# Adaptive Resilience Building for Force Preservation to Battle Pandemic the Military Way

Samir Rawat [1], Abhijit P. Deshpande [2], Priya Joshi [3], Ole Boe [4], Andrzej Piotrowski [5]
[1,2] Symbiosis International (Deemed University), India
[3] Military Mind, India
[4] Norwegian Police University College, Norway
[5] University of Gdansk, Poland

**ABSTRACT**

*Resilience may be referred to as the capacity for positive adaptation and to quickly recover from difficulties and significant adversity. After examining operational definitions of related concepts, the article discusses resilience building exercises for functional fitness at the individual soldier level, to include among others, self-monitoring, self-evaluation, self-reinforcement, emotional regulation exercises, mindfulness training, relaxation and grounding exercises and importance of maintaining discipline and routine in the military. Using an acronym CARRIES, the article examines efforts to enhance resilience building through empirically validated cognitive, behavioural and intrapersonal skills originating from best practices learned in the military.*

## 1. Introduction

By end of December 2020, there was hope and an excitement in the air about the New Year, especially after a disastrous year that went by with the virus engulfing Nations and populace across the globe in 2020. However, the virus had other plans and its variants —like the delta variant and mutations left us high and dry and only brought to the fore our vulnerability and lack of preparedness to face the challenges— be it scientific or medical solutions, lack of capacity of communities and individuals to adapt to the serious crisis. The second wave, as it has been called, resulted in deterioration of mental wellbeing of communities and countries which had just about began their journeys to rebuild and reorganize all that was consumed when the virus hit them in early half of 2020. The course of the second wave in most countries was unpredictable and beyond stabilization, despite governments and governing bodies across the globe upping the ante through a concerted vaccination drive, yet herd immunization was not achieved (Ries, 2020). Even before the second wave surfaced, experts had cautioned and warned against possible psychological implications of quarantine and isolation which were enforced as preventive measures to curb spread and contagion of virus (Dubey et al., 2020; OECD, 2020; Page et al., 2021). Unfortunately, the warning became a reality and health-care systems and prevention mechanisms were exposed of lack of preparedness and psychological disorders escalated and multiplied within just a couple of weeks (Tedeschi & Calhoun, 2004).

The pandemic situation has been nothing short of most unique and has posed immense challenges to the global community on an unprecedented scale. While the focus in research across disciplines has been to identify physiological and psycho-social negative consequences of the pandemic, increasingly there is new found research to enquire how people go through the tides of the pandemic. Post-traumatic growth, or an individual's ability to positively reframe to come to terms with a stressful situation is one of the probable explanations to how people cope with volatile, uncertain and ambiguous pandemic situation (Tedeschi & Calhoun, 2004). There is some empirical evidence of the past, to suggest that people are able to evolve above the crisis and develop a growth mindset when faced with sudden and highly challenging calamities, both naturally occurring like earthquakes, tsunami and caused by diverse human factors like religious terror attacks, wars etc. (First et al., 2018; Nakagawa et al., 2016; Park, 2016). Similarly, experiences of war, battle zones and ambiguous peace-keeping missions, are potential environments which serve as repositories to look up to for guidance. The nature of military environment characterized by hostility, uncertainty of what to expect next, fear of loss of life or limb, trauma inducing and impacting millions of lives including soldiers fighting the war, their families at home, have now been experienced by civilian populace during the pandemic. An investigation into such experiences and military organizations is likely to open some doors to what may seem to be our guide to developing resilient, adaptive, global approaches to reconstruction and reorganization.

The article thus aims to present to the readers a comprehensive summary of empirical evidence on-concepts of adaptive resilience, coping and self-regulation, its relevance to the pandemic, how we learn from military organization approaches to develop resilient systems and policies.

## 2. The origin of the term resilience

The term resilience originates from the Latin word *resilire*, which translates as "to spring back" (Thoma, 2014) or *"to bounce back"* (Hosseini et al., 2016), and the term can be found in a multitude of different research areas. The concept of resilience was first used to describe a property of timber, and to explain why some types of wood managed sudden and severe loads without breaking. Later, a report by the British Admiralty referred to a measure called "modulus of resilience*"* as a means of assessing the ability of materials to withstand severe conditions (Hollnagel, 2016). Many years later, Holling referred to the resilience of an ecosystem as a measure of its ability to absorb change and still exist (Holling, 1973). Hollnagel defines resilience as the following:

> The essence of resilience is therefore the intrinsic ability of an organization (system) to maintain or regain a dynamically stable state, which allows it to continue operations after a major mishap and / or in the presence of a continuous stress. (Hollnagel, 2006, p.12).

