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Insights into entrepreneurship: impact of entrepreneur psychological capital and employee well-being on business sustainable performance during and post-Covid-19 era

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ABSTRACT

Since Covid-19 is an enduring disease that pushed the world to reshape business strategies to overcome the unprecedented situations in all sectors such as the sports industry. Although substantial research has been carried out to inspect this phenomenon globally. Nevertheless, how entrepreneurial initiatives can contribute to tackling the situation is still lacking. This study attempts to uncover the relationships between entrepreneur psychological capital (EPC) and business sustainable performance (BSF). Second, this study strives to reveal the relationships between employee wellbeing (EWb) and BSP. In addition, education is treated as a moderating factor to unfold the relationships among factors, i.e., EPC, EWb, and BSF. Data were collected from eight hundred ($n = 800$) participants who were associated with the Chinese sports industry from March to July 2022. The results demonstrated interesting and fruitful findings based on SEM statistical model. First, a positive connection was found between EPC and BSF. Second, it found a positive link between EWb and BSF. Finally, the study highlighted a significant moderating impact of education among implicit relationships, i.e., EPC, EWb, and BSF. This study provides insights into entrepreneurship, entrepreneur psychological capital, and employee wellbeing on how it can optimize the performance of a business during and post-Covid-19 era. Besides, certain shortcomings along with future potential lines are reported for future researchers.

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1. Introduction

The covid-19 disease is the biggest global challenge that has affected the humans lives and business operations in distinct ways across the world (Ciotti et al., 2020; Dheer & Salamzadeh, 2022; Salamzadeh & Dana, 2021). According to the report by WHO, Covid-19 is a highly transmitted coronavirus disease that influenced worldly business

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and still causing business performance (Ciotti et al., 2020; Pokhrel & Chhetri, 2021). Since a rapid outbreak of Covid-19 triggered frightening situations, governments are taking measures for protecting human lives, especially by recommending social distancing and lockdown policies (Cullen, Gulati, & Kelly, 2020). During critical situations, all the regions and services were shut down such as educational institutes, public events, and the rest of the offices for prevention measures (Tian, 2021). It was an alarming condition that is still ongoing and has become a global issue (Pereira, Braga, Correia, & Salamzadeh, 2021; Salamzadeh & Dana, 2021; Tian, 2021). In such a scenario, managing the workforce, employee well-being, and organizational performance is a prime concern. How entrepreneurial initiatives or skills may improve business situations by retaining employees during Covid-19 as well as post covid-19 era is a major challenge for organizations. There are different researchers who have shown the negative side as well as a positive side of Covid-19 (Mizanur Md Rahman, Rahaman, Salamzadeh, & Jantan, 2021). However, research is needed to acquire more insights into Covid-19 with consideration of different aspects such as entrepreneurship.

Entrepreneurship is defined as the ability to form, manage, and carried out a business entity by tackling entire uncertainties to earn a maximum range of profit (Audretsch, 2012). The more prominent example of entrepreneurship is to take initiative for a new business and performing something unique by taking a risk (Astebro, Herz, Nanda, & Weber, 2014; Audretsch, 2012). It is the main expertise of an entrepreneur to take risks while beginning a new venture or taking a particular initiative. During the present uncertainties of Covid-19, how entrepreneurship can play a dynamic role since researchers claimed that entrepreneurs are a major source of innovative and unique ideas to tackle uncertain situations (Oksanen & Rilla, 2009). It could be an innovative entrepreneurial initiative to work for employee wellbeing in distinct ways such as by understanding stress or anxiety level (Ganster & Rosen, 2013; Xiong, Weng, & Wei, 2022). This study aims to study entrepreneurship in terms of entrepreneur psychological capital (EPC) in managing employee well-being (EWb) and business performance (BP) during and after post covid-19 era.

