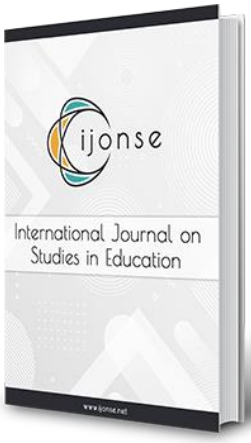

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Global Virtual Teams in Building Learner's Resilience: Evidence from a Four-Year Study of Pre- and During COVID Disruption

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Abstract

People worldwide have been grappling with unprecedented levels of stress and related mental health issues, increasing both in the workplace and on campuses before the pandemic, spiraling upward with reports by students and employees from all levels of socioeconomic backgrounds (APA 2023). Countries are lagging in addressing this rising trend (WHO 2022). Simultaneously, global virtual teams (GVTs) have grown in importance in the workplace and classroom. To examine how GVTs impact learners and learning environments, a longitudinal study pre pandemic (2018) lasting through the pandemic (2021) tested a model of resiliency based on the factors of discernment, resourcefulness, problem solving, consideration of future consequences (CFC), critical thinking, and culture. GVTs was used as an intervention comparing resiliency based on a sample of before the GVT experience (n=584) and after (n=399), with learners from seven universities across six cultures. Results show that GVTs can boost resilience but require discernment and resourcefulness. Students value critical thinking after GVTs and after controlling for the pandemic, GVTs did not affect resiliency, suggesting that redirecting learners to new factors can enhance resilience. Resilience helps employers, instructors, and individuals manage mental health issues while GVTs build resilience in students and employees for international business uncertainties.

Introduction

Higher education students have experienced a substantial influence on their mental health and well-being. Prior to the pandemic, the issue of student mental health was already becoming increasingly worrisome. The pandemic has exacerbated these issues, with students facing challenges such as online learning, social isolation, and uncertainties about their academic and career prospects. Studies have shown high levels of mental health distress among university students, including depression and anxiety. These sudden changes have had a negative effect on the psychological health of individuals (Rasheed et al., 2022; Chen & Lucock 2022; Paton et al. 2023; Visser & Wyk 2021). Research conducted in various parts of the world, has found evidence of increasing levels of anxiety, depression, distress, and other mental health conditions among this population during the pandemic. These findings highlight the need for support and interventions to address the mental health challenges faced by students (Gogoi et al., 2022; Bonsaksen et al., 2022; Holm-Hadulla et al., 2021; Xhelili et al., 2020). According to a Gallup and Workhuman report (2023), employees are grappling with unprecedented levels of stress, burnout,

and feelings of isolation. It's not surprising that four out of ten U.S. workers say their job hurts their mental health. This means that 40% of Americans who work either in-person or remotely are finding their lives significantly more difficult as a result of their jobs.

Resilience is crucial the workplace as well as in the learning environment, allowing students and educators to flourish despite challenges and disruptions. It involves maintaining competence and positive adaptation in stressful circumstances and should be cultivated through collaborative efforts among teachers, students, and community leaders (Borazon & Chuang 2023). Change and resilience are interconnected, particularly in business schools facing diverse challenges and opportunities. Furthermore, resilience extends beyond survival and encompasses growth and transformation, which are interlinked with change processes. Business schools need to foster resilience and enable positive change through leadership development, organizational culture, stakeholder relationships, agility, and sustained efforts (Kovoor-Misra 2019). It is important to understand resilience in higher education so a proactive approach to resilience-building can be programmed into the experience with a focus on continuous development (Dohaney et al., 2020).

The emergence of the COVID-19 pandemic expedited the implementation of remote work structures (Ghosh et al., 2022), leading to a heightened utilization of global virtual teams (GVTs). GVTs are characterized by the participation of geographically dispersed individuals who collaborate on projects, frequently bringing together members from varied cultural contexts and utilizing internet-mediated communication as a means of interaction (Taras et al., 2013). Despite the growing body of research investigating the factors influencing GVT performance, there is a notable lack of exploration into their operational effectiveness within the specific backdrop of the COVID-19 pandemic (Schlegel et al.,2022).

Resilience can play an important role for those individuals relying on it during periods of instability and challenging periods. Uncertainty, volatility, and upheaval characterize the international business (IB) scene. Individuals who are resilient can negotiate complex situations well, make informed decisions under duress, and find imaginative solutions. Resilience prepares students to adapt to and recover from failures, as well as to adjust to new cultural contexts and deal with problems caused by cultural differences. Incorporating resilience-building activities within the curriculum can help students develop a resilient mentality in preparation for successful IB careers and efforts (Liang & Cao 2021; Dohaney et al., 2020; Borazon & Chuang 2023). IB education is crucial in preparing students for a rapidly changing global economy and considering the interconnection of markets, the expansion of cross-border transactions, and the diversity of cultural contexts, an adaptive instructional approach is required. It is fundamental in how businesses work on achieving collective global goals such as sustainability and global workplaces.

Globalization is transforming business, increasing the need for skilled professionals in international business. Effective International Business (IB) education requires a combination of IB and non-IB courses to develop business analytical skills and a global mindset. A diverse IB program builds on each other for multidisciplinary decision-making. When exploring IB education inside university settings, it is necessary to investigate approaches to improving teaching methods as well as the critical role of resilience in this environment. As a result, the efficacy

of teaching methodologies becomes critical in providing students with the necessary information and skills. To promote a global mentality and equip students with crucial abilities for navigating the global economy, universities must modify IB teaching methods. Traditional classroom techniques are insufficient, and creative pedagogies and practical activities should be implemented to increase cross-cultural awareness, critical thinking, teamwork, and decision-making skills in IB students in order to equip them to traverse the intricacies of the global environment. Technology should also be integrated into the classroom, with a focus on virtual collaboration, self-directed learning, and cross-cultural proficiency (WTO 2020; Mariasingam et al., 2008; OECD/Asia Society 2018; Chan et al., 2018; Shrivastava, 2019). Experiential learning and cross-cultural experiences are significant in teaching IB, providing hands-on and culturally relevant educational opportunities. These experiences enhance problem-solving skills, cross-cultural understanding, and the ability to collaborate in international teams, making graduates more attractive to employers (Zwerg-Villagas & Hiller 2016; Dieleman et al., 2022; Hernandez-Pozas & Carreon-Flores 2019).

This research draws upon a range of academic literature to elucidate practical strategies for enhancing teaching in IB and underscores the importance of cultivating resilience in students to thrive in the dynamic and unpredictable IB arena. While the findings inform the IB area, they are applicable to a larger body of scholarly information in the fields of higher education, mental health resiliency in the workplace and campus which has not been intersected before using pedagogical tools like GVTs by instructors and employers. In response to these trends, IB educators may want to utilize GVTs to prepare business students for the global workforce. We used GVTs as an experiential learning tool that incorporates real-world experiences through simulations and teamwork, enhancing students' practical understanding of IB dynamics. GVTs serve as a practical strategy for improving teaching in IB through the integration of planned team activities, leveraging technology and online platforms to facilitate learning, accommodating diverse student needs and providing access to global business resources. GVT projects offer several advantages, including the opportunity for students to work on business issues with peers from different countries and cultures, gaining diverse perspectives. It also provides firsthand experience in collaborating with individuals from different countries and cultures, developing cross-cultural skills.

