressive symptoms. By acknowledging that behaviour is influenced by its

consequences, the completion of tasks and the subsequent reinforcement might have enhanced their mood and reduced depressive symptoms. Additionally, the observed reduction in depressive symptoms among participants may be attributed to changes in the four variables targeted during the intervention. These variables were identified as significant predictors of depression. Therefore, alterations in these variables, facilitated by the intervention, could be a plausible explanation for the decrease in depressive symptomatology among participants. Each session and the subsequent week were dedicated to addressing a specific predictor of depression. Notably, significant improvements in these targeted factors might have contributed to the reduction in depression symptoms. The intervention's structured focus on these variables likely played a vital role in fostering positive changes and ultimately alleviating depressive symptoms among the study participants. For a more comprehensive understanding of how the reduction in depression scores was achieved through the targeted variables, detailed explanations are provided in the following paragraphs. These insights offer a nuanced view of the intervention's impact on specific factors contributing to the observed improvements in participants' mental well-being.

While the first session was intended to achieve a therapeutic rapport or alliance with the client, particular vulnerabilities or defences were addressed from the second session onwards. The second session, for instance, focused on psychoeducation and goal-setting as well as small routine changes for aspired outcomes by the client to enhance self-efficacy. As evident from the results, the self-efficacy of the clients significantly increased post-intervention. Psychoeducation and goal setting have been found to increase self-efficacy (Schunk, 1990; Sökmen & Karaca, 2023). The finding that this belief inculcated through achieving small goals and witnessing oneself on the path towards improvement and well-being through one’s own actions may improve depressive symptomatology is not in isolation. It has been found in previous studied also that increased self-efficacy helps in the reduction

of depressive symptoms (Bahar, 2023; Wu et al., 2013). Psychoeducation provided individuals with information about depression, its symptoms, and the factors contributing to it. It might have reduced feelings of confusion and helplessness. Learning that depression is a common and treatable condition helps normalize the experience, reducing stigma and enhancing confidence to deal with it. Similarly, training to set specific, achievable goals might have provided individuals with a sense of direction and purpose. Goals act as motivational milestones that can counter feelings of aimlessness often associated with depression. Achieving these smaller milestones boosts confidence and reinforces a sense of efficacy. Also, goal setting empowers individuals by giving them a sense of agency and control over their lives. This control can counter feelings of helplessness associated with depression. Further, as individuals achieve their goals, they receive positive reinforcement, reinforcing a sense of efficacy and accomplishment. This positive feedback loop can be a key factor in breaking the cycle of depression.

Emotion regulation, one of the studied variables, has long been found to be a significant predictor of depressive symptomatology (Berking et al., 2014). While targeting emotion regulation dynamics, previous studies have found therapeutic interventions quite effective in enhancing the usage of adaptive emotion regulation strategies and reducing depressive symptomatology (Bernstein et al., 2020; Moltrecht et al., 2021). The present study's intervention was also intended to reduce rumination and inculcate reappraisal strategy among depressed women.

The maladaptive emotion regulation strategy targeted in the present context, i.e., rumination, has been seen as a vulnerability for psychopathologies, especially depression (Nolen-Hoeksama et al., 2008). The community-based psychosocial intervention targeted rumination by making the participants learn to challenge the validity and functionality of their thinking by weighing evidence for and against those thoughts. Challenging the negative

content of rumination through cognitive restructuring techniques has been found to increase problem-solving and cognitive control, thereby reducing rumination (Ma & Lo, 2022; Yu et al., 2023). It has also been found that improvement in rumination usage may bring about significant positive changes in depressive symptomatology (Watkins, 2015; Zetsche et al., 2018). A considerable positive effect was evident on the use of rumination post-intervention, and this result also provides evidence supporting the respective hypothesis. Also, the finding does not stand in isolation but draws considerable support from the existing literature (Watkins & Roberts, 2020). In their meta-analysis, Zetsche and colleagues (2018) found that there was an underlying loosening in cognitive control over the negative, irrelevant and dysfunctional contents accessing the working memory during rumination, which is also associated with depressive symptomatology. Rumination magnifies and sustains negative affect and distress; hence, reducing the use of rumination can be therapeutic in depression, strengthening cognitive control and giving way to positive information (Nolen-Hoeksema et al., 2008). Mindfulness training was also paired to reduce the usage of rumination along with cognitive restructuring. Rumination involves repetitively focusing on negative thoughts, contributing to the persistence of depressive symptoms. Mindfulness practices, such as mindfulness-based cognitive therapy (MBCT), encourage individuals to observe thoughts without getting entangled in them. This non-judgmental awareness can disrupt the habitual cycle of rumination.