More recently, and postulated by Hollnagel (2016), a similar definition of resilience is the following, defined as:

> The intrinsic ability of a system to adjust its functioning prior to, during, or following changes and disturbances, so that it can sustain required operations under both expected and unexpected conditions (Hollnagel, 2016, section. 2).

Resilience has later become a key concept within the area of Resilience Engineering (Hollnagel et al., 2006, 2011; Nemeth & Hollnagel, 2014; Sheffi, 2005, 2007) and found its way into psychology and psychiatry during the 1950s.

## 2.1. The term resilience as a concept within psychology

Dwindling over and into the world of psychology and psychiatry, the term resilience was picked up on by psychologists in the 1950s (Werner, 2005). Much of the original theory of psychological resilience came from developmental psychologists, psychiatrists, and other psychiatric professionals who worked in the 1970s. These pioneering researchers had begun to document the large number of children who, despite growing up in very aversive circumstances, still appeared as functional and skilled individuals (Garmezy, 1991; Murphy & Moriarty, 1976; Rutter, 1979; Werner, 1995).

In psychology, resilience describes the capacity of individuals to withstand crises and to strengthen personal resistance through adaption (Riley & Masten, 2005). Unlike the understanding of resilience in materials science, this understanding does not require the subject of interest to return to its initial state, but instead focuses on adaption and an increase in resistance. Resilience in a psychological context is the human ability to adapt in the face of tragedy, trauma, adversity, hardship, and ongoing significant life stressors. Focus groups conducted by the American Psychological Association (APA) Practice Directorate after the terrorist attacks of September 11, 2001, found people to be experiencing a chronic sense of stress and uncertainty for which they wanted to be more resilient. In response, APA launched its public education campaign, "The Road to Resilience," in August 2002. A key component of the campaign is community outreach by psychologists, in which psychologists around the country bring information about resilience directly into their communities. This has allowed psychologists to help their communities and to help communities better understand the value of psychology (Newman, 2005). Bonanno defines resilience as:

> the ability of adults in otherwise normal circumstances who are exposed to an isolated and potential highly disruptive event such as the death of a close relation or a violent or life-threatening situation to maintain relatively stable, healthy levels of psychological and physical functioning . . . as well as the capacity for generative experiences and positive emotions. (Bonanno, 2021, pp. 20–21)

However, being resilient does not mean that a person does not experience difficulties or distress. Some emotional pain and sadness are common in people who have experienced major setbacks in life (Mancini & Bonanno, 2006).

In addition, although individuals show resilience in behavior and life patterns, it is argued that resilience is not a trait that someone either has or does not have (Luthar, 2003). Resilience involves behaviors, thoughts, and actions that everyone can learn and develop (American Psychological Association, 2020). Therefore, it is crucial that the level of resilience is detected and evaluated as early as possible in the rehabilitation process because there is a greater chance of increasing resilience and rehabilitation results (Luthar et al., 2000).

Resilience is a two-dimensional concept (construct) that deals with exposure to adversity (adversity) and the positive outcomes of adaptations to this adversity. Adversity refers to any risk associated with adverse life events associated with difficulty adjusting / adapting (Quale & Schanke, 2010).

In defining resilience, it is important to specify whether resilience is being viewed as a trait, a process, or an outcome, and it is often tempting to take a binary approach in considering whether

resilience is present or absent. However, in reality, resilience more likely exists on a continuum that may be present to differing degrees across multiple domains of life (Pietrzak et al., 2011). An individual who adapts well to stress in a workplace or in an academic setting, may fail to adapt well in their personal life or in their relationships.

Furthermore, resilience is a broad conceptual umbrella, and the term refers to important psychological skills and the individual's ability to use family, social and external support to cope with stressful events better (Campbell-Sills et al., 2006; Friborg et al., 2005). Transgressing into critical professions, the importance of resilience as well as character strengths of critical professions (military, emergency medicine, first responders and prison staff) has been emphasized by Canadian military researchers Cherif et al. (2021).