Our research addresses the necessity of adapting teaching methods in IB courses and highlights the significance of resilience in cultivating students who can effectively navigate the challenges of the IB landscape, utilizing GVTs as an experiential learning pedagogy to better bridge the gap between higher education learning and their career requirements. Specifically, this study investigated how resilience can be enhanced in the learning environment, benefitting students and employers. We examined the role of resilience in learners' experiences before and during the COVID disruption, using two time points of before and after the GVTs experience, considering the high uncertainty brought about by the COVID-19 pandemic. The study was aimed at comparing the predictors of learners' resilience before the GVTs experience and further examining the impact of high uncertainty the pandemic provided. It contributes to the understanding of how GVTs influence learners' resilience, particularly in challenging contexts.

The next section will commence with a literature review, followed by an elucidation of the research design and method. Subsequently, there will be a section dedicated to presenting the study's findings, succeeded by a

discussion on the implications and noteworthy contributions of this study, as well as avenues for future research.

Literature Review

To adapt to the global, ever-changing business world, there is a need for enhanced IB education, and GVTs acts as a significant learning tool. Among other things, it improves the learners' resilience, critical thinking, problem-solving abilities, and intercultural competency. GVTs provide online global experiences that help students develop global and intercultural capabilities, that are important skills which are critical for IB learners and others alike.

Seeking Resiliency

Psychological resilience is a broad repertoire of behavioral dispositions that allows an individual to flourish in the face of adversity. It is the individuals' ability to effectively manage severe change, adversity, stress, hardship, or risk, their stability or rapid recovery, (or even development) amid major adversity. Psychological resilience is both a trait and a process based on context and is the positive role of individual's variations in reaction to stress and adversity (Fletcher & Sarkar 2013). It is a quality which is highly influenced by one's environment (Coşkun et al., 2014), and is central to the performance of employees in the workplace, particularly with global and intercultural environments. Pearl et al. (2023) found that GVTs were critical to increasing the self-efficacy through enhancing the knowledge, skills, and abilities perceived by the student from the intercultural and collaborative activities associated with global interactions of working on projects. This study goes to the next layer of understanding the impacts GVTs can have on the learner by focusing on how resiliency can be impacted over time as a result for the experience of global learning.

Within an educational context, resilience is loosely defined as a set of attitudes and behaviors associated with an individual's capacity to recover from adversity and actively adapt in the face of these adversities and stress (Robbins et al., 2018). According to Namaziandost et al. (2023), academic resilience is defined as the ability to maintain normal functioning and positive adjustments in the face of challenges. Resilient learners exhibit a proactive attitude towards overcoming challenges and are more likely to succeed in demanding tasks. Academic resilience is seen as an asset-based approach that focuses on students' strengths and enables them to surmount obstacles in educational contexts. It is a dynamic and supportive construct that facilitates adaptive responses to challenges, fostering positive development. Cassidy (2015) posits that academic resilience is the increased likelihood of (academic) achievement despite poor environmental situations. Resilient learners maintain high levels of motivation and performance despite stressful conditions that put them at risk for poor performance. The critical point here is that they succeed academically despite adverse conditions.

Resilience is closely linked to change, as it encompasses growth and transformation, both of which are interconnected with the process of change (Kovoor-Misra, 2019). Borazon and Chuang (2023) add that the resiliency construct encompasses managing challenges and unforeseen external events. It entails maintaining competence and positive adaptation in stressful circumstances which is an attribute pivotal to flourish despite disruptions. It is encompassing factors like empathy, intellectual competence, self-esteem, optimism,

perseverance, and determination.

Resiliency has become recognized as an essential trait for a student to fully thrive within a higher education context which is vital for students to handle academic expectations to enable positive growth while dealing with the strain of balancing study, job, and life (Robbins et al., 2018). Moreover, it is important to emphasize the cross-cultural perspectives of resilience in IB that strengthen the focus on diverse contexts (Dohaney et al., 2020; Borazon & Chuang 2023). Thus, business schools, as significant global players in knowledge creation and leadership development, confront the need for resilience and positive change to adapt in a dynamic environment as a learning organization and also supporting their students. Learning environments must include strategies that foster resilience and enable positive change to encompass leadership development, organizational culture, stakeholder relationships, agility, and sustained efforts. The cyclical and ongoing nature of resilience and change is crucial for business schools and higher education institutions, in general, to navigate evolving landscapes and fulfill their educational roles effectively (Kovoor-Misra, 2019).

Global Virtual Teams

The value of distributed Global Virtual Teams (GVTs) and cross-cultural collaboration in teaching IB play a crucial role in contemporary education, particularly in project-based learning and cross-cultural collaboration because it prepares students for the interconnected and diverse nature of the constantly-changing workforce (Dibble et al., 2020). Technology, as well as GVTs, play a significant role in teaching and acquiring relevant global skills (Abrukuah, 2019). GVTs are international online collaboration projects that allow students to engage with peers from different parts of the world. They enhance learning, increase cultural awareness, promoting intercultural understanding and skill development.

GVTs provide students with the opportunity to engage in collaborative tasks, helping them gain international experience, and produce deliverables that contribute to their final grades, communicating through a combination of synchronous and asynchronous methods and prepare students for the 21st-century workplace. GVTs bring together co-workers and collaborating partners from different locations as a form of virtual exchange. Incorporating virtual teamwork into coursework helps develop students' skills to work in a digital environment and gain international experience. GVTs help cultivate global awareness and skills such as leadership, trust, motivation, and communication (Crowne, 2020; Dibble et al., 2020; Pearl, 2025). They also provide opportunities for students to understand and navigate cultural differences, as well as develop strong communication skills. However, cultural differences can pose challenges in GVTs due to the complexity of communicating through technology. Strong communication skills are critical for effective teams, but they may be difficult to foster in virtual settings.

Virtual teams have become essential in overcoming geographical barriers and optimizing limited resources in response to globalization. However, education and training in these collaborative forms have been relatively unaddressed. Research emphasizes the need to equip individuals for effective collaboration within distributed teams across diverse cultures in the global knowledge-based economy (Watanabe et al., 2014). According to

Angelo and McCarthy (2021), virtual teams are prevalent in contemporary business environments, and it is crucial to prepare students for virtual team leadership roles. Classroom pedagogies that foster shared leadership growth in virtual group settings are proposed to address this gap in research and educational practices.

The immersive learning experience of GVT projects is highly beneficial for IB programs. However, there is a need for continuous refinement and documentation of best practices, ensuring equal participation and input from students with varying language and communication proficiencies. IB educators should also link GVT projects to specific learning outcomes relevant to IB teaching and conduct more rigorous research on learning effectiveness. Additionally, there is a need to explore innovative GVT formats to engage students with limited access to technology or global cultures (Aggrawal & Wu, 2023). Serving as a tool for assisting students during periods of uncertainty like the recent COVID-19 pandemic, GVTs through virtual exchange play a significant role in education, promoting cross-cultural awareness, effective teamwork, and global competencies among students. They prepare students for the interconnected and diverse nature of the global workforce demands and provide opportunities for skill development in a digital environment.