Psychological capital supports entrepreneurs to adhere sustainable activities or practices through exploration of the opportunities (Margheritti, Negrini, & Miglioretti, 2022; Youssef-Morgan & Luthans, 2015). It refers to a capability of an individual which helps to determine the outcomes for psychological capital to enable entrepreneurship. Moreover, entrepreneur psychological capital (EPC) has been acknowledged as a central concern of investigation by experts worldwide (Luthans & Youssef, 2004). Likewise, workplace or employee wellbeing (EWb) discusses the concern with respect to working life consideration of distinct factors, including safety, quality of life, environment, and rest of employee-related activities to encourage them to work within the organization (Platts, Breckon, & Marshall, 2022; Salem, Ishaq, Yaqoob, Raza, & Zia, 2022). Several factors can improve EWb discussed by the researchers, i.e., by identifying stress drivers, considering different programs for employee health especially mental health, transforming mindset toward the workplace by offering different activities, and appreciating employees in return for their hard work (Iqbal & Piwowar-Sulej, 2022; Salem et al., 2022). Some experts categorized

EWb into certain characteristics mainly into three streams such as psychological well-being, workplace wellbeing, and subjective wellbeing (Page & Vella-Brodrick, 2009).

Furthermore, optimizing business performance (BP) is the ultimate objective consequently firms endeavor to adopt such policies that can help in profit maximization. BP is generally known as the overall performance of corporates that are based on various sets, i.e., analytics, management style, employee-related affairs, and managing different stakeholders both internal and external to optimize business performance by working together (Kristal, Huang, & Roth, 2010). In past, several experts independently treated variables even other than the Chinese sports industry (Audretsch, 2012; Oksanen & Rilla, 2009), employee wellbeing (Platts et al., 2022; Youssef-Morgan & Luthans, 2015), entrepreneur psychological capital (Bulmash, 2022; Margheritti et al., 2022), and business performance (Kim, Kim, & Lee, 2022; Kristal et al., 2010).

Most past work was conducted other than consideration of the phenomenon about EWb, EPC, and BP to understand the insights during Covid-19 and how it would be fruitful or challenging in post Covid-19 era. Notably, most previous studies were considered empirical evidence from developed nations whereas the findings are still lacking from developing nations like China, especially from the sports sector which gained far less concentration. Moreover, worldly researchers, academicians, and practitioners suggested additional work within the domain of entrepreneurship, EPC, and BP to promote a similar notion from the rest of the geographic regions of the world. The sports industry of China has an immense contribution to the economic development of the country. It is reported, the size of the Chinese sports industry is increased to three trillion (Chinese Yuan) which inferred over 1.2% raise in GDP by 2020 (Chiu, Shih, Chu, & Chen, 2022; Duan et al., 2022; Peeri et al., 2020). China is a leading nation in terms of population and stood 1st populated nation in the world having over 2 billion people (L. Liu et al., 2022; WorldMeter, 2022). The economic growth of China is also growing and such reform has successfully reopened several markets in China (X. Liu et al., 2022; Wu, Monfort, Jin, & Shen, 2022). However, the income level of the Chinese people varies which eventually affects the spending of individuals (Huang, Huang, & Shui, 2021). In the present instance, it is worth mentioning exploring the linkages among EWb, EPC, and BP from such a huge market to ensure the significance of entrepreneurship. Although some researchers have considered the sports along with the e-sports industry of China to furnish insights other than entrepreneurial, wellbeing, or entrepreneur psychological Capital perspectives (Chiu et al., 2022; S.-X. Li & Li, 2022; Zhao, Cheng, Liu, & Meng, 2022). Therefore, based on such a huge significance, this study aims to meet certain goals as follows.

First, this research investigates the relationships between entrepreneurs' psychological capital and sustainable business performance. Second, the study aims to examine the impact of employee wellbeing on sustainable business performance. Third, the aim is to explore the influence of education as a moderating variable to ensure the strength between the relationships of independent variables (e.g., entrepreneur psychological capital) and the dependent variables (e.g., Employee wellbeing and business performance). The outlines of the research are formed as follows. The section of literature review is reported after the introduction section. Subsequently, we presented the employed methods whereas results are accordingly laid down. The section on

implications along with the discussion has been reported after the results section. The final part consisted of the conclusion, shortcomings, and future potentials for academic scholars, policymakers, and professionals.

