Psychological Immunity (Pi) in post-Covid era: A systematic review paper

Sampurna Guha* | Nimisha Beri*

*School of Education, Lovely Professional University, Phagwara, Punjab, India.

Abstract This comprehensive review paper delves into the pivotal role of Psychological Immunity (PI) in preserving both mental and physical well-being by harnessing the power of psychological antibodies. By scrutinizing the intricate interplay between PI and various crucial factors such as attachment, social connections, adjustment, self-esteem, and the external environment, this paper aims to unravel the multifaceted dimensions of psychological resilience. The focus is particularly on adolescents and university students, who are often facing increased levels of stressors in the form of academic, societal, peer and family related stress along with the ever-present transitional role which demands a heightened understanding of Psychological Immunity. The methodology employed for this study involves a systematic review of pertinent research articles meticulously selected to align with the study's specific objectives. Through this rigorous approach, the paper synthesizes theoretical evidence, backed by empirical support from literature thereby offering a nuanced and comprehensive exploration of the relationship between PI and key aspects of individual well-being. As the discourse unfolds, the review not only sheds light on the theoretical underpinnings but also provides practical insights that contribute to the evolving landscape of psychological research. By bridging the theoretical and empirical realms, this paper contributes significantly to the discourse surrounding Psychological Immunity, emphasizing its significance as a dynamic and adaptive mechanism crucial for navigating the complexities of modern life especially for adolescents and young adults.

Keywords: adjustment, connections, psychological immunity, review, self-esteem

1. Introduction

The overall well-being of an individual is contingent upon the cognitive and affective domains of one’s psychological health. Numerous studies have established the constructive impact of psychological interventions on augmenting the psychological well-being, specifically the immune system, of individuals grappling with chronic illnesses. Hence, it is incumbent to investigate the underlying factors contributing to such outcomes.

Our mind possesses a unique defence mechanism known as Psychological Immunity (PI), psycho-immunity, mental immunity, or psychiatric immunity, which works similarly to our physiological immune system. Just like our immune system protects us against a variety of pathogens, germs and viruses similarly our psycho-immunity acts as a safeguard for the mind, granting individuals the strength to combat stress, fear, insecurity, inferiority, and negative thoughts – much like a defence against mental viruses. It establishes and maintains mental balance. By bolstering an individual's immune system and alleviating stressful life conditions, a foundation is laid for an enhanced and productive life. Consequently, to mitigate the risk of chronic diseases, it is imperative to instil a positive attitude and behaviour through proper counselling and psychological interventions, thereby fortifying the overall immune system of patients (Pandey, 2017). Psychological Immunity based interventions can play a positive role in strengthening ones Psychological Well Being (PWB). Olah (1996) introduced the concept of Psychological Immune System (PIS) as a theoretical framework aimed at consolidating the discrete yet empirically linked strength of character and stress-resilient assets within the realm of personality. The PIS represents a multifaceted yet cohesive construct of individual resilience resources and adaptive capabilities, also described as “psychological antibodies” (Dubey, 2003), serving as a defence mechanism against harm, daily stress, and traumatic occurrences.