Experiential Learning and the Need to Innovate and Adapt Education to Global Business Environment

The need to innovate and adapt education is vital in order to adapt to the global business environment. Traditional teaching methods are being replaced by more innovative and hands-on approaches, such as experiential learning, which connect theory with practice (Kučerová, 2023; Paudel, 2021; Okoli et al., 2019). Experiential learning enriches IB course design by engaging students, internalizing concepts and knowledge. More importantly, it develops a global mindset, enabling students to analyze and synthesize information from multiple disciplines and consider cross-cultural and cross-national differences (Aggarwal & Wu, 2019a). It is highly valued in IB teaching as it helps students develop cross-cultural competence and navigate diverse business environments (Yeh & Zoeckler, 2022). Such programs add value to education by equipping students with relevant skills and provides a more engaging learning experience. It has been shown to improve students' understanding of the subject, critical thinking, problem-solving skills, and social competences using pedagogical practices such as problem-based learning, simulations, role plays, and collaborative learning (Okoli et al., 2019). Such pedagogies and programs which integrate technology, online media, gaming, virtual reality, and design, are seen as best practices for providing experiential learning in cross-cultural and interdisciplinary contexts (Viswanathan et al. 2022).

Experiential learning tools, such as study abroad programs and international internships, are particularly effective in building students' global awareness and perspective. However, study abroad are not accessible to most students (Viswanathan et al., 2022). There are various models of virtual exchanges, such as Collaborative Online International Learning (COIL), Xculture, E-tandem, GLE (Global Learning Experience), and Telecollaboration. However, their success hinges on institutional buy-in by the management team and faculty. The powerfulness of virtual exchange programs are that they facilitate continuous communication and interaction between geographically separated faculty and students, allowing for academic discussions, collaborative projects, and joint lectures providing access to global learning opportunities and enhance students' global and multicultural competencies (Zak, 2021).

Virtual exchange is seen as a solution to the accessibility problem faced by students and an inclusion strategy in higher education (Ghosh et al., 2022; Suarez & Haduch, 2020). These programs have various outcomes, including language learning, peacebuilding, and international cultural competency development and assessing outcomes are a growing aspect of importance of virtual exchange programs (Zak ,2021). Experiential learning tools like virtual exchanges in IB education come with challenges, such as creating a real-world learning environment, availability and cost of developing programs, and ensuring that the experience stimulates learning through reflection and experimentation. To better understand how GVTs can support building resiliency in learners, the research specifically examines the concepts of cognitive flexibility and openness as well as how the learner's culture can play a role. Both role of cognitive flexibility and openness are critical to building resilience in learners. And, of course, the learner brings to the GVT a culture that may have an impact on the global experience. The next section explains how these concepts serve as the building blocks of resiliency.

The Relationship of Cognitive Flexibility and Openness to Resilience

Resilience is significantly linked to cognitive flexibility, openness, ingenuity, and adaptability (Herman et al. 2010). Both cognitive flexibility and openness and the learner's national culture are expected to play key roles in predicting resiliency of a learner. Cognitive flexibility refers to the ability to reconsider one's perspective and experience of a traumatic event, as opposed to rigid perception. Traumatic events and situations may be reevaluated, and if a person can reframe their thinking about a traumatic experience and incorporate these notions into their memories and beliefs, they may be able to accept the situation and heal. Realizing that tough or traumatic experiences may provide personal development is part of accepting and incorporating a traumatic experience into one's life story. Cognitive flexibility enables a person to think they will succeed or live despite their hurdles while simultaneously accepting the horrible truths of their reality (Iacoviello & Charney, 2020).

Cognitive flexibility and openness also entail the ability to adapt to one's surroundings. This includes the ability to absorb new knowledge and apply it to the settings and categories for which it was previously learned and categorized (Ross et al., 2009). Viewpoint taking, which involves empathy and adopting the other's perspective; frame shifting, which involves understanding metaphors, paradoxes, and innuendos; and alternation of the code linguistic character are all components of cognitive flexibility and openness, where frame shifting is a cognitive tendency and variation of the code is a talent. Both verbal and behavioral features reflect the ability to adapt to changing situations (De Melo, 2021). Based on this, we have predicted that discernment plays a role in the learners' resilience. The learners' ability to gain new perspectives from other persons, is vital. Cognitive flexibility and openness show a person's ability to grasp the context of a situation and apply this information to future situations, which is crucial to learning about culture and social adjustment (Shaffer et al., 2006). This aspect of cognitive flexibility means that trying to solve a problem and the ability to consider future consequences plus anticipate long-term consequences are important for the ability to change a course of action based on the potential outcomes. We have included this element of considering future consequences as a factor in our model. Thus, persons with high cognitive flexibility are ready to face unfamiliar situations, experiment with novel communication methods, and change their activities to meet contextual needs. Cognitive rigidity, the opposite of cognitive flexibility, occurs when a person resists change and does not reorganize the links between their cognitive

categories in response to external cues (De Melo, 2021).

Task completion requires cognitive flexibility and willingness to change one's approach to a range of difficulties in complicated and dynamic contexts (Gompert et al., 2005). Openness to experiences and related behaviors is a precursor to openness to intellectual stimulation and cultural experiences, which are employed in virtual exchange partnerships (Woo et al., 2014). Critical thinking and the consideration of as many different opinions on an issue as possible and the ability to choose and adapt the most suitable one is key component of openness. This factor has been included in the model on resiliency.

Openness leads to cognitive flexibility, which is a person's adaptability, willingness, and aptitude to adjust to various situations and recognize that there are several ways to approach events. Cognitive flexibility predicts school adaptation, life satisfaction, and happiness, enabling greater success and reducing negative experiences by allowing individuals to create ideas and consider alternative views (Demirtaş, 2019). This suggests that cognitive flexibility, as a skill, can be developed and measured in the individual (De Melo et al., 2021); it helps people achieve their goals (Tamir, 2009) and reduces the impact of negative experiences (Hirt et al., 2008) by allowing them to generate ideas that incorporate alternative perspectives to adapt to environmental changes (Johnson, 2006). This type of resourcefulness by the individual is included in the research model. It is the learners' ability to change tactics and adapt are both important as an example of that resourcefulness. After engaging in a GVT, it would be appropriate to assess the individual's growth of this talent, as well as to determine which settings and contexts assisted this development and what areas still need work. .Figure 1 show the interplay of these concepts in building resiliency which is tested in the research model. There is another factor in the path to building resiliency that many researchers have neglected—the role of national culture.

The Role of National Culture

Culture affects how people see the world and how they react to traumatic experiences (Raghavan & Sandanapitchai, 2019). Most resilience research is Western-centric and emphasizes individual attributes, therefore it fails to discover culturally-related coping strategies. Since resilience is the ability to find health-sustaining resources, including well-being, and the ability of the individual's supportive environment and culture to provide these health resources and experiences in culturally significant ways (Ungar, 2006), concepts and structures that vary across cultures.

Cross-national research confirms that attitudes about individualism and collectivism differ between cultures. Cross-cultural research (e.g., Hofstede, 1980; Inglehart 1990,1997, 2000; Inglehart & Baker 2000; Schwartz, 1990; Schwartz & Bilsky, 1987; Triandis 1988, 1989, 1995) reveals that culture influences both content and procedure. Individualism begins with the person, and communities serve them. People are separate and the basic unit of analysis. Individuals must fit into societal structures. People are mostly connected via relationships and groups. These disparities between individualism and collectivism have been related to a variety of experiences and have brought to light the variation within and across cultures in the inclination to employ particular cognitive processes (Oyserman et al., 2002; Oyserman & Lee, 2007).