2. Theoretical foundations and literature review

There are certain theories, i.e., social cognitive theory (SCT) and social exchange theory (SET) that support the psychological phenomena within distinct perspectives and domains. Literature witnessed the utilization of SCT in the domain of psychology, communication, and education where individuals' acquisition of knowledge was observed concerning social interaction, media, and personal experiences (Bandura, 2001; Bussey & Bandura, 1999). In addition, experts reported that SCT discusses the issues such as environmental and individual factors concerning to health behavior of an individual (Bussey & Bandura, 1999). In past, many scholars have used SCT to support theoretical frameworks and to provide insights about SCT in various themes and contexts worldwide (Bandura, 1998, 2008; S. L. Wang & Lin, 2007). However, social exchange theory (SET) is another most frequently used theory in the field of psychology that explain the social behavior of an individual because of distinct exchange processes (Cropanzano, Anthony, Daniels, & Hall, 2017; Cropanzano & Mitchell, 2005).

SET is also defined as an open theory in which individuals make different decisions by evaluating the cost and benefits of a particular action (Cropanzano et al., 2017). Over the decades, many researchers have used SET to support the theoretical models to provide insights about SCT in various themes and contexts globally (Ali et al., 2022; Nakonezny & Denton, 2008; Q. Wang, Shi, Zhang, Wang, & Gao, 2022; Welter & Scrimshire, 2021). Another scholar defined the philosophy of SCT as an evaluation between cost and rewards whereby cost represents negative consequences and rewards show positive outcomes (Q. Wang et al., 2022). In the present instant, both theories encourage our research model where we are endeavoring to uncover the influence among different individual perspectives such as entrepreneur psychological capital, employee wellbeing, and how gender may influence relationships.

Entrepreneurship psychological capital (EPC) supports to follow sustainable activities or practices through exploration of the opportunities (Margheritti et al., 2022; Youssef-Morgan & Luthans, 2015). It refers to a capability of an individual which helps to determine the outcomes for psychological capital to enable entrepreneurship. EPC has been acknowledged as a central concern of investigation by experts worldwide (Luthans & Youssef, 2004). Over the past few years, EPC has been discussed by researchers from various perspectives to uncover its significance across the world (Ma, Topolansky Barbe, & Zhang, 2018; Tang, 2020; Welter & Scrimshire, 2021). A study examined the nexuses of entrepreneurship psychological capital with consideration of other variables such as missing capital (Welter & Scrimshire, 2021). A study explored the relationships between entrepreneurial psychological capital concerning new venture performance (Hmieleski & Carr, 2008). Most of the work was carried out in developed economies to ensure the significance of entrepreneurship psychological capital in unlike themes and industries other than the sports sector, worldwide (Hmieleski & Carr, 2008; Tang, 2020; Yousaf, Hanfiah, & Usman, 2015; Youssef-Morgan & Luthans, 2015).

Employee wellbeing (EWb) discusses the matter of an individual's working life based on distinct factors such as safety, quality of life, environment, and rest of employee-related activities to encourage them to work within the organization (Platts et al., 2022; Salem et al., 2022). Several factors can augment employee wellbeing discussed by the researchers, i.e., by identifying stress drivers and considering the different programs for employee health (Iqbal & Piwovar-Sulej, 2022; Salem et al., 2022). Some experts categorized Employee wellbeing into three major categories, i.e., psychological wellbeing, workplace wellbeing, and subjective wellbeing (Page & Vella-Brodrick, 2009). In past, employee wellbeing was investigated by academic researchers in a different domain to reveal the significance of employee wellbeing globally (Hart, 2019; Krekel, Ward, & De Neve, 2019; Page & Vella-Brodrick, 2009; Shuck & Reio Jr, 2014). A study investigated the influence of employee wellbeing with consideration of other variables such as changing working environmental perspectives (Ernst Kossek et al., 2012). A study examined the linkage of employee wellbeing with respect to productivity and firms' performance (Krekel et al., 2019). Most works on employee wellbeing were also conducted in developed nations to confirm the importance of employee wellbeing in various themes across the world (Cheng, Jepsen, & Wang, 2020).