The fourth session was aimed at increasing reappraisal. Use of Socratic questioning in the intervention against their negative beliefs might have resulted in improved reappraisal scores. As may be seen in the results, use of reappraisal was increased significantly in experimental group participants. Previous literature provides support to the finding as it has been found that cognitive restructuring aids reappraisal (Clark, 2022; Shurick et al., 2012). Also, it has been found in previous studies that reappraisal increases positive affect, decreases

rumination, and therefore reduces depressive symptoms (Dawel et al., 2023; Wang et al., 2022). Participants in this session were motivated to identify and challenge maladaptive beliefs, and replace those with more adaptive and effective ones. According to Beck's Cognitive Theory of Depression, reappraisal can disrupt and challenge automatic negative thoughts, promoting cognitive restructuring and alleviating depressive symptoms. James Gross's Process Model of Emotion Regulation also highlights reappraisal as a cognitive strategy for modifying emotional responses, particularly useful in the context of depression. According to this model, reappraisal, as a strategy, allows individuals to change their emotional responses by altering the way they perceive and interpret situations. The effects of increased use of reappraisal have been found to be similar to quality-of-life related gains such as enhanced life satisfaction, optimism, environmental mastery, social support, and self-esteem, thereby decreasing the depressive symptomatology (Brewer et al., 2016). LeMoult & Gotlib (2018), in their framework, had also shown that enhancing the use of reappraisal results in more cognitive control, which can improve depression symptoms.

The fifth session of the intervention targeted another dimension of psychological capital, i.e., psychological resilience. As per the results, the intervention effectively enhanced resilience among the participants. This observation again is in support of what was hypothesized. This dimension of psychological capital has been found to be protective factor against depression (Yusuf et al., 2020). There have been several other findings from studies in consonance with the findings of this study, showing that interventions against depression are effective in enhancing resilience (Mathias et al., 2018; Vanhove et al., 2016). The intervention targeted resilience by incorporating self-care behaviours and attitudes in their routine affairs.

Literature shows that self-care behaviours have been associated with high resilience among individuals (Jin et al., 2023). Similarly, optimism has also been found to be associated

with resilience (Souri & Hasanirad, 2011). Chronic stress is a significant contributor to depression, and managing stress through self-care promotes emotional well-being. Self-care may foster emotional regulation by providing individuals with healthy outlets to express and process their emotions. This can prevent emotional suppression, which is linked to depressive symptoms. Furthermore, taking time for oneself and prioritizing self-care activities can enhance self-esteem and counter negative self-perceptions associated with depression. Also, actively participating in self-care cultivates a sense of control and empowerment. This feeling of agency is crucial in combating the feelings of helplessness often associated with depression. Adequate sleep, regular exercise, and a balanced diet, all components of self-care, contribute to physical well-being. Physical health is interconnected with mental health, and maintaining a healthy body can protect against depression. In conclusion, engaging in self-care behaviors creates a foundation for resilience and contributes significantly to the reduction of depression in women. By addressing various aspects of well-being—physical, emotional, social, and cognitive—self-care empowers women to build a robust mental health framework, fostering resilience and mitigating the impact of depressive symptoms. Resilience boosts self-esteem, optimistic worldview, and hope and translates into less depression and more life satisfaction (Mak et al., 2011).

Although the focus of the study and the intervention was on the variables included in the PDS (rumination, reappraisal, psychological resilience, and self-efficacy), responses on the other measures, namely, acceptance, problem-solving and social support, emotional suppression, and avoidance were also collected. The five-session intervention module was not found to be effective in increasing adaptive strategies such as acceptance and problem-solving. However, the usage of social support as an adaptive emotion regulation strategy observed a significant increase after the intervention. Previous studies in the area of depression have already recognized social support as an asset against depression, so the

finding derives considerable support (Rawana, 2013). Ioannou and colleagues (2019) have postulated that under moderate levels of stress, perceived social support strengthens self-esteem, which translates into a reduction in depression symptoms. The intervention did not make any change in other maladaptive emotion regulation strategies, such as emotional suppression and avoidance.

While seeing through the effect of the intervention qualitatively, it is observed that most of the symptoms of depressive symptomatology improved after the administration of the intervention. Some of these, such as sadness, self-dislike, irritation, crying spells, and loss of interest, saw much improvement, while other symptoms, such as energy loss, poor appetite, health-related worries, and interest in sex, were comparatively less improved. Few participants did not report an overall improvement in depressive symptomatology; in their case, few symptoms improved while other symptoms did not. Participants also reported that the intervention brought about positive changes in their lives, e.g., maladaptive negative attitudes toward family members and others were identified and changed, and participants were able to do time management, restructure their daily routine, and think positively in stressful situations better than before. As per their diary reports, it was the first experience of its kind for most of them, and talking about their problems had a significant cathartic effect. Most of the participants expressed interest in participating in a similar future program. However, a few participants were dissatisfied as they could not make the required changes in their lifestyle, partially due to their too many household chores.