## 2.2. Resilience in a war setting

When war and uncertainty are inevitable, good military leadership aims to preserve their forces as the first line of action, with a collective understanding that with every loss of life, the chances to win a battle or war become slimmer. This understanding becomes utmost valuable as countries are beginning to bounce back into reorganizing the fabric of society which has been devastated by the virus outbreak. Further, the chapter also examines the agents which are likely to play key roles in reconstruction namely- coping with the pandemic and its effects at an individual level and at large at community, societal, national and global levels. In discussion individual's role we intend to focus individual resilience parameters like- attitude of growth, self-monitored and regulated behaviors and self-disciplined habits to cope with the situation. At a macro level, essentially we will examine leadership impact, how solutions may be sought through force preservation and developing an adaptive mindset. Lastly, the article intends to provide a practical approach through an acronym - CARRIES to enhance resilience building by way of empirically validating cognitive, behavioral and intrapersonal skills, known to the authors to be effective through their own experiences of soldiering and military way of life. The acronym CARRIES, stands for cognitive flexibility, adaptation, realistic optimism, relationships, impulse control, emotional awareness and self-efficacy.

## 2.3. Adaptive Resilience, Self-regulation for Force Preservation

In military parlance "people first, mission always", it is clear that while military are vulnerable to loss of lives as an occupational hazard and martyrdom is a noble act, yet it is of paramount importance to acknowledge that with every of loss an able bodied soldier, the strength of the unit to fight weakens, it also means that their families at home will experience unimaginable pain and loss. Thus, even as militaries prepare for wars, they also plan for force preservation. Force preservation refers to deliberate efforts in order to preserve and protect resources, most importantly human resources and defense armory, arsenal and critical information, against any emerging threats to safeguard operational effectiveness and safeguard mission's objectives and mission outcomes (Department of Defense, 2021). The looming threats and disastrous effects of the pandemic have resulted in huge losses of human capital and healthcare services have been under tremendous pressure (Hassan & Mahmoud, 2021; Iftimie et al., 2021; Woolf et al., 2020). There is no doubt that losses of human lives, social isolation, deteriorating socio-economic conditions, fear of contagion and emergence of new dangerous variants of the virus, have resulted in escalating strain and stress on the already over-stretched mental health systems.

Research and statistical data confirm that cases of burnout, depression and anxiety disorders has been on the rise due to long working hours, frustration, personal loss, poor self-care (Tian et al., 2020). The global war against the pandemic is far from over and all the characteristics of a war- volatility, uncertainty, complexity and ambiguity continue to reign and dominate the minds of people across the globe (Petford, 2020). The need for force preservation, thus has not been felt with more urgency ever before in the last four decades, than it has now. We discuss two essential competencies as key to force preservation and protection- adaptive resilience and self-regulation, as possible psychological weapons to counter the effects and to strengthen our resolve to face the future consequences of the pandemic.

Challenging times such as the pandemic are also opportunities, when our collective ability and capacities to cope are tested. Developing resilience to face the crisis needs to be a sustained endeavor. Resilience research has identified it as a trait almost like a personal quality to adapt and overcome an adversity (Lee et al., 2013). This trait or competency has generated most interest in the years 2020 and following through 2021 because of the relationship it has with general wellbeing of an individual or wellbeing of an organization, governments, Nations with large scale disruption and changes caused by the pandemic (Hu et al., 2015; Kavčič et al., 2021; Wu et al., 2020). Most acceptable understanding of resilience is the ability or process of adapting in the face of adversity, trauma or threat or significant sources of stress (American Psychological Association, 2020; Southwick et al., 2014).

Many researchers associate self-regulation with resilience (Dias & Cadime, 2017; Gomez-Baya et al., 2020; Takács et al., 2021). Resilience in the military context has been the subject of a lot of research (Gillet et al., 2017). However, a large amount of research does not answer the basic questions: how to increase resilience in soldiers. Differences in the definition of a construct and its measurement make it difficult to consolidate knowledge and develop the most practical solutions. As stated by Nindl et al. (2018), resiliency, seen as the capacity to overcome the negative effects of setbacks and associated stress on performance, is a complex process involving not only an individual's physiology and psychology, but the influence of factors such as sex, environment, and training.