Notably, achieving business performance is an ultimate objective where firms endeavor by adopting certain policies that support achieving the utmost level of profit maximization (Aghazadeh, 2015). Business performance often represents the overall performance of the corporates that are based on various sets, i.e., analytics, management style, employee-related affairs, and managing different stakeholders both internal and external to optimize business performance by working together (Kristal et al., 2010). However, sustainable business performance (SBF) is the firms' capability to meet the expectations of the stakeholders by fulfilling their needs for the long-term periods by productively managing the distinct business operations (Ameer, Chau, Mumtaz, Irfan, & Mumtaz, 2022; Waheed & Zhang, 2022). Over the past decades, sustainable business performance has been discussed by researchers from various perspectives to uncover its predictors, worldwide (Waheed & Zhang, 2022). A study examined the relationships between corporate social responsibility and sustainable performance (Waheed & Zhang, 2022). A study explored the relationships between technological and competitive advantages concerning sustainable business performance (Bakar, Sam, Tahir, Rajiani, & Muslan, 2011; Haseeb, Hussain, Kot, Androniceanu, & Jermsittiparsert, 2019). Most works showed how sustainable business performance could be optimized using distinct strategies and adopting different capabilities. In comparison, this study aims to explore the predictors of sustainable business performance by applying empirical analysis by considerations of certain factors, i.e., entrepreneurship psychological capital, employee wellbeing, and how education may influence the relationships toward business performance. Figure 1 shows the propositions to be explored where subsequently hypotheses formation is presented.

2.1. Hypotheses development

The following hypotheses are proposed to explore the relationships among proposed variables, i.e., entrepreneurship psychological capital, employee wellbeing, education, and sustainable business performance as shown in Figure 1.

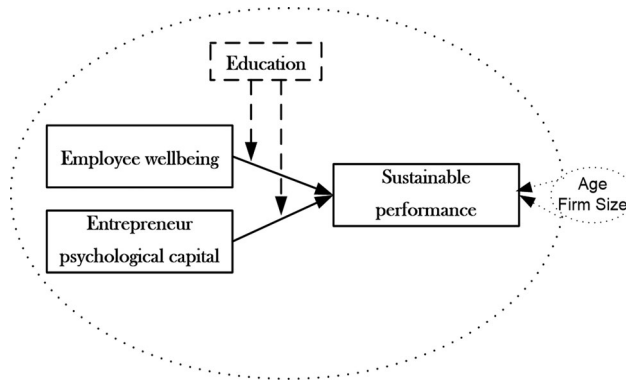


Figure 1. Research model.
Source: own representation.

2.2. Entrepreneurship psychological capital (EPC) and sustainable business performance (SBP)

Psychological capital supports to follow sustainable activities or practices through exploration of the opportunities (Margheritti et al., 2022; Youssef-Morgan & Luthans, 2015). However, entrepreneurship psychological capital (EPC) is the extension of psychological capital appreciation that focus on psychological qualities and resources (Gao, Xu, Tao, Liu, & Wu, 2020; Gong, Chen, & Wang, 2019). A few studies have concluded the positive influence of entrepreneurship psychological capital on organizational performance. For instance, a study revealed a significant influence of entrepreneurship psychological capital on new venture performance (Hmieleski & Carr, 2008). Entrepreneurship psychological capital is a capability that improves the business growth of organizations (Yousaf et al., 2015). A study affirmed the positive connection between entrepreneurship psychological capital and entrepreneurial performance (Ma et al., 2018). It helps the firms to achieve a level of sustainability indistinct manner (Tang, 2020; Wu et al., 2022). It indicates that entrepreneurship psychological capital might be a source of business success that eventually optimizes distinct performances of the business. An entrepreneur can tackle uncertain challenges in the workplace having the capability of critical thinking, communication skills, and the ability to cope with pressure (Gao et al., 2020). Based on above précised discussion, we currently assumed entrepreneurship psychological capital as a predictor of business success in terms of sustainable business performance. Therefore, we proposed the following hypothesis to empirically examine the relationships between entrepreneurship psychological capital and sustainable business performance in the present instant.