As per our knowledge, this is the first study to adapt, devise, and administer a community-based psychosocial intervention for women in Punjab. The study's findings suggest that the intervention in question is effective in reducing depressive symptomatology and moderating the usage of specific emotion regulation strategies, such as reappraisal and rumination, which play an important role in developing and maintaining depressive

symptomatology. Other defences against depression, such as resilience and self-efficacy, were also enhanced. This study supports further development and adaptation of interventions in particular ethno-cultural settings to address depressive symptomatology and improve well-being of women and people in general.

4.9 Conclusion and Implications

The findings from the present study showed that the community-based intervention was effective in improving depressive symptomatology among the women. Also, the intervention significantly improved the relevant psychological vulnerabilities as well as the defences derived from the PDS. Rumination scores prior to the intervention administration were significantly reduced after the administration whereas reappraisal, resilience and self-efficacy were enhanced. It was also observed that a community-based intervention employed in non-specialized healthcare settings can be effective in depression management among women. Such concise, time-bound interventions with strategized and neutral outreach to counter social obstacles such as stigma and delivery of mental healthcare almost at the doorstep may also scale up the reach and timely delivery to individuals in need. Governmental, non-governmental as well as private agencies working in the field of mental health care can adapt such interventions and with some training to the frontline workers, the issues of concern such as access to mental health care, financial challenges to avail the services and scarcity of workforce can be addressed effectively to some extent.

Table 4.1

Sociodemographic characteristics and descriptive statistics for each measure of experimental as well as control group participants at baseline

	Variables	N	%	Min	Max	Mean	SD	Skewness	Kurtosis
Experimental Group	Age (In years)	114		18	40	23.03	5.29	1.69	2.25
	Residence								
	Rural	50	43.9						
	Urban	44	38.5						
	Semi-urban	20	17.6						
	Family type								
	Nuclear	71	62.3						
	Joint	43	37.7						
	Depressive symptomatolgy			14	57	26.00	10.18	0.83	-0.17
	Rumination			4	20	12.04	4.39	0.02	-1.10
	Reappraisal			4	20	12.99	4.15	-0.11	-0.85
	Psychological resilience			8	95	61.53	15.47	-0.53	0.55
	Self-efficacy			17	40	29.48	5.53	-0.08	-0.33
Control Group	Age (In years)	37		18	40	24.89	6.44	0.88	-0.55
	Residence								
	Rural	22	59.4						
	Urban	11	29.7						
	Semi-urban	4	10.9						
	Family type								
	Nuclear	19	51.3						
	Joint	18	48.7						
	Depressive symptomatolgy			14	37	23.73	7.26	0.26	-1.20
	Rumination			5	19	10.81	3.36	0.85	0.47
	Reappraisal			7	20	14.22	3.12	-0.59	0.18
	Psychological resilience			26	95	63.41	15.67	-0.21	-0.06
	Self-efficacy			20	40	30.76	5.24	-0.40	-0.54

Table 4.2

Comparison of experimental and control groups on respective psychological measures at baseline

Variables	Control group		Experimental Group		t-test	p-value
	M	SD	M	SD		
Depressive symptomatology	23.73	7.26	26.00	10.18	1.26	0.21
Rumination	10.81	3.36	12.04	4.39	1.56	0.12
Reappraisal	14.22	3.12	12.99	4.15	1.65	0.10
Resilience	63.41	15.67	61.53	15.47	0.64	0.52
Self-efficacy	30.76	5.24	29.48	5.53	1.23	0.22

Table 4.3

Comparison of experimental and control groups on respective psychological measures after the intervention

Variables	Control group		Experimental Group		t-test	p-value
	M	SD	M	SD		
Depressive symptomatology	23.49	7.09	10.22	7.92	9.07	0.00
Rumination	11.16	4.05	10.00	4.34	1.43	0.15
Reappraisal	11.54	3.93	14.38	3.82	3.90	0.00
Resilience	55.41	16.58	73.82	19.94	5.07	0.00
Self-efficacy	28.92	5.23	33.83	5.90	4.52	0.00

Table 4.4

Comparison of control group on respective psychological measures at baseline and after the intervention

Variables	Pre-test		Post-test		ANOVA	
	M	SD	M	SD	F-ratio	p-value
Depressive symptomatology	23.73	7.26	23.49	7.09	0.28	0.60
Rumination	10.81	3.36	11.16	4.05	0.31	0.58
Reappraisal	14.22	3.12	11.54	3.93	15.33	0.00
Psychological resilience	63.41	15.67	55.41	16.58	19.15	0.00
Self-efficacy	30.76	5.24	28.92	5.23	5.48	0.02