Individualism and collectivism influence international research and cross-national comparisons (Oyserman & Lee 2008). Hofstede (1980), a pioneer in cross-cultural research, classified countries and cultural groups according to their level of individualism and collectivism. Individualists have more autonomy, while collectivists indicate a high level of communalism among in-group members but behave differently with out-group members. This research takes into consideration two of Hofstede's (1980) dimensions, individualism and collectivism, which are likely to influence the virtual exchange cooperation of the GVTs. As a result, the national culture of the individual can play a role in resiliency as we measure it with the intervention of GVTs. For instance, there could be a difference between individualistic and collectivist cultures in their cognitive flexibility and openness resulting in a difference in discernment, resourcefulness, problem-solving and critical thinking that leads to a difference in resiliency.

National culture influences various aspects of GVT performance, including team dynamics, individual expectations, communication styles, and risk-taking tendencies. Understanding these cultural differences is crucial for effective collaboration in GVTs. The link between GVTs and national culture is evident in various aspects. Firstly, individuals from high power distance countries may struggle to perform on equitable teams without a formal hierarchy, as high power distance societies accept a hierarchical order (Hofstede, 2017). This can lead to difficulties in understanding how to participate in self-managed team structures, resulting in lower performance ratings (Ainsworth, 2016). Secondly, individuals from low power distance cultures prefer work with autonomy, flexibility, and decision-making authority (Taras et al., 2011). However, in team assignments that require interdependence and cooperation, individuals from individualistic cultures may resent the lack of individual recognition and reward, leading to negative perceptions and lower evaluations (Raes et al., 2015; Paul et al., 2004). On the other hand, collectivists tend to assist others, make personal sacrifices, and prioritize group interests (Staples & Zhao, 2006). They are more comfortable with self-directed teams and value personal relationships, which can lead to higher evaluations in student projects (Montebello, 2003; Kivrak et al., 2014).

In terms of masculinity, individuals from masculine-oriented cultures value achievement and competition but may involve others less in strategy development, leading to negative perceptions of their performance (Ayoun, Palakurthi, and Moreo 2010). Feminine cultures, which promote emotional expression and effective work relationships, may be viewed more favorably by teammates (Miao et al., 2018). Cultures high on uncertainty avoidance tend to be uncomfortable with ambiguity and may experience anxiety in GVTs due to cultural differences and task ambiguity (Hofstede, 2017; Adamovic, 2018). They may also be less likely to pursue innovation and take risks, resulting in lower evaluations (Covin, 2006).

Additionally, cultures high on uncertainty avoidance may not share as many ideas, which can impact their performance (Kivrak et al., 2014). High long-term orientation countries value education and building relationships, making them potentially good team members in GVTs (Hofstede, 2017; Miao et al., 2018). Conversely, indulgent societies, which prioritize leisure and immediate gratification, may not place as much importance on student project teams and may provide lower quality information to teammates (Hofstede, 2017; Vitolla et al., 2019).The conceptual model used to test resilience with the independent variables of cognitive flexibility and openness, and individualist or collectivist cultures is found in Figure 1.

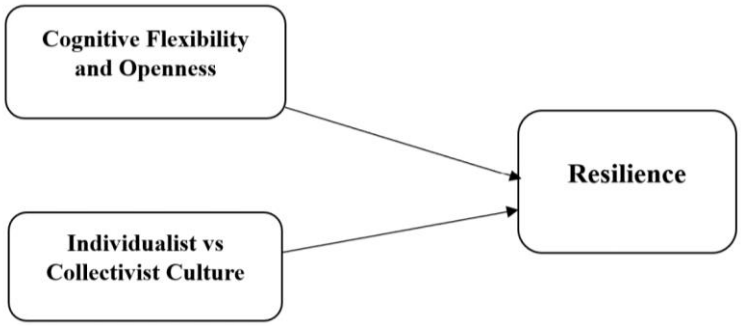

Figure 1. The Conceptual Model of Resilience

Method

To predict the influence on resilience, a regression model was developed utilizing six independent variables that represent cognitive flexibility and openness, and national culture of the learner. The survey instrument, data collection, and sample, as well as the GVTs experience are detailed here. During the testing of the explanatory model for resiliency, COVID-19 infected the world, therefore wanted to check if the pandemic had impact on the model. As a result, we controlled for the pandemic when testing the model. This study's primary objective was to assess students' resiliency and cross-cultural competence. It examined whether the COVID-19 pandemic and the virtual interactive structure had an influence on the learner's perspective of their cognitive flexibility and openness, hence contributing to the development of resilience. Using virtual exchange for the GVTs projects provides a venue for evaluating the students' cultural resilience in addition to their academic and technical expertise. To determine the impact of GVTs on the resiliency of students, a longitudinal study was developed to gather data over a four-year range, from 2018 to 2021. A model was built to predict the learner's resiliency, which was then evaluated before and after the GVTs experience.

Students were given a survey questionnaire which was applied both before (n=584) and at the end of (n=399) the GVTs experience. To measure culture, the variable was coded into a binary variable of individualist versus collectivist. The countries of France, Switzerland, the Netherlands and the US were coded collectivist while the countries Brazil and Japan were coded as individualistic. The sample included undergraduate students from seven institutions in six countries (Brazil, France, Japan, The Netherlands, Switzerland, and the United States) engaged in international business courses over four academic years, from 2018 to 2021. This included the time period before and during the covid epidemic. Students range in age from 18 to 35, with the majority falling between the ages of 18 and 21. The largest number of students in the sample was from the United States(n=462) which comprised less than half. The next largest representation was from students for Brazil (n=318) which was slightly over one-third. France (n=65), Japan (n=57), Switzerland (n=35) and the Netherlands (n=33) accounted for the rest of the sample.

Data Collection and Survey Design

We used a survey administered both before and after the GVTs collaboration experience to assess the students'

self-reported perceptions and changes as a result of their experiences. This was measured using a six-point Likert scale (1=strongly disagree, 6=strongly agree) derived from the Cross-Cultural Competence Inventory (CCCI) (Ross et al., 2009), which served as the empirical foundation for examining the effect of the virtual exchange experience and the pandemic on students. Ross et al. (2009) designed the instrument to be used in the US armed forces for the purposes of forecasting whether a soldier is prepared for overseas operations and producing information for training.

The CCCI was developed as part of a lengthy and comprehensive initiative by the U.S. Navy and Army to increase troops' cross-cultural competence. Incidents in which stereotyping, racism, and power abuses alienated individuals from various cultures drew attention to the need to cultivate these abilities and sparked an influx of study on the topic (Hashim, 2004; McFarland, 2005). It was designed based on the belief that intercultural competency affects the effectiveness of international military operations. Several researchers have included information about tools produced in non-military settings, since there is a large overlap between the tasks by troops overseas and those of expatriate managers or volunteers engaged in rebuilding projects. This convergence also arises in circumstances requiring close collaboration between government officials and citizens from a nation with a distinct cultural background (Abbe et al., 2007).