H1: Entrepreneurship psychological capital (EPC) has a positive relationship with sustainable business performance (SBP).

2.3. Employee wellbeing (EWb) and SBP

Employee wellbeing discusses the matters concerning to working life of the workforce, including their safety, quality of life, environment, and rest-related activities to encourage them to work within the organization for the long-term (Platts et al., 2022;

Salem et al., 2022). A survey reported that employee wellbeing is an essential indicator to motivate and engage the employees within an organization that eventually improves organizational performance (Krekel et al., 2019). The studies have shown the positive nexus between employee wellbeing practices and organizational performance (Baptiste, 2008; Cotton & Hart, 2003; Hart, 2019). For sustainable performance, organizations need to work on employee wellbeing and environment-friendly practices since studies concluded the positive influence of environment-friendly operations on business performance (Krekel et al., 2019; Waheed, Zhang, Rashid, Tahir, & Zafar, 2020).

In addition, a study confirmed the positive influence of employee wellbeing and organizational performance (Baptiste, 2008). Another study found linkages between employee wellbeing and firm performance (Hart, 2019). It could be a valid source of organizational success where firms may focus on employee wellbeing to encourage them to work within the organizations (Crane, 2017). Both firms and employees together can promote the notion of wellbeing by taking responsibility (Binder et al., 2009). Organizations need to work on employee wellbeing that will improve the motivation of the employee (Deci, Koestner, & Ryan, 2001). Organizations can be more successful if they shape cooperative workplaces taking into consideration of employee interest (Ernst Kossek et al., 2012; Krekel et al., 2019). Based on the précised discussion, we currently assumed employee wellbeing might be a predictor of business sustainable performance within the Chinese sports industry. Therefore, we proposed the following hypothesis to examine the connection between employee wellbeing and sustainable business performance.

H2: Employee wellbeing (EWb) has a positive relationship with sustainable business performance (SBP)

2.4. Moderation among EPC, EWb, and SBP

This study endows with another interesting contribution by revealing the moderating role of education in the relationships of entrepreneurial psychological capital, employee wellbeing, and sustainable business performance. According to several experts, education is a valid predictor that influences the relationships between entrepreneurship and firm performance (Ashraf, Li, Butt, Naz, & Zafar, 2019; Bae, Qian, Miao, & Fiet, 2014; Ganz, 1988). Education of the entrepreneurs has a higher influence on business success (Hou, Su, Qi, Chen, & Tang, 2022). Education is an important factor to determine the relational intensity among the variables (Alam, Wang, & Waheed, 2019). Education as a moderator was treated in various past studies being conducted in different contextualizations and themes across the world (Alam et al., 2019; Ashraf et al., 2019). For instance, a study examined the impact of education in the domain of entrepreneurship (Aminu, 2016). Moreover, experts have considered education as an intervening factor in the studies of employee wellbeing other than Chinese perspectives. People who are more educated can focus better on employee wellbeing practices (Mbaabu, 2013; Shuck & Reio Jr, 2014). Based on above précised discussion, we currently assumed education as a moderating factor among the nexus of entrepreneurship psychological capital, employee wellbeing, and sustainable business performance. With this intention, we proposed the following hypothesis to empirically examine the relationships, as follows.

H3: Education moderates the association between entrepreneurship psychological capital (EPC) and sustainable business performance (SBP)

H4: Education moderates the association between employee wellbeing (EWb) and sustainable business performance (SBP)

3. Methodology

3.1. Sampling procedure and data collection

A convenience sampling method was employed for the aim of data collection using the development of a questionnaire which was considered a suitable approach (Aghazadeh, 2015). It is very challenging to collect data and choose a suitable sampling approach (Md Mizanur Rahman, Tabash, Salamzadeh, Abduli, & Rahaman, 2022). The surveys documents were carefully circulated among eight hundred (800) participants between March to July 2022 by focusing sports industry of China to ensure the relationships in terms of entrepreneur psychological capital, employee well-being, and business sustainable performance during Covid-19 and its applications for post-Covid-19, respectively. We received back seven hundred and ten (710) questionnaires whereby six hundred and fifteen (615) questionnaires were finally found accurate for data analysis. We scrutinized the received questionnaire based on certain criteria such as improper feedback, missing feedback, and carefully screened all the documents before considering for final data analysis.