Table 4.5

Comparison of experimental group on respective psychological measures at baseline and after the intervention

Variables	Pre-test		Post-test		ANOVA		
	M	SD	M	SD	F-ratio	p-value	η2
Depressive symptomatology	26.00	10.18	10.22	7.92	282.61	0.00	0.71
Rumination	12.04	4.39	10.00	4.34	15.95	0.00	0.12
Reappraisal	12.99	4.15	14.38	3.82	8.52	0.00	0.07
Psychological resilience	61.53	15.47	73.82	19.94	37.30	0.00	0.25
Self-efficacy	29.48	5.53	33.83	5.90	46.88	0.00	0.29

Chapter 5

Summary, Limitations and Recommendations

5.0 Summary

Mental health concerns have been on the rise globally (Dhyani et al., 2022; Wainberg et al., 2017). Spanning all age groups, mental health issues have been significant contributors to the global burden of diseases as well as disability (World Health Organization, 2022b). In addition to the health-related consequences, individuals with mental health issues experience discrimination, avoidance, stigma, and violations of their fundamental rights. Such conditions may lead to social isolation, interrupted or incomplete schooling, and unemployment (World Health Organization, 2022b). Among the mental health issues, depression is highly prevalent, disabling, fatal when severe, and one of the highest contributors to the global burden of health issues (Santomauro et al., 2021; Weavers et al., 2023).

Literature suggests that women have been more prone to depression as compared to men (National Institute of Mental Health and Neurosciences, 2016; World Health Organization, 2022b). The gender difference in the prevalence of depression has also been found in the state of Punjab, where women are three times more prone to depression compared to men (National Institute of Mental Health and Neurosciences, 2016). Indian women's experiences of depression have been deeply entwined with their social contexts. Women perceive a number of issues, including financial instability, marital violence, interpersonal conflict, gender-based discrimination, caring responsibilities and unfavourable reproductive experiences as probable causes of depression. Women expressed their experiences of physical, emotional, and mental suffering through a variety of cultural forms. Given the detrimental effects that discriminatory social contexts, gender inequality, and

traditional gender norms have on women's mental health in India, gender-sensitive research and mental health interventions are essential. These interventions ought to respect social justice and gender equality while also taking into consideration the sociocultural context in which women live (Bhattacharya et al., 2019a).

Keeping in mind the need to address the rising mental health issues and the scarcity of personnel and resources in low and middle-income countries like India, the World Health Organization made recommendations for devising community-based, easy-to-administer interventions suitable for non-specialized healthcare settings (World Health Organization, 2016). Most of the psychological interventions are delivered in specialized healthcare settings, which may not be accessible and affordable for all, especially in low and middle-income countries with a huge scarcity of mental healthcare workforce. Interventions deliverable in non-specialized healthcare settings are needed to address the rising mental health issues (Oyedeji et al., 2022). Development of such an intervention requires identification of negative and positive correlates of depression, which contribute significantly to the mitigation and prevention of depression. As a high attrition rate has been an obstacle to the alleviation of mental health issues (Behl & Rajgopal, 2018), a suitable intervention would be that which could target relevant recognized and malleable correlates of depression, take a lesser number of sessions, and be conducted in non-specialized health care settings. In line with the recommendations of the mhGAP and the above-discussed requirements, the present research work aimed to devise a community-based intervention and tested its efficacy in reducing depressive symptoms in women. To achieve the primary objectives, the research work was conducted in two phases. The first phase dealt with the identification of suitable psychological correlates and tested the nature of association among those correlates in the target population. The second phase aimed to test an intervention devised for a community sample to mitigate depressive symptoms. The intervention was based on the findings of the

first phase and it derived a few elements from existing therapeutic approaches. The intervention was administered to women with depressive symptomatology.

The studies proposed a number of hypotheses about the possible association of psychological vulnerabilities and defenses with depressive symptomatology and the effectiveness of the intervention in reducing depressive symptomatology. The results showed that the studied vulnerabilities and defenses were associated with depressive symptomatology in the hypothesized way. Also, the findings indicated that by targeting those identified factors through the devised intervention, a reduction in the depressive symptomatology can be expected.