During its creation, the CCCI included the information gathered from research and intercultural studies with various groups, such as expatriates, foreign students, and peace corps volunteers, as knowledge to be integrated into the instrument (Abbe 2007). Consequently, the CCCI was designed using a rational-empirical method in which, in addition to undertaking an exhaustive examination of the existing literature on intercultural competence, researchers also conducted interviews with military personnel with intercultural experience to establish which additional factors were not in the literature but were relevant for assessing intrapersonal competence predicting the success of foreign operations (Ross et al., 2008, 2008 a, b; 2009; 2010; Thornson & Ross, 2008). The Chronbach's alpha =.83 for the cognitive flexibility and openness scale. After its translation into Portuguese, adaption, and validation, it was accepted in Brazil as the primary tool for measuring college students' intercultural competence (Neto et al., 2016). Furthermore, to test the validity of the CCCI instrument, (Barzykowski et al., 2019) empirically tested the internal consistency of the instrument and translated it into Polish. The tests showed a Cronbach's alpha ranging from 0.44 to 0.83 across subscales. Internal consistency (Cronbach's alpha= 0.70 to 0.94). From the perspective of academic practice, this provides a validated tool for measuring intrapersonal competence and facilitates the evaluation of the efficacy of international and other exchange programs geared at the development of intrapersonal competence. It also permits the comparison of the efficiency of various exchange kinds, durations, and geographic destinations (de Melo et al., 2021).

Hypotheses and Predictions

Based on the model, each variable is linked to the hypotheses tested by the actual survey question (SQ) used for measurement. The hypotheses on the effect of cognitive flexibility and openness are examined on their impact to resilience. These variables include discernment, resourcefulness, problem solving, consideration of future consequences, and critical thinking.

Discernment

Following Woods (2017) resilience is commonly associated with adaptability, specifically referring to the capacity to absorb or adjust to turbulence, disruptions, and adaptations. However, all systems possess some degree of adaptability, albeit sometimes manifesting as gradual and inconspicuous processes, hence, resilience cannot be solely equated with a system's adaptive prowess. In this context the term resilience is used in a more encompassing sense measuring resilience through discernment (Roozenbeek et al., 2022)

It is predicted that the higher discernment for gaining new perspectives from another person, the greater the self-efficacy that leads to resiliency. A skill that is learned, discernment is the ability to think, want, know, feel, choose, and act in line with what is proper in the present moment, as well as to influence future events for the benefit and common good of others. (Joubert, 2019). It is a far more intricate approach to decision-making, requiring self-awareness and a comprehensive grasp of the context, as well as the ongoing modification of perspectives, perceptions, and behaviors in order to make sound judgements. Using their wisdom, these individuals are able to thoroughly examine circumstances, possess an ability founded in knowledge and/or experience, and also have the capacity to properly make a judgment, particularly about things that aren't evident. Additionally, they are able to perceive their environment with clarity, wisdom, and rigor, and act accordingly (Trauffer et al., 2010).

H1. To deal with any challenges coming their way, students with higher discernment for gaining new perspectives from another person will present higher resilience.

The SQ used to measure discernment was- *I know how to gain insight from another person to get a job done.*

Resourcefulness

The emphasis of resilience research has been on specific traits or assets, such as cognitive functioning, which enables individuals to overcome adversity. Evidently, openness, cognitive flexibility, resourcefulness, and adaptability are essential in defining resilience (Wald et al., 2006). Resourcefulness is defined as a collection of cognitive and behavioral skills used to attain, maintain, or regain health. It includes both personal resourcefulness, which involves maintaining independence in daily activities, and social resourcefulness, which involves asking for help when needed. Research suggests that resourcefulness promotes independent and healthy lifestyles and helps individuals deal with challenging situations effectively (Bekhet et al., 2012). The capacity to think productively, solve issues, and retain self-confidence in the face of adversity is acquired resourcefulness. It is gained throughout the course of one's life by experience, modeling, and official or informal training (Erozkan & Deniz 2012). Resourcefulness is not limited to positive self-statements and problem-solving strategies, but also includes cognitive and behavioral skills that are applied creatively to handle problems and situations (Musil et al., 2021).

Highly resourceful people are better at (a) using cognitions to govern their emotions and physiological reactions; (b) using effective problem-solving strategies; (c) postponing gratification; and (d) believing in their ability to self-regulate (Rosenbaum & Ben-Ari, 1985). Individuals that are cognitively flexible are self-assured and aware

of their options (Demirtaş 2020). Self-confident individuals are able to regulate their emotions and thoughts in order to perform properly.

> **H2.** To deal with any challenges coming their way, students high in resourcefulness when approaching problems/conflict/misunderstandings with someone will present higher resilience
>
> The SQ used to measure resourcefulness is *–If my approach to a problem isn't working with someone, I can easily change my tactics*.

Problem-Solving

Resilience is an individual's ability to adapt to adversity, involving resistance, recovery, and rebound, and can be cultivated through targeted interventions like problem-solving abilities (Palacio et al., 2019). Problem-solving is a cognitive process that mobilizes information, skills, and personal experiences to identify issues, develop solutions, and successfully settle disputes. An individual's ability to solve problems is essential in the workplace for assisting people with creativity and overcoming obstacles and in the academic environment, these problems demand students to become skilled content masters and adept problem solvers (Fitriani et al., 2020). Similarly to how culture may impact an individual's coping style, it can also impact their problem-solving coping style. East Asian cultures place a collectivist focus on association and dependency, while North American cultures value individual success and impersonal social relationships (Li et al., 2013).

Resilience is commonly defined as the ability to recover, adapt, and thrive in the face of adversity (Masten, 2014), and notably, resilient individuals exhibit enhanced problem-solving skills, self-regulation, and coping strategies (Windle et al., 2011), rendering them better equipped to withstand and even thrive amidst challenges. Liang and Cao (2021) posit that the individual-level knowledge, skills, and abilities of resilient individuals can enhance their adaptability and creative problem-solving skills as well as their capacity to effectively respond to crisis. Carmeli et al. (2021) underscore the link between problem-solving and resilience in teams. Resilient teams are found to be more creative in solving problems, with resilience being crucial for effective problem-solving and a key predictor of project performance. Teams that are more resilient are better able to tackle future problems and challenges creatively, leading to higher chances of success.

Resilience has a significant impact on the socio-cognitive developmental processes and personalities of university students; particularly, it influences their capacity to overcome and rebound stronger from any demanding or unpleasant scenarios and add that indicators of a person's resilience also include their capacity to overcome obstacles, combative nature, and adaptability. Thus, resilience and problem-solving abilities have been identified as attributes that have a significant impact on the social and educational achievements of university students (Coşkun et al., 2014).

Kim and Kim (2016) assert that perseverance in the face of hardship or discouragement is a component in overcoming tough difficulties. People that are resilient will be able to solve problems in an effective and efficient manner. They will be able to comprehend a scenario, identify the underlying problem, and devise the best solution. It is hypothesized that the bigger the diversity of problem-solving strategies and techniques, the greater the

resilience (Li et al. 2013). The prediction is that the higher the variety of problem solving methods and ways, the greater the resilience.

H3. To deal with any challenges coming their way, students with openness to using diverse options to solve a problem, will present higher resilience.