In addition, we obtained help from colleagues, students, professors, and personally visited the locations to obtain feedback. We also developed an online questionnaire using "SurveyMonkey" and circulated the link through email and mainly through "WeChat" application. Notably, WeChat is a more prominent and highly useable application in mainland of China (Gan & Li, 2018; Liu et al., 2019). Several experts used WeChat for academic data collection over the past decades since we too inspired by such studies (Gan & Li, 2018; Liu et al., 2019; Waheed & Zhang, 2022; Waheed, Zhang, Farrukh, & Khan, 2021). Furthermore, the questionnaire format was divided into two sections such as demographic information of the respondents and statements about core questions about entrepreneur psychological capital, employee well-being, and business sustainable performance. Demographic information was recorded based on nominal and ordinal scales, while the rest of the main inquiry information was recorded utilizing 7-point Likert scales, inspired by past studies where experts used similar methods to obtain information (Ashfaq, Yun, Waheed, Khan, & Farrukh, 2019; Waheed, Zhang, Rashid, & Zaman Khan, 2020). The demographic information of the respondents consists of five factors, i.e., age, education, gender, income, and marital status, as shown in Table 1.

3.2. Pre-testing

It is recommended by the experts to evaluate the validity of scales prior to moving with a higher range of sample size that eventually supports saving cost and time (Sorra et al., 2022). Literature is witnessed where researchers followed a pilot testing approach for validation of scales before collection of data on a larger scale (Ashfaq et al., 2019; Waheed, Zhang, Rashid, Tahir, et al., 2020). Similarly, we currently

Table 1. Participants' demographic information.

Characteristics	Male		Female	
	Freq.	%	Freq.	%
Gender	415	67.48	200	32.52
Marital Status				
Single	105	25.30	055	27.50
Married	295	71.08	135	67.50
Others*	015	03.61	010	05.00
Qualifications:				
Bachelor level	050	12.05	025	12.50
Master/MS level	180	29.27	065	32.50
Doctorate level	105	17.07	060	30.00
Others**	080	13.01	050	25.00
Age				
<20 years	055	13.25	015	07.50
21-25 years	160	26.02	050	25.00
26-30 years	105	17.07	060	30.00
31-35 years	055	08.94	035	17.50
>36 years	040	06.50	040	20.00
Income level				
<5k RMB***	035	8.43	025	12.50
6-8k RMB	050	8.13	030	15.00
9-11k RMB	100	16.26	055	27.50
12-15k RMB year	150	24.39	060	30.00
>15k RMB	080	13.01	030	15.00

N = 615; *status of widow; **rest of professional courses or diploma holder; ***Chinese currency in Renminbi.
Source: own representation.

considered sixty ($n = 60$) participants for this purpose to obtain initial evaluations of the adopted measurements. A method by Podsakoff, MacKenzie, Lee, and Podsakoff (2003) was taken into consideration assuring the reliability (Cronbach's alpha) of the latent factors based on recommended criteria (>0.70). The outcome values of each latent factor stand within the suggested range of Cronbach's alpha such as entrepreneur psychological capital at (0.751), employee well-being at (0.801), and business sustainable performance at (0.798). It confirmed the initial authenticity of the adopted scales and measurements (Podsakoff et al., 2003).