The pentacle model of psycho-immunity proposed by Bhardwaj and Aggarwal (2015) encompasses five key dimensions: self-esteem, adjustment, emotional maturity, and positive memories. The psychosocial states of an individual can exert direct influences on their immune system. Similarly, maintaining a positive attitude and perceived mood appears to be associated with an enhanced immune system capacity to combat diseases. Even in the context of relatively less chronic health issues, mood can exert a discernible impact. For instance, a study on the correlation between common cold and emotional states demonstrated that participants who experienced positive emotions exhibited a heightened ability to resist the rhinovirus (Jones, 2003).
From the literature review, Cohen et al. (2001) gathered insights into the correlation between psychological stress and the antibody response within the context of the immunization process. Self-adjustment pertains to the extent to which an individual is capable and willing to live contentedly with themselves. Individuals with an optimal level of self-adjustment demonstrate an ability to acknowledge their limitations without assigning blame to themselves, as highlighted by Dubey (2003). In their work, Bhardwaj et al. (2015) emphasized the vital role of adjustment in navigating the demands of everyday life. Their work underscores the paramount significance of adjustment in addressing the exigencies of daily life. Several factors determine the extent to which an individual can achieve self-adjustment, including self-awareness, having realistic expectations, the absence of environmental impediments, favourable social attitudes, the mitigation of severe emotional stress, identification with well-adjusted individuals, a positive childhood upbringing, and a stable self-concept. Consequently, self-adjustment emerges as a fundamental requisite for individuals across all age groups, including adolescents. A socially adjusted adolescent exhibits qualities such as extroversion, politeness, cooperation, altruism, truthfulness to societal rules and regulations, which are indispensable for harmonious living within their environment (Dubey, 2003). Furthermore, peer group adjustment holds significant importance. Therefore, self-adjustment is a vital requisite for individuals across the lifespan, including adolescents. Moreover, the facet of peer group adjustment holds a concurrent importance. Ramifications of psychological well-being extend to improved physical health, potentially influenced by patterns of brain activation, neurochemical alterations, and genetic predispositions. The vast body of research on prenatal attachment has consistently shown that maternal prenatal attachment plays a significant role in shaping how the child is perceived as a human being and in influencing the future development of the attachment between the mother and the child (Akbazardeh et al., 2016; McNamara et al., 2019; Howland et al., 2020). This development may also be the decisive factor in shaping future adulthood relationships. Numerous studies, both clinical and empirical, have explored the connections of self-esteem, revealing that one's self-assessment has a direct impact on psychological well-being (DeNeve & Cooper, 1998). It is seen that high self-esteem is linked to fulfilling interpersonal relationships characterized by feelings of security and closeness (Murray, 2005) as well as effective coping strategies (Birndorf et al., 2005). On the other hand, low self-esteem is associated with conditions such as depression and anxiety disorders (Michalak et al., 2011; Trzesniewski et al., 2003), feelings of loneliness and eating disorders. However, the precise nature of the relationship between low self-esteem and depression has been a subject of ongoing debate (Manan et al., 2016). The finding that girls tend to exhibit elevated levels of anxiety compared to boys aligns with prior research (Manan et al., 2016), underscoring the notion that girls may be more susceptible to vulnerability during this developmental stage. It was also found that the occurrence of depressive symptoms could potentially impact the self-esteem of preadolescents by altering their self-perception processes. As they grow older, their uncertainties about their self-worth and identity appear to intensify. Instances of depression might leave lasting marks on an individual's self-esteem as time progresses (Orth et al., 2008). Essa (2020) made a significant academic contribution by enhancing our comprehension of the causal relationships among three pivotal psychological constructs namely: PI, mindfulness and flourishing that exert influence on the lives of university students. The study’s findings provide compelling evidence supporting the role of psycho-immunity and mindfulness as predictive factors for flourishing. These results suggest that the enhancement of Psychological Immune System (PIS) and mindfulness could yield substantial benefits for flourishing. Notably, the direct impact of mindfulness on flourishing is distinct from its indirect influence, wherein psychological immunity mediates the relationship, as indicated by the empirical findings. The implementation of lockdown measures in the academic institutions across the globe during the pandemic had a profound impact on students, leading to feelings of isolation and detachment. These circumstances, as evidenced by various studies (Ibda et al., 2023), gave rise to severe psychological distress symptoms, including anxiety, eating disorders, depression, giving rise to high levels of mental health symptoms. The burden experienced by the learners extended beyond academic responsibilities, encompassing both mental and physical health issues, which, in turn, contributed to heightened psychological distress and a decline in academic performance (Borghi et al., 2021). The review of relevant literature also revealed that such stressful situations among students was not limited to a specific geographical area, as students in several Colombian campuses encountered mental health challenges, such as stress, depression, and anxiety, primarily stemming from technical constraints associated with online learning. Similar challenges were reported among learners in Malaysia and other regions during the pandemic (Yusoff et al., 2021). The pandemic’s impact on declining student mental health was exacerbated by economic pressures, fear of viral exposure, reduced parental attention due to limitations on interaction and communication and a decline in physiological well-being due to disruptions in sleep patterns (Ibda et al., 2023).

This review paper aimed to explore how Psychological Immunity is important for maintaining Physical Well Being (PWB) in adolescents and young adults in the post pandemic era. It also makes an attempt to explore the role of attachment, self-esteem and other similar factors on strengthening Psychological Immunity through review of relevant literature. Specifically, this study aimed at providing answers to the following questions:

- How does Psychological Immunity (PI) play an important role in maintaining PWB among adolescents and young adults?
- What is the role of factors like self-esteem, attachment relationships and external situations on the strengthening of Psychological Immunity (PI)?
2. Methods

A systematic review of relevant literature in accordance with PRISMA guidelines was undertaken as part of this study. Databases like National Digital Library, Scopus, Semantic scholar were searched in order to locate full research papers using keywords: Psychological Immunity, Review paper, Resilience, mental health etc. The PRISMA guidelines were followed and the table is depicted, as shown below (Page et al., 2021) (Figure 1).

![Identification of studies via databases and registers](image)

**Figure 1** Systematic Review of related literature using PRISMA guidelines. 
*Source*: Page et al. (2021).

Multiple investigations have underscored the intricate connection between Psychological Immunity and the overall well-being of individuals, encompassing dimensions such as social, emotional, and physical wellness. As delineated in the comprehensive review presented above, noteworthy studies elucidating this pivotal association have been succinctly summarized for reference and further scrutiny as shown below (Table 1).