The SQ used to measure problem solving skills was – *People have different methods that can be equally successful in solving a problem*.

Consideration of Future Consequences

In a rapidly changing world, individuals and organizations face various challenges and uncertainties that demand the cultivation of adaptive capabilities. Resilience, often viewed as a key attribute in navigating adversity, and Consideration of Future Consequences (CFC), which encompasses an individual's ability to weigh the long-term implications of their decisions, are two psychological constructs that play pivotal roles in shaping human behavior and responses. CFC refers to the extent to which individuals perceive how their current decisions, actions or choices they make may influence future outcomes (Liang et al., 2020). CFC and resiliency are positively correlated and linked with academic performance, that is, as CFC and resilience increase so does academic performance. Moreover, higher scores on CFC significantly predicted higher academic performance (Egan et al. 2022). According to Villar et al. (2021) CFC is concerned with how individuals assess the potential outcomes of their actions in the near and distant future, as well as how they respond when considering potential future scenarios. A variety of factors, including changing circumstances and different perspectives on life, can influence human behavior and some of these behaviors are even influenced by cultural factors.

Low-consideration individuals prioritize the immediate effects of existing decisions and activities (Graso and Probst 2012). During times of crisis, the consideration or future consequences is difficult to master, due to the stressors that are taking place in the present, the uncertainties, doubt and necessary adaptation. Consequently, individuals high on CFC, in their need to adapt, will need to inverse this trait in order to take care of the moment's pressing matters. Therefore, we expect a low CFC.

H4. To deal with any challenges coming their way, students with a higher level of CFC will present higher resilience.

The SQ used to measure consideration of future consequences was – *When trying to solve a problem, I often can foresee several long-term consequences of my actions*.

Critical Thinking

Critical thinking is a cognitive process that involves comprehensive evaluation, analysis, integration, and argumentation. It is a higher-order thinking skill that requires knowledge, competencies, and a specific disposition and can be developed through practice and intellectual pursuits. Teachers significantly influence the growth of critical thinking among students through instructional methods and classroom activities (Namaziandost et al., 2023). Critical thinking is a deliberate, self-regulating judging ability. Inquisitive, truth-seeking critical thinkers are well-informed, focused and persistent in their studies, adaptive, honest in the face of personal prejudice, and

prudent in their findings (Sk & Halder 2021). Learners' critical thinking levels have significant effects on their resilience level. In other words, critical thinking as a cognitive ability and resilience as a personality factor are highly related (Kamali & Fahim 2011). According to Halpern (2013) critical thinkers have an array of dispositions or attitudes such as willing to actively participate in and persevere through complex tasks. They have a habit of using plans and restraining impulsive behavior. They are also flexible and open-minded, willing to let go of unproductive strategies in order to make necessary corrections. Critical thinking is distinguished by characteristics such as the capacity to examine arguments rationally, utilizing a sophisticated cognitive reasoning (analysis, synthesis and evaluation) (Dehghani et al., 2011).

In educational contexts, critical thinking abilities are crucial because they enable students to acquire a more comprehensive grasp of the material being given to them rather of just memorizing it (Dwyer et al., 2014). Good critical thinkers are more likely to make solid decisions and judgements in difficult situations, to display less cognitive bias and heuristic thinking, to do better academically, to become more educated and involved citizens, and to be more employable (Dwyer et al., 2014). Critical thinking influences academic accomplishment, introspective thinking, interpersonal skills, and problem-solving. Therefore, students incapable of critical thought cannot make sound judgments (Dwi et al., 2020).

> **H5.** To deal with any challenges coming their way, students that possess critical thinking skills will present higher resilience.
>
> The SQ measuring future consequences was: *When thinking about a problem, I consider as many different opinions as possible*.

Measuring National Culture

Resilience across cultures is the result of exposure to considerable psychological, environmental, or both adversity (Ungar, 2006). Culture matters to the degree that individuals from various societies are likely to have diverse experiences. Individualism and collectivism are notions that exemplify substantial disparities in how individuals and communities interact with one another. For example, North Americans are more individualistic and less collectivist than many other cultures, with patterns of findings showing parallels across English-speaking nations (Oyserman et al., 2002; Oyserman & Lee 2008, 2007).

According to Liang et al. (2020) there are global variances of resilience among culturally varied groups, yet local understandings and expressions of resilience exhibit distinctive patterns. Individualistic cultures prioritize individual autonomy and uniqueness, while collectivist cultures prioritize interdependence and solidarity among individuals and social groups. Collectivist cultures tend to attribute difficulties and resilience challenges to personal causes in order to maintain group solidarity. They prioritize emotions, interpersonal relationships, well-being, and group membership over external factors when it comes to maintaining resilience.

> **H6.** Therefore, it is predicted that students from individualistic cultures will present a higher level of resilience compared to students from collectivist cultures. Cultures that were classified as collectivist include Brazil and Japan. Those cultures in the sample that were classified as individualistic are France, Netherlands, Switzerland, and the US.

The applied regression model for predicting resilience is outlined in Figure 2.

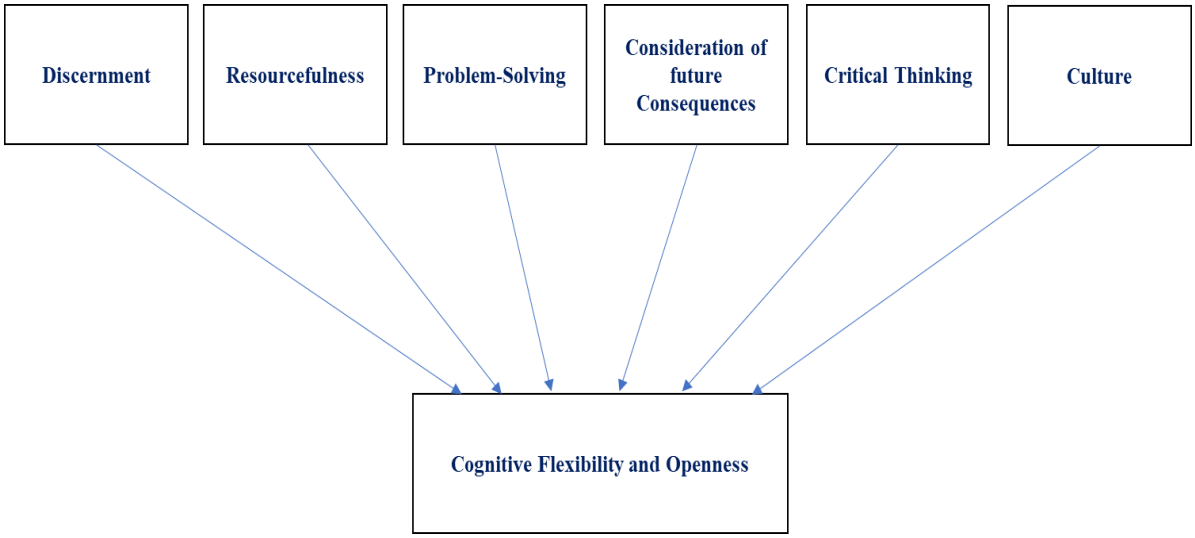

Figure 2. Prediction Model for Resilience

Results

The variables of discernment and resourcefulness, problem solving, consideration of future consequences critical thinking and culture all played a significant role in predicting learners' resilience. Comparing the results of the GVTs both before and after the experience, resilience reveals the different contributions of these variables. However, there are significant differences in the data on which the predictors explain resilience of the learner. This means that students relied on different elements to maintain their resilience before and after the GVT experience. These difference are important for understanding how resiliency can be increased for the learner and employee.