Previous studies have identified an array of psychological vulnerabilities for depressive symptomatology (Balakrishnan et al., 2022; Dagnino et al., 2020; Hammen, 2018; Razzak et al., 2019). Similarly, many studies have found certain psychological variables that act as a defense against depression (Breton et al., 2015; Gawrych et al., 2022; Kim et al., 2021; Song et al., 2021). Among these risk and protective factors, some psychological factors and their inter-correlations have not been explored exclusively in women. For instance, neuroticism is considered an important vulnerability for depression and holds significant value in depression diagnosis (Liu et al., 2020; Vinograd et al., 2020), but the neuroticism-depression association has not been explored well in women, especially in Indian settings (Chattha et al., 2008; Sharma & Raju, 2013; Talukdar et al., 2013). Another personality factor, i.e., extraversion, has been considered a protective disposition against depression (Grav et al., 2012; Klein et al., 2011; Spinhoven et al., 2014; Yu & Hu, 2022), the relationship, to the best of our knowledge, is yet to be studied among women in the Indian context.

Rumination—one of the emotion regulation strategies—is also considered a central mechanism in the development and aggravation of depression (Alderman et al., 2015; Kovács et al., 2020; Li et al., 2022; Sun et al., 2014). The review of existing relevant literature indicates that women tend to ruminate more as compared to men, however, the association between rumination and depression has not been explored in women exclusively. Thus, it qualifies as a key risk factor to be explored among women and should be a target variable of any intervention aimed at managing depressive symptomatology (Graham et al., 2018; Johnson & Whisman, 2013). Reappraisal, another emotion regulation strategy, is treated as a potential defense in the context of depressive symptomatology (Andrews et al., 2023; Dryman & Heimberg, 2018; Roos & Bennett, 2023; Wang et al., 2022). More importantly, reappraisal has been at the core of therapeutic approaches intended to manage depressive symptomatology. Negative and dysfunctional thought patterns may be effectively rectified using reappraisal (Wang et al., 2022). However, there is a dearth of studies exploring the association between reappraisal and depressive symptomatology among Indian women.

Resilience has also been receiving significant recognition in the area of depression intervention research (Ferreira et al., 2021). With regard to depression, resilience has been observed as a defensive factor (Ran et al., 2020; Song et al., 2021; To et al., 2022), but not many studies have been conducted in the Indian context to investigate the role of resilience in depressive symptomatology among women in India (Gopal et al., 2020; Kishore et al., 2018; Mathias et al., 2018; Patil et al., 2021). Resilience, being malleable, could be a key psychological target to mitigate depression (Kuldas & Foody, 2022; Ran et al., 2020b). In addition to resilience, self-efficacy has also been identified as a protective factor against depression (Chen et al., 2020; Rosas et al., 2019; Tak et al., 2017; Wang et al., 2022). In line with the previously discussed correlates of depressive symptomatology, self-efficacy is also scarcely studied in relation to depression among women in India and is an important factor to

be targeted in an intervention meant to mitigate depressive symptomatology (Brenninkmeijer et al., 2019; Leventhal et al., 2015; Mathias et al., 2018). Thus, considering their significance and the need to explore the above-mentioned factors in Indian context, the inter-construct association was explored in the first phase of the present research work. This phase addressed the dearth of research studies investigating the relationship of depressive symptomatology with key potential vulnerabilities as well as defenses among Indian women living in the state of Punjab. The results showed that the factors and the nature of relationships with depressive symptomatology reflected in the literature were evident in the studied sample as well. Neuroticism and rumination usage were found to be risk factors for depression, whereas extraversion, usage of reappraisal, resilience, and self-efficacy were observed to have a negative association with depression, categorising them as protective factors.

The findings also indicate a psychological profile among women experiencing depressive symptomatology, which may be labelled as a Psychological Defensive Syndrome (PDS). Women who engaged more in rumination and less in reappraisal to manage their emotions, scored higher on neuroticism and lower on extraversion, demonstrated lower resilience, and had lower self-efficacy were found to be more vulnerable to experiencing depressive symptomatology compared to their counterparts. The PDS may be seen as an important contribution of this study as it could serve important purposes in the domains of community mental health issues and its management. The PDS has the potential to be a screening criterion for the identification of individuals who are at an increased risk for depressive disorders and need immediate therapeutic help. What makes the PDS particularly valuable is its composition of modifiable psychological factors, suggesting that interventions targeting these factors could effectively mitigate depressive symptomatology. The adaptability of components such as rumination, reappraisal, resilience, and self-efficacy makes them prime targets for various therapeutic interventions. Moreover, the observed

significant associations among these factors imply that modifying one element through intervention could potentially lead to changes in other related factors within the PDS.