<table>
<thead>
<tr>
<th>Reference</th>
<th>Focal point of study</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abduradrmen &amp; Herawati, (2018)</td>
<td>Psychological well-being</td>
<td>Enhancing psychological well-being has the potential to boost immune responses, fortify resilience and foster a more spiritually and physically prosperous life.</td>
</tr>
<tr>
<td>Bhardwaj, and Agrawal (2015)</td>
<td>Pentacle Model of Psycho-Immunity</td>
<td>The authors have introduced a comprehensive pentacle model of psycho-immunity.</td>
</tr>
<tr>
<td>Pandey, (2017)</td>
<td>Psychological interventions result in an increased level of CD4 (immune cells).</td>
<td>An individual’s well-being is contingent upon the cognitive and affective dimensions of their psychological state.</td>
</tr>
<tr>
<td>Murad et al. (2021)</td>
<td>Presence of diminished immune status and suboptimal PWB among the female and adolescents.</td>
<td>Found a notable prevalence of diminished immune status and suboptimal psychological well-being, particularly among the female and younger demographic.</td>
</tr>
<tr>
<td>Gupta, &amp; Nebhinani, (2020)</td>
<td>Increased manifestation of Psychological challenges at early stages.</td>
<td>Psychological challenges are increasingly manifesting at an early stage.</td>
</tr>
<tr>
<td>Kaur, T., &amp; Som, R.R. (2020)</td>
<td>PIS interplays with BIS</td>
<td>The psychological immune system (PIS) model holds significant relevance in the context Biological Immune System (BIS).</td>
</tr>
<tr>
<td>Mertika, Mitskidou, &amp; Stalikas (2020).</td>
<td>Human relationships contribute to PWB through diverse means.</td>
<td>The analysis unveils that specific relationship types are scrutinized across distinct age cohorts, with peer relationships within adolescence and marital relationships within adulthood being primary focal points.</td>
</tr>
</tbody>
</table>
3. Findings

Psychological Immunity (PI) and its associated psychological defence mechanisms can serve as valuable resources for Healthcare Workers (HCWs) and students in effectively managing stress and safeguarding them against the development of psychopathological conditions. The reviewed literature have shown that educational interventions centred on promoting positive thinking and training delivered through social media platforms have demonstrated their potential to mitigate job-related stress among nurses (Kooshalshah et al., 2015) and improve their overall quality of work-life (Motamed-Jahromi et al., 2017). This efficacy is rooted in the principles of positive thinking, which encompass traits such as optimism and hopefulness, capable of influencing the primary appraisal process and shaping one’s perception of person-situation interactions. The practice of engaging with quality literature, referred to as “Swaadhyaaya,” has been observed to fortify psycho-immunity and foster cognitive restructuring, as noted by Sao, Bhardwaj, and Agrawal in 2013. Recent research, exemplified by Behera and Kotnala in 2012, has demonstrated notable improvements in the mental well-being of elderly individuals following a two-month regimen of Swaadhyaaya. Furthermore, the integration of Swaadhyaaya therapy, incorporating two months of Nada yoga and Pragya yoga vyayama, as advocated by Acharya in 2007, has proven to be efficacious in enhancing mental health among adolescents, as corroborated by Kashyap in 2009.

4. Conclusions

The level of psycho-immunity is determined by the balance among identified dimensions, such as self-esteem, positive memories, maturity and adjustment. Higher the level of psycho-immunity, the better the individual’s mental health.

These insights hold promise for further investigations, particularly within the realm of stress management and wellbeing promotion. The significance of these three constructs extends beyond their effects on students as individuals; they also bear substantial implications for students’ future roles at the workplace. Consequently, an emphasis on these constructs may be viewed as a prudent long-term investment, as their positive effects are anticipated to extend across all facets of the educational process.

5. Final considerations

The review of relevant literature on Psychological Immunity (PI) and its concomitant psychological defence mechanisms in the form of psychological antibodies yields consequential implications for Healthcare Workers (HCWs), trainers, teachers, students and the community at large, offering valuable insights into effective stress management and the prevention of psychopathological conditions. The literature reviewed establishes a scientific foundation for the efficacy of educational interventions, particularly those focused on cultivating positive thinking and resilience. The empirical evidence, exemplified by studies such as Kooshalshah et al. (2015) and Motamed-Jahromi et al. (2017), demonstrates the potential of these interventions to alleviate job-related stress among nurses, consequently enhancing their overall quality of work-life. The observed efficacy is underpinned by the principles of positive thinking, incorporating traits like optimism and hopefulness, which exert an influence on the primary appraisal process and shape the perception of person-situation interactions. Additionally, the practice of “Swaadhyaaya,” characterized by engaging with quality literature, as elucidated by Sao, Bhardwaj, and Agrawal in 2013, emerges as a noteworthy contributor to fortifying psycho-immunity and facilitating cognitive restructuring. Notable empirical support for this assertion is found in the research conducted by Behera and Kotnala (2012), revealing significant enhancements in the mental well-being of elderly individuals following a two-month Swaadhyaaya regimen. Moreover, recent advancements in the field, as evidenced by the work of Acharya (2007) and Kashyap (2009), introduce a holistic approach incorporating Swaadhyaaya therapy, Nada yoga, and Pragya yoga vyayama. These interventions have demonstrated efficacy in enhancing mental health, specifically among adolescents. The amalgamation of these findings underscores the scientific merit of integrating psychological interventions rooted in positive thinking and yogic practices to fortify Psychological Immunity and foster mental well-being among diverse populations.

Ethical Considerations

Not Applicable.

Conflict of Interest

The authors declare no conflict of interest.

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