Remaining Consistent for the Learner-The importance of Discernment and Resourcefulness for a Learner

Both discernment and resourcefulness remain significant with a direct relationship on resilience The data shows that discernment remains significant both before (std beta = .250, sig.= <.001) and after the GVT experience (std beta = .220, sig.=<.001) as a contributor to resilience. As discernment increases, so does resiliency. This impact of discernment of the learner remained the same both before and after the GVT experience. Likewise, the greater the resourcefulness the learner experiences both before (std beta=.111, sig=.020 and after (std beta-.141, sig. =.0014) the GVTs, the greater the feeling of resiliency. This is an important findings because the learner and employee rely on both discernment and resourcefulness as a foundations source for resiliency. It was a consistent source of resiliency that individuals are using over time.

H1. To deal with any challenges coming their way, students with higher discernment for gaining new perspectives from another person will present higher resilience.

H2. To deal with any challenges coming their way, students high in resourcefulness when approaching problems/conflict/misunderstandings with someone will present higher resilience.

Changing Elements for the Learner's Resiliency- Problem Solving and CFC

One of the more interesting findings in this model was the changes demonstrated by the learner's problem solving and CFC. Both problem solving and CFC shifted after the GVT. For instance, a learner's problem solving was related to resiliency before the GVTs experience yet was not significant afterwards. Meaning, the greater the problem solving before the GVTs, the greater the resiliency (std beta=.178, sig.=<.001) however problem solving was not a factor post GVT (std beta=.038, sig.=.534).

Likewise, there was a shift in CFC from before to after the GVTs experience resulting in leaners having more CFC before the GVTs than after. The greater the CFC the greater the resiliency (std beta=.101, sig.=.028), however, there was no significant relationship after the GVT (std beta=.038, sig.=.534). This might mean that the learner was no longer relying on using problem solving and CFC as a result of the new skills and tools they acquired throughout the experience of working globally.

H3. To deal with any challenges coming their way, students with openness to using diverse options to solve a problem, will present higher resilience.

H4. To deal with any challenges coming their way, students with a higher level of CFC will present higher resilience.

How GVTs can Benefit Critical Thinking

The most surprising of the results is the difference the GVT made to critical thinking afterwards. Before the GVTs experience, there was no impact of critical thinking on resiliency (std beta=.021, sig.=.644). However, after working in GVTs, it appears some transformation takes place for the learner. The results showed that the greater the critical thinking, the greater the resiliency for the learner after participation in the GVT (std beta = .021, sig.=<.001). What is so interesting here is that often metacognition requires some time to reflect on the impacts of a course for a student. However, the impact from the GVT appears to be more immediate in an education experience for the learner. This result is a key finding for not just students but employees in the workforce, and other situations requiring collaboration. Students after the GVT now relied on critical thinking more than problem solving and CFC in their resiliency.

H5. To deal with any challenges coming their way, students that possess critical thinking skills will present higher resilience.

The Impact of National Culture

Based on these results, culture did have a significant impact on resiliency but only before the GVTs experience. Students with individualistic cultures were more likely to experience increase resiliency than students from collectivist cultures before the GVT (std Beta= -.081, sig.=.032). However, the role of culture diminishes after the GVTs experience when the role of culture is no longer a factor in resiliency (std Beta=-.059, sig=.180). This might mean that the GVT helped learners acquire new skills and approaches, to critically think and evaluate, practices they may have not been exposed to before, diminishing the cultural differences. To achieve the deliverables, they

may have adopted the course of action that worked best for the situation.

The Overall Model of Resiliency and GVTs

Before the GVTs experience, there is a significant and mildly moderate relationship (F=27.977, sig.=<.001, Adjusted R^2=0.258) of the model except for critical thinking which was insignificant (std Beta=0.021, sig.=0.644). It means that the variable of critical thinking did not have any relationship to contributing to the learner's resiliency before the GVT. In the post-GVT, there is a significant and mildly moderate relationship (F =25.892, sig.=<.001, adjusted R^2=0.324) between the variables except for problem solving (std Beta-0.101, sig=0.063), CFC (std Beta=0.038, sig=0.534) and culture (std Beta=-.059, sig.= .180) that presented insignificant (see Table 1).

Table 1. Results for Predicting Resilience

Variables (x)	**Before GVTs Experience**		**After GVTs Experience**	
		significance		significance
Constant	1.693	<.001***	1.253	<.001***
	St Beta	**Sig**	**Std Beta**	**Sig**
Discernment (x1)	0.250	<.001***	0.220	<.001***
Resourcefulness (x2)	0.111	0.020*	0.141	0.014*
Problem Solving (x3)	0.178	<.001***	0.101	0.063*
Consideration of Future Consequences (CFC) (x4)	0.101	0.028*	0.038	0.534
Critical Thinking (x5)	0.021	0.644	0.209	<.001***
Individualistic vs Collectivist (x6)	-0.081	0.032*	-0.059	0.180*
	F=27.977, sig.= <.001*** Adj R^2=0.258 n=543		F=25.895, sig.= <.001*** Adj R^2=0.324 n=364	
COVID Control	-.020	.614	-.030	.506

*** p=<.001, ** p=<.01, * p=<.05

It appears that after the GVTs experience, learners no longer relied on their problem-solving or CFC for their resilience. Instead, it was their critical thinking skills that impacted their resiliency. Thus, the GVT had an impact on what aspects were relied upon for the learner. Before the GVTs experience the sense of critical thinking was not a factor leading to resilience for the learner, it was significant after the GVTs experience. The GVT instilled the importance of critical thinking after the project experience. When controlling for the pandemic, there was no impact to resiliency of the learner. The pandemic did not impact this model for the learner regardless of the GVTs experience. When controlling for the impacts of COVID-19, there is no statistically significant impact from COVID-19 with resiliency (std Beta=-0.020, sig.=0.614). In the post GVTs experience, the pandemic had no impact on resiliency (std Beta=-0.030, sig.=0.506). Thus, when controlling for COVID impact, there is no statistically significant impact for the learner's resilience after the GVTs experience or before the pandemic, as seen in Table 1.

Discussion

The constant ambient stress induced by the COVID-19 epidemic has had a significant influence on the capacity of individuals to complete their tasks. During this same period, global virtual teams (GVTs) have become an increasingly important tool in the workplace and in the learning environment. We wanted to test the impact GVTs had before and during the pandemic both on learner and learning environment especially in terms of dealing with these issues by focusing on a model of resiliency. Resiliency can help the individual manage the challenges from mental health which can be a powerful approach for employers, instructors, and the individual. Using a longitudinal study that began in 2018 which was before the pandemic and lasting through the pandemic in 2021, a model of resiliency was tested based on the factors of discernment, resourcefulness, problem solving, consideration of future consequences, critical thinking, and culture. In this research, aimed to understand what impact the pandemic had on learners' resilience, and what role did the GVTs experience play in our IB courses. There are theoretical and practical implication from this study.