In addition to resilience being an ability to bounce back, resilience building must also emphasize the importance of recovery and adaptation in the aftermath of disruption (OECD, 2020). Such an approach would imply that we acknowledge that we may not yet fully understand that nature or course that the pandemic will take, massive disruptions will continue to happen (for instance scientists could not accurately predict the new variants of the virus namely the delta and omicron, though there were evidence that the pandemic was far from over after the first wave); however our preparedness- related to systems, resources and mental preparedness, to cope with and recover from such an eventuality remain intact (Linkov et al., 2018; Mullainathan & Shafir, 2013). Thus, what is required of our collective effort is not just bouncing back but bouncing forward (Ganin et al., 2016, 2017; Linkov et al., 2018). We thus turn our attention to a competency called adaptive resilience. Adaptive resilience in a nutshell refers to an ability to not only recover from an adversity and adapt but to also thrive. Adaptive resilience is thus the capacity to remain productive, behave and emote in line with set goals and objectives, whilst absorbing disturbances and doing so with integrity (Robinson, 2010). Adaptive resilience has proven to be an effective competency, especially in case of coping with complex crisis situation. For instance, in 2014 researchers Walker, Nilakant and Baird found that during natural calamities like Christchurch earthquake, organizations which not only adapted to the changes in the business environment, but also discovered newer opportunities to grow and expand into newer lines of business, were able to thrive (Walker et al., 2014). Adaptive resilience must also be seen with contextual factors. Nilakant et al. (2014) has suggested that the quality of top and middle-level leadership, the quality of external linkages, the level of internal collaboration, the ability to learn from experience, and staff well-being and engagement all influence adaptive resilience. They also suggested that adaptive resilience is a process or capacity, not an outcome and that it is contextual. Post-disaster capacity/resources and post-disaster environment influence the nature of adaptive resilience.

Adaptive resilience, with an emphasis on ability to thrive and grow, is closely associated with another term used in military parlance, that of post-traumatic growth (PTG) (Tedeschi & Calhoun, 2004). Though the inherent nature of war and war conditions are unpleasant and such events are most likely to yield negative ugly consequences, people who go through the trauma may also see such traumatic situations as also opportunities to grow psychologically, socially, spiritually and emotionally after the trauma.

Self-regulation is the other most, essential competence, which needs to be included in any disaster management program before, during and after the pandemic. Governments, organizational managements, and governing bodies are expected to enforce regulatory policies like strict social distancing, restricting travel and movement at the national or global level; the success of effective crisis management also lies with individual. Self-regulation is defined as the process of altering one's responses including thoughts, behavior or actions and emotional responses (Aspinwall, 2004; Blair & Raver, 2012). This definition emphasizes role and responsibility of individual in behaving and emoting

in ways that are context-appropriate. The premise for effectiveness of self-regulation rests on principles of self-monitoring and self-control. When faced with a situation, an individual has the choice to monitor the situation and make an informed decision to choose a response or emotion over another (Baumeister et al., 1994; Baumeister & Heatherton, 1996). For instance, an individual chooses to observe restrain, venture out to meet friends and family to restrict the spread of the infection, perhaps at the cost of compromising on social interactions. Self-regulatory process as defined by Baumeister and colleagues which include- setting standards of desirable behaviors, motivation to meet standards, monitoring of behaviors and emotions and observing self-restrain, are positively correlated with effective coping (Baumeister et al., 2007). Social isolation, restricted access to resources, forced quarantine etc. have opened up a box of emotional insecurities such that people have had varied emotional responses. Psychologists emphasize the role of emotional regulation- the process of initiating, maintaining, and modifying emotional expression and response. Empirical evidence suggests that control or regulating emotional response to a situation reduces negative emotions and enhancing well-being (Diefendorff et al., 2008; Pekaar et al., 2018).

## 3. Enhancing Resilience: CARRIES model

Though we acknowledge that the current pandemic crisis is unique, dynamic and tricky and no one solution will counter the entire spectrum of issues resulting from the crisis, the following model is proposed as a summary of the empirical research on how people cope with high tension/stress situation and include anecdotes and personal experiences of soldiering in some of the most dangerous and inaccessible battlegrounds. Adaptive behaviors and self-regulation are known to yield sustainable changes to lifestyle and develop resilience in the face of major crises situations (Kruk et al., 2015; Lane & McGrady, 2018). For example, results of one of the recent studies involving frontline workers brought to light that frontline workers consciously regulated their actions and emotions while dealing with disruptions and strain caused due to the pandemic, were better able to not only adapt themselves in the new situation, but also played a crucial role in developing organizational or institutional resilience (Kruk et al., 2015; Lane & McGrady, 2018). CARRIES is an exploratory model of techniques suggested by the authors to build resilience and protect mental wellbeing and capacities.