Based on the inferences drawn from the findings of the first phase, a psychosocial intervention was designed to target the factors identified in the first phase. While designing the intervention, it was ensured that the intervention should not be lingering and should have a lesser number of sessions to prevent high attrition. It was learned that the frequency of sessions plays an important role initially, and little difference between the effects of 1-5 sessions and 6-8 sessions were found (Forde et al., n.d.; Tiemens et al., 2019). Therefore, it was decided that the intervention would comprise five sessions, and there would be a spacing of one week between the sessions. Apart from targeting the identified factors through different approaches, the intervention borrowed a few elements from the already prevalent therapies, namely, CBT and DBT, while maintaining significant distinctions and contextual relevance at the same time. Five sessions were aimed at rapport building and problem conceptualization, providing psychoeducation, enhancing self-efficacy, reducing rumination usage and building resilience sequentially. Cognitive restructuring, along with homework tasks such as relaxation, mindfulness, deep breathing, etc., ran coherently through the third, fourth, and fifth sessions.

Comparison of baseline scores with the post-intervention scores, and that of control and experimental groups on the respective measures showed that there were significant changes in scores post intervention. This suggests that the community-based intervention successfully brought about significant changes, effectively reducing depressive symptomatology. Importantly, it achieved the desired modifications in the targeted vulnerabilities and defenses. These outcomes reiterated that the relatively more malleable components of PDS could be used to target depressive symptomatology in an intervention.

The intervention turned out to be an effective therapeutic program against depressive symptomatology among women.

These findings pave the way for more community-based intervention research in mental health and highlight the importance of considering the contextual factors. Ignoring such factors may lead to high attrition and ineffectiveness of programs, thereby making the resources and efforts go in vain. There have not been many interventions dealing with the given issue using this approach. This study also emphasizes that relatively shorter, easily administrable interventions may prove to be an effective effort in addressing the scarcity of resources, limited evidence-based interventions, and widening treatment gap.

5.1 Theoretical Implications

- The identification of PDS in the present research provides a novel theoretical framework for understanding and addressing depressive symptomatology. This concept introduces the idea that certain malleable risk and protective factors should be identified and targeted to effectively mitigate depression. In particular, the psychological profile of women who are more likely to experience depression provides more detail to current theories and forces a re-examination of the ways in which psychological variables combine to influence the beginning of depressive symptomatology in women. The theories pertaining to the manifestations of mental health problems are affected by this nuanced understanding.

- The current research work provides the groundwork for designing community-based psychological interventions. It advocates the initial identification of PDS in a particular context, selection of malleable factors from the identified PDS and then targeting them with the suitable therapeutic approaches. It emphasized the necessity of a customized and contextually appropriate strategy to deal with mental health

issues. The intervention's modular structure adds a fresh perspective to theoretical debates by implying that interventions ought to be flexible enough to be tailored to various contexts and demographics.

- The study underscores the importance of gender-sensitive research in mental health, particularly focusing on women. It highlights the need to explore and understand the unique psychological vulnerabilities and defences that contribute to depression in women, filling a gap in existing literature.

5.2 Practical Implications

- The PDS serves as a potential screening criterion, aiding in the early identification of individuals at an increased risk for depressive disorders. This implies the need for proactive and targeted interventions, preventing the escalation of depressive symptoms.

- The intervention's community-based and modular design offers a workable model for expanding and long-lasting mental health initiatives in non-specialized healthcare environments. The intervention modules can be taken up to scale up the deliverability and access to mental healthcare services. Since the intervention is concise and has an overall structure, it is not very difficult to administer. The internal session structure is flexible and provides scope for context-sensitive improvisations in choosing exercises and homework. The researchers opine that basic and short-term training in counseling attitudes, cognitive restructuring, and mindfulness techniques may suffice for an individual to be competent in administering the intervention modules. Such training camps may be set up at the district-level health centers. The intervention has been tested in community settings and non-specialized healthcare environments and has yielded significant results. The frontline healthcare workers may be provided with the

required training, and their weekly or twice-a-week visit to designated common places in localities may be scheduled after a sensitization campaign in the respective areas. There, the intervention may be delivered as a therapeutic or preventive program for women's mental health. Thus, the research work provides insights that may be applied by mental health professionals, healthcare providers, and community leaders worldwide.

- As the findings indicate the effectiveness of the relatively shorter, five-session intervention, it highlights the practicality and resource efficiency of community-based programs. This has significant implications for regions facing a shortage of mental healthcare workforce and resources.

- The study's intervention design, based on identified factors and drawing from established therapeutic approaches, offers a practical template for addressing depressive symptomatology in community settings. The emphasis on a brief and spaced intervention format addresses the challenges of high attrition rates.

- The study emphasizes the importance of considering sociocultural contexts in intervention design. Tailoring interventions to align with cultural norms and addressing specific issues faced by Indian women enhances the relevance and effectiveness of mental health programs.