Theoretical Contributions

Our findings add to the body of knowledge in several ways. First, the COVID-19 pandemic had no effect on students in GVT collaborations. This can be attributed to the fact that University students were most resilient by relying on friends and family, seeing adversity as a learning opportunity, and helping themselves by helping others (Mueller 2021). Those students who considered themselves to be resilient before to the pandemic continued to be so throughout the outbreak. Likewise, those with less resilience did not build any resilience as a result of the pandemic event. Second, despite the fact that national culture is often a differentiator, our study indicates that national culture had no effect on the resilience of students. The collectivist or individualist nature of a nation had no bearing on the GVTs experience, and its effect was negligible. This may be attributed to globalization and the role of individual differences as being more impactful than national culture (Yoo, et al., 2011).

Thirdly, having a GVTs experience has an impact on the student's resilience. Students' experiences with specific situations had an effect on their discernment, resourcefulness and critical thinking abilities which are skills important for the workplace in regard to managerial responsibilities, and especially on a global level. The GVT experience changed what impacted students' resilience before and after the GVT and the variables most impacted were problem-solving, consideration of future consequences (CFC), and critical thinking. Specifically, before the GVTs experience, a student's resilience was not impacted by concepts critical thinking, but it was after the GVTs experience. And, before the GVTs experience, problem solving, and CFC did impact resilience but not after the GVTs experience. This suggests that the GVTs experience altered what the student relied upon for resilience before and after the GVTs experience. There might be several causes for these alterations. According to social psychology, teamwork may enhance or diminish problem-solving abilities and Einstellung, which is the lack of cognitive flexibility (Frings, 2011).

Concerning CFC which is an individual-differences variable indicating the priority an individual gives to the immediate versus delayed effects of their actions, it may be that, in order to focus on their deliverables, students

prioritized the immediate, which could also be a team-based decision (Graso & Probst 2012). Specifically, we posit that students' CFC orientation influenced the degree to which they prioritized quality over quantity in their task performance. One of the motivations is to avoid confrontation (Wolf et al., 2009). When confronted with challenging life circumstances, students who understand the crisis in a broader perspective are most able to build resilience. Resilient students aim for emotional stability and functioning in times of stress, resulting in a fulfilling quality of life. This is achieved through adapting to adversity and stress in response to high-risk, traumatic encounters (Iacoviello & Charney 2020).

Practical Implications

We have seen how GVTs contribute to student abilities and how they develop their resilience skills in the face of a major global crisis, putting forward their own abilities and concepts while also acknowledging that others in the group may have different approaches and ways to resolve issues and problems. The GVT framework, tasks, and deliverables described in this work are meant to actively involve students, encouraging them to be proactive and reflexive participants in their own education. It necessitates their participation in knowledge development, offering their thoughts and ideas to a more unified and diversified whole.

As part of higher education, faculty and the administration bear the responsibility for learners to experience diverse information, interact with people of different nationalities and socio-cultural backgrounds, and perform in ambiguous and volatile global business environments, thus improving our students' interpersonal and intercultural skills. This will enable students to be productive and confident members of the business world's multinational, multicultural, and multidisciplinary teams in the twenty-first century and beyond. We also need to encourage students to become life-long learners who see knowledge as a process, a muscle that requires frequent training to be in peak shape, building resilience to be successful in their IB careers and beyond, overcoming setbacks and bouncing back.

Every skill that students learned during their GVTs experience is applicable to the contemporary workplace. And, in the context of internationally-connected global organization, the abilities acquired in the GVT make them highly competitive once they graduate. The talents of people who can navigate these sorts of long-distance and cross-cultural relationships will be valued in the global business and corporate environment. GVT can be a valuable tool for understanding and enhancing a learner's resiliency, particularly during periods of high uncertainty. It provides a dynamic and interactive learning environment that can simulate real-world challenges, assess behavior and decision-making, and offer targeted feedback and support for resilience development.

Individuals and organizations dealing with big external crises, such as the COVID-19 pandemic, may benefit from the practical consequences of our study. Adaptability to pandemic-related stress can be developed through a variety of interventions that promote cognitive flexibility and openness. Organizations can help individuals acquire, use, continually improve, and keep these qualities, therefore creating resilience. Organizations may also prepare for pandemics by fostering the development of human resilience, which leads to enhanced organizational resilience (Kuntz et al., 2016).

This study on resilience has yielded significant insights that will contribute to our understanding of how diverse learners may prepare for the global corporate workforce. It was demonstrated that GVTs experience is a valuable and effective teaching technique that supports individuals in improving their discernment, resourcefulness, and critical thinking in order to deal with challenges. The absence of a correlation between the pandemic and the influence of cognitive flexibility and openness suggests that well-planned, facilitated, and executed activities may improve an individual's performance even in such dire crisis conditions.

In light of the special work circumstances of a pandemic, GVT members may be made aware of specific cognitive flexibility and openness tactics and when to use them in the workplace via interventions designed specifically for them. Individuals' responses to pandemic-related challenges differ significantly (Taylor, 2022); so, when designing interventions, it is necessary to take this into account in order to increase cognitive flexibility and build resilience. Lastly, it is an example of how higher education can adapt practical strategies to pedagogy and enhance student experiences while providing practical and timely tools for growth and development for their careers.

Limitations and Future Research

Although the study contributed to our knowledge of how student resilience was impacted by the GVTs experience, its limitations must be addressed. Our findings may only reflect a snapshot of perceptions at that moment in time. As a result, the constraint of having only a snapshot of the experiences may miss out on the specifics of their experiences, as well as the potential significance of their responses. For example, the answers may have been skewed due to certain individual personality differences that may have created conflicts, due to unique personal circumstances causing GVT interactions complexities. In addition, individual performance in general, and specifically as it may be related to GVTs and a pandemic, is a product of the intricate interplay of several variables, frequently resulting in very tiny impact sizes (Götz et al., 2022). Therefore, other variables such as gender, living conditions, in general and during the pandemic, socioeconomic standing of the individuals, and many others may have affected responses.

A future panel study approach to track changes in the individual student could offer deeper insights into the longer term impact of the GVTs experience. Additionally, measuring the development of the teachers' resilience themselves as a result of these experiences, as well as control for teachers that are experienced in collaborations vs the ones that do not have experience, and the effect on students' experiences.

Conclusion

Enhancing teaching pedagogy in IB at higher education is imperative for producing graduates who can thrive in the constantly changing global business landscape. The cultivation of resilience emerges as a crucial facet of IB education, enabling students to effectively navigate the uncertainties inherent in global markets and make informed decisions in dynamic environments. By integrating practical strategies and experiences, and resilience-building activities, educators can better prepare students for the challenges and opportunities that characterize IB endeavors.

One very important generalizable conclusion is that while higher education and workplace organizations are spending increasingly more resources on mental health issues to support individual, using the learning experience through either education or workplace training can be a potential beneficial factor that is overlooked. Meaning, that the experiences provided in a curriculum using tools such as GVTs may be a practical and affordable way for learners to increase their resiliency overall. When challenging times and uncertainty periods re-occur, individuals both in an educational environment and in the workplace can draw upon these experiences like GVTs to assist with successfully enduring and persevering these periods.

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