**Figure 1.** The CARRIES model.
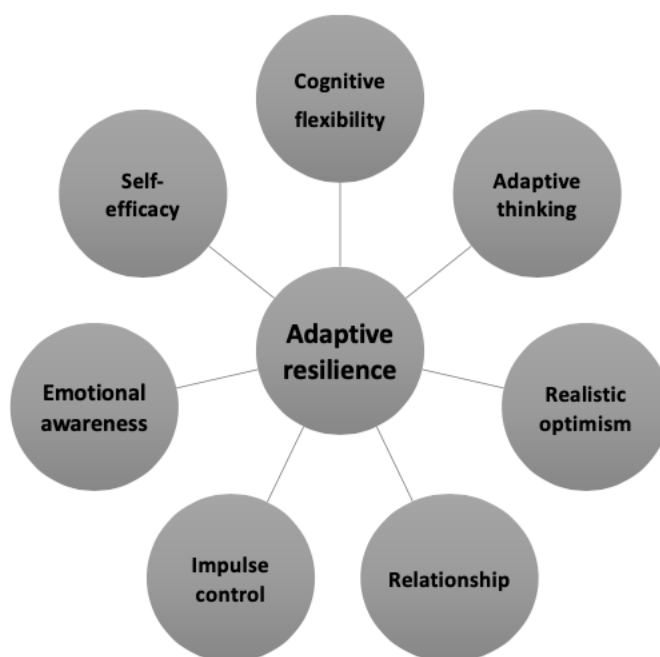


*This is diagrammatic representation of CARRIES model of adaptive resilience.*

Source: Rawat, Deshpande, Joshi, Boe, & Piotrowski, 2022

### *3.1. Cognitive flexibility*

Cognitive flexibility refers to an individual's ability to the readiness with which an individual can selectively switch between mental processes to generate appropriate behavioral responses, enhances an individual's resilience in the face of a stressful situation (Dajani & Uddin, 2015; Diamond, 2013.) It is an executive function, which proves effective in adopting alternatives when one plan of action may not be viable. In order to exhibit cognitive flexibility an individual needs to consciously restrict irrelevant information and deploy attentional and emotional resources to carry out expected plan of action, and this may be particularly important when an individual does not have complete control over the situation or outcomes (Troy et al., 2013). Being home bound, amidst lockdown restrictions, cognitive flexibility may help individuals to better use resources available at home as stepping out may only be possible on fewer occasions. Also, cognitive flexibility may enable people to reframe the situation as not being fully in one's control, and reconsider their behaviors like complying to social distancing norms, washing hands, sanitizing the workplace that help them mitigate risks of contracting infection (Ochsner & Gross, 2007).

### *3.2. Adaption*

Adaptive mindset and adaptive thinking are likely to be key to successful management of a high risk situation with high stakes like the pandemic. A leader's ability to adapt to changing situation plays a key role in organization or institution's capacity and flexibility to adapt and change. For example in one research study, it was found that school leaders' flexibility and adaptability directly impacted school's ability to easily come to terms with changes in the school (Northouse, 2022). Adaptive thinking requires sometimes taking the lead in changing status quo in order to be fully equipped to change as in new environments (Heifetz et al., 2009; Northouse, 2022).

### *3.3. Realistic optimism*

Realistic optimism refers to an ability to balance out pleasant and unpleasant outcomes in a situation. It often involves exploring opportunities and taking risks with the belief that outcomes would be positive. The right balance of optimism and realism may help us look for positives at the same time objectively evaluates the negative outcomes, thus reach a viable well-balanced solution (Orlowski, 2020). As William Arthur Warn said: The pessimist complains about the wind; the optimist expects it to change; the realist adjusts the sails. On the other hand, unrealistic optimism, which refers to a tendency to believe that their chances to success are better than that of others in spite of being in the same situation and adopting the same plan of actions as others (Floyd et al., 2000; McKay & Dennett, 2009). These unrealistic ideas are often fanned by overly positive illusions of one's fate or over estimations of one's ability. Such behaviors and beliefs will likely prove most dangerous, for example, not following social distancing rules because of the belief that one's is not vulnerable to the infection, is likely to pose threat not only to oneself but also others.