- The study has implications for academic institutions on several fronts. The interventional modules can be incorporated into curricula by educational institutions, particularly those that provide healthcare training, to ensure that aspiring medical professionals have the knowledge and abilities to provide culturally appropriate mental health interventions. Secondly, it emphasizes the need to incorporate the interventional modules into curriculum of school/college students along with the

academic content. Increased awareness concerning mental health issues among students may help them in various ways. It may enhance their knowledge of depression dynamics, destigmatize mental health issue and increase help-seeking behavior. Thus, inclusion of these intervention modules in school/college curricula may help create a supportive community environment and encourages early help seeking which is a preventive step to address rising mental health issues. By addressing the underlying dynamics of depression proactively, this approach is in line with a public health perspective and aims to lessen its overall burden on the healthcare system.

- The modular intervention can be incorporated into currently offered healthcare services, particularly in primary care settings.

- The results of this study can be used by non-governmental organizations (NGOs) that support mental health to improve their offerings. The intervention's community-based approach is consistent with the values of numerous non-governmental organizations, which frequently emphasize enabling local communities to tackle their distinct problems. NGOs can work with local communities to scale up and implement the intervention, supporting community-led mental health initiatives. In addition to increasing the effectiveness of interventions, this participatory approach helps to strengthen resilience and local capacity. NGOs can also push for legislative modifications that facilitate the inclusion of community-based mental health services in the current healthcare framework. Their role in bridging the gap between research findings and implementation can be crucial in ensuring the dissemination and adoption of evidence-based practices at the community level.

- The intervention's beneficial effects may extend beyond its immediate impact on depression and have repercussions on other facets of community well-being. Enhanced resilience within the community, stronger social ties, and higher productivity are all correlated with improved mental health. Women who play important roles in raising the family at various levels may benefit from psychological empowerment, which could eventually have a positive impact on both the family and society as a whole.

To sum up, this research has implications for theoretical, practical, policy, and community aspects of mental health. Stemming from strong theoretical underpinnings, the modular intervention functions as a workable model for adaptable and culturally aware mental health initiatives. These findings can be used by the NGO, healthcare, and education sectors to improve their procedures and support a more all-encompassing and integrated approach to mental health, particularly among women.

5.3 Limitations

Despite adequate planning and execution of research ideas, some conditions remain which may limit the generalization of the findings. Some of the limitations are presented below.

- The use of self-report measures introduces the potential for sociably desirable responses, which might have affected the reliability of the data collected. Response bias and social desirability might have introduced when risk and protective factors, as well as the effectiveness of the intervention, were evaluated solely through self-report measures. It is possible that some participants over reported or underreported certain parts of their experiences.

- Another limitation is the cross-sectional design used in the first phase of the research work. Drawing causal conclusions based solely on the observed relationships might

not be justified; however, strong theoretical relationships among variables is the primary requirement for establishing cause and effect relationship.

- Further, the research was conducted in a specific context, namely the regions of Punjab, and India, which may limit the generalizability of the findings. It is possible that the research's conclusions are only partially applicable to the particular group of Punjabi women. Variations in culture, society, and demography may impact how well the intervention works in various settings or with different populations. Therefore, it is crucial to replicate the study in different contexts that encompass more diverse geographical regions, ethnicities, genders, and age groups.

- External factors, that might have impacted the participants' mental health during the intervention period, such as concurrent life events, shifts in social support, or other contextual influences, might have impacted the findings.

- Attrition rates or biases in participant selection might have affected the representativeness or validity of the study's outcomes.

- While the brief intervention format addressed concerns of high attrition, the short duration might not capture the long-term impact or sustainability of the intervention. Longer follow-up periods could provide a more comprehensive understanding of its lasting effects.

- Although the research acknowledges the impact of sociocultural factors on women's mental health, the depth of exploration may be limited. A more in-depth analysis of these factors could provide a richer understanding of their influence on depressive symptomatology.

- The viability and sustainability of implementing the intervention in non-specialized healthcare settings may be impacted over time by changes in society, economy, or healthcare system. The current study did not systematically address these changes.
- Although the research concentrated on identifying and mitigating risk factors, it's possible that the intervention overlooked certain protective factors. Subsequent studies may examine a wider range of variables that affect mental health resilience.
- The study complied with ethical standards. However, there might have been unanticipated ethical issues when the intervention was being implemented. A more thorough understanding of the study's limitations can be achieved by acknowledging these and talking about any potential ethical issues.