### *3.4. Relationships*

**T**here is abundant evidence suggesting that having meaningful relationships or social support may promote resilience in people exposed to trauma by buffering likelihood of developing symptoms later (Wagner et al., 2016). Having healthy family and social relationships may mitigate symptoms such as panic, anxiety escalating into more serious concerns. There is plenty empirical evidence to suggest that individuals who perceive that support is available to them show less reactivity to stressors and cope better in adversity (Dirkzwager et al., 2003). Having social networks may help in rephrasing negative events and outcomes seem less harmful and social networks may provide the necessary know how of coping with the situation at hand. When soldiers return from highly volatile environments, it is believed that the kind of social support they have may contribute to how they adapt back into the civilian world and probability of them developing trauma related stress. For example, in one study it was found that soldiers who had little social support or weak social network had almost 80% risk

being affected by developing trauma-induced stress than soldiers who had solid social support (Ahern et al., 2004; Hunt & Robbins, 2001). Similarly, though social interaction could be restricted due to lockdown rules, individuals who continue to enjoy social networks, even virtually, are likely to adapt better than individuals low on social connectedness.

### 3.5 Impulse control

During the pandemic there have been many instance which prompted impulsive actions and emotions. For example, the impulse to break rules of lockdown or social distancing may have passed through minds of many. The temptation to fall prey to the impulse may cost dearly and place the individual further into zone of vulnerability. Self-control or impulse control may serve to regulate undesirable mental health consequences (Troy et al., 2013; Wagner et al., 2016). Research in the area of self-control suggests that individuals with higher self-control are more likely to use positive coping strategies and have better inhibition and initiatory abilities. Further, there is plenty evidence suggesting that self-control is directly related to certain life outcomes like mental wellbeing. Relating the importance of self-control in the pandemic situation, people with higher self-control are able to plan ahead for emergencies, regulate their emotional responses and are likely to adhere to guidelines. These behavioral responses may help mitigate the negative influences of perceived risk on individuals' mental health.

### 3.6. Emotional awareness

Confinement to curb the control the outbreak may have far reaching mental health consequences especially for the vulnerable groups of people. The emotional outcomes of different sets of people have been different. For those into healthcare services may have experienced intense emotional outbursts with the immense pressure of looking after thousands of infected patients. When dealing with negative emotions people are often faced with two options- one to revel or wallow into the negative emotions and the other is being aware of the negative emotions and consciously try to reframe the severity of the emotions and emote in ways that are more adaptive.

### 3.7. Self-efficacy

Self-efficacy or self-efficacy beliefs refer to one's belief that one can execute and follow through a plan of action or changes that will directly affect the outcomes. During early parts of lockdown restrictions, people who believed that they can follow the guidelines laid down by governments and global healthcare organizations were able to absorb the shock of significant changes to their lives. People who believe that they are able to swim through the rough tides are likely to have contingency plans and very well defined goals which guide their actions. Individuals high on self-efficacy beliefs are capable of evaluating if their actions are in line with their beliefs and the goals they have set for themselves (Roy et al., 2020). Belief that one must and is capable of following infection prevention guidelines definitely proves beneficial tactic to cope with the stress of the pandemic. Believably, those people who did not believe that they are able to exhibit control and restraint in the face of the crisis, increased their own vulnerability to the infection but also, placed others at a higher risk.

## 4. Conclusions

The second wave was a testimony to the fact that like in war, victory against any crisis should not be declared prematurely. It reinforced the need for citizens, communities to develop a more sustainable and sustained plan of action to cope with a possibility of re-emergence of a crisis of the nature of a pandemic, comply with restrictions, safeguard mental and psychological capacities and develop appropriate behavior patterns (Grover et al., 2020; Roy et al., 2020). Thus interventions to mitigate effects of such a disaster need to focus on multi-pronged approach including advances in biomedical sciences, community-level psychosocial intervention and responsible, commitment at an individual level (Singh, 2021). While authors have sincerely attempted to provide a framework for programs for recovery of wellbeing during the post-pandemic reconstruction, there needs to be a thorough evaluation and investigation of effects of the pandemic on specific communities, social groups and sets

of individuals. Developing adaptive resilience will require continued effort from many and diverse groups of people and professionals since no one generation living today has ever had an experience of these sorts (not even WWII veterans). Resilience is building on the premise of four processes-anticipating, monitoring, responding and learning (Hollnagel, 2017). The responsibility lies on each citizen and each member to acknowledge that there could be still some part of the pandemic that we have not been able to fully understand, thus this threat may be felt again in future in newer ways. Secondly, each individual needs to consciously monitor if their behaviors are not causing harm to themselves or people around them and respond in accordance with best knowledge available in the present. And lastly, this pandemic has been the greatest teacher of sorts and each individual has learned from it, some have faced personal loss, while some have given up self-destructive habits in the middle of the pandemic. All of this collective knowledge should help us in developing more resilient systems and approaches as we march forward into new world order, keeping pace and in step with rest of the world.

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