5.4 Recommendations for future research

- Conducting longitudinal studies is a critical avenue for future research aimed at comprehending the long-term impacts and sustainability of the community-based intervention that was designed. After the 5-session intervention, following up with participants may offer new perspectives on the long-term effects on depression rates, relapse prevention, and general mental health. Long-term research would also be helpful in determining any possible causes that might contribute to a gradual drop in the effectiveness of an intervention.
- An important factor in mental health interventions is the cultural context. It is imperative that future research delves deeper into the cultural customization and adaptation of the intervention to ensure its effectiveness across Punjab's diverse communities. Given the region's rich cultural diversity, adjustments might be required to address the unique needs and subtleties of various subgroups in order to keep the intervention acceptable and relevant.

- The reach and impact of the intervention could be increased by investigating the integration of digital tools, given the growing availability and accessibility of technology. One could investigate online support groups, mobile applications, or virtual sessions that are customized for the specific cultural setting. This strategy might also assist in removing geographical restrictions and opening up the intervention to a larger audience.

- More community members and stakeholders should be involved in the creation and application of mental health interventions. The acceptability and sustainability of the intervention can be improved by working together with community organizations, healthcare professionals, and local leaders. By using a participatory approach, the intervention is ensured to be in line with community values and to address particular issues brought up by community members.

- It might be helpful to look into incorporating peer support models into the intervention. A distinctive and culturally aware method of addressing mental health concerns can be provided by peer support. Creating peer support groups or educating community members to be mental health advocates could help the intervention's effects last longer.

- The scope of the intervention can be expanded by working with experts from other fields, such as social work, education, and public health. Multidisciplinary studies can offer a more thorough comprehension of the complex elements impacting women's mental health. Additionally, it might pave the way for integrated interventions that target the social and psychological factors that influence mental health.

- Future studies could examine the intervention's suitability for other demographic groups, such as men, adolescents, or older adults, even though it is currently focused

on women in Punjab. A more inclusive and flexible mental health strategy can be developed by tailoring the intervention to different populations.

- Adding qualitative research to quantitative findings can help provide a deeper understanding of participant experiences, perceptions, and the intervention's cultural relevance. Qualitative methods can capture nuanced experiences that quantitative measures may overlook. Qualitative data can offer important insights into participant satisfaction, change mechanisms, and areas that need more improvement.

- Given the community-based focus, investigating the influence of familial and community factors on mental health outcomes could be valuable. Understanding how social support networks impact mental health is crucial for designing effective interventions.

- Creating efficient plans for spreading the intervention to a wider audience is essential to maximizing its effects. Research may concentrate on determining the best ways to reach target audiences, educating healthcare professionals, and removing any implementation-related obstacles.

To sum up, the suggestions mentioned here are meant to direct future studies on depression mitigation. These recommendations aim to improve the community-based intervention's effectiveness, cultural relevance, and sustainability in order to build on its success and ultimately support the more general objective of improving mental health outcomes in a variety of populations.

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Appendices

Community-based Intervention Module

Modules	Process
Session 1: Rapport building, case history, and problem identification	• Making the client feel prioritized • Asking the client open-ended questions, appreciating her wherever relevant, and probing wherever necessary • Establishing credibility and trust for a therapeutic alliance by talking about oneself (administrator) and setting ground rules • History taking and inquiries about symptoms/complaints across domains of functioning. • Identification and conceptualization of the problem • Observation of thoughts, emotions, and responses during emotional events added as homework
Session 2: Goal formulation to boost self-efficacy and psychoeducation	• What is depression, and how it affects? How can it be approached and worked upon for improvement? (ABC Model and the interventional approach) • Major goals agreed upon by the clients to be addressed in the intervention • Prioritizing addressing the goals as per the intensity of the problem and its effect on functioning • Small steps towards inclusion of hobbies in routine and completion of pending tasks added as homework

Session 3: Targeting and reducing rumination through initiation of cognitive restructuring	• Identification and evaluation of maladaptive thoughts and underlying beliefs • Questioning the thoughts and beliefs with evidence • • Demonstration of mindfulness and assignment of the same as homework in addition to the previously demonstrated techniques and suggested inclusion in daily routine.
Session 4: Enhancement of reappraisal usage and continued cognitive restructuring	• Digging further deep into the beliefs and facilitating the clients to evaluate their beliefs and rules, assumptions, and attitudes subsumed within the beliefs. • Reappraising the associated contexts or beliefs and replacing them with adaptive ones • Demonstration of deep breathing and light physical exercises to be assigned as homework till the next session • Initiating termination by discussing the rationale and importance of the same.
Session5: Reinforcing resilience and terminating the intervention	• Promoting self-care behaviours • Fostering an optimistic outlook by referring to goal achievements in the past as well as self-disclosure • Demonstration of Jacobson's Progressive Muscular Relaxation (JPMR) and assignment of the same as homework till next session • A revision and overview of the sessions, derivation of

	learning, and conclusion of termination

Questionnaire