3.2.1. Measurements of scales

In the study, three variables were utilized such as the independent variables (e.g., entrepreneur psychological capital and employee well-being), the dependent variable (e.g., business sustainable performance), and moderating factor (e.g., education of the respondents). Some control factors were also utilized such as firm size and age (see Figure 1). First, scales for entrepreneur psychological capital assessed from a previous study of Hmieleski and Carr (2008) based on 4-items such as Optimism, self-efficacy, Resilience, and Hope. Second, scales for employee wellbeing were adapted from a previous study by Guest (2002) based on 11-items organizational practices in terms of employee wellbeing. Third, scales for sustainable business performance were obtained from the study of (Kordab, Raudeliūnienė, & Meidutė-Kavaliauskienė, 2020) based on 6-items, respectively.

3.2.2. Data analysis techniques

In the present instant, we employed three major software for the aim of data analysis such as SPSS for coding the data, MS-excel for summarizing the data, and SmartPLS for analysis of the data using the approach of structural equation modeling (SEM)

Table 2. Pearson's correlation.

	EPC	OP*	SE*	RS*	HP	EWb	SBP
EPC	1.000						
OP*	0.124	1.000					
SE*	0.234	0.301	1.000				
RS*	0.125	0.198	0.344	1.000			
HP	0.091	0.351	0.235	0.315	1.000		
EWb	0.123	0.223	0.481	0.445	0.241	1.000	
SBP	0.425	0.401	0.354	0.235	0.322	0.334	1.000

Abbreviations: EPC = entrepreneurial psychology capital; OP = Optimism; SE = self-efficacy; RS = Resilience; HP = Hope; EWb = employee wellbeing; SBP = sustainable business performance; *predictors of EPC.
Source: own representation.

and the rest of the supporting methods, as follows. First, the descriptive method was used to calculate the descriptions of participants based on five factors, i.e., age, education, gender, income, and marital status (see Table 1). Second, an analysis of correlation was conducted (see Table 2) to affirm the interrelationships among entrepreneur psychological capital, employee well-being, and business sustainable performance based on recommended criteria by (Brown, 2002; Hair, Hollingsworth, Randolph, & Chong, 2017). Third, convergent validity and reliability were calculated to affirm the validation of latent factors (see Table 3) using three sub-methods, i.e., factor loading and AVEs (convergent validity) as well as reliability (composite reliability), inspired by past studies (Hu & Bentler, 1999). As per the recommendations of the experts, values should be > 0.5 for loading and AVEs, while $>.7$ for composite reliability (Brown, 2002; Fornell & Larcker, 1981; Hair et al., 2017; Hu & Bentler, 1999). Fourth, discriminant validity is another tool that supports understanding the validity of the constructs based on differentiation (Zait & Berteau, 2011). According to (Zait & Berteau, 2011), discriminant validity could be calculated by comparing the square roots of AVEs and inter-correlations (see Table 4).

Finally, SEM was used for path values among proposed relationships (see Table 5). However, statistical experts have suggested certain recommendations for SEM model fitness such as NFI and SRMR (Hu & Bentler, 1999). It is suggested that values of NFI should be ($>.9$) and SRMR should be (<0.08). The current fitness values stood as per the suggested criteria such as NFI at .912 and SRMR at 0.0564, respectively (Hu & Bentler, 1999). The values of SRMR and NFI are accurate and therefore we can accept the values for SEM model based on these fitness indices. Furthermore, four major propositions need to be investigated based on the following equations. First, the relationships between entrepreneurial psychology capital (EPC) and employee wellbeing (EWb) were determined independently and directly toward business sustainable performance (BSP) using the following equations (1-2). Second, moderating the nexus of edu. (education) variable was explored between EPC \rightarrow SBP and EWb \rightarrow SBP using the following equations (3-4).

$$BSP^{(\text{Business Sustainable Performance})} = \gamma_1 EPC^{(\text{Entrepreneurial Psychology Capital})} + \zeta_1 \quad (1)$$

$$BSP^{(\text{Business Sustainable Performance})} = \gamma_1 EWb^{(\text{Employee Wellbeing})} + \zeta_1 \quad (2)$$

$$BSP^{(\text{Business Sustainable Performance})} = \gamma_1 EPC^{(\text{Entrepreneurial Psychology Capital})} + \gamma_2 EPC * \text{edu.}^{(\text{education})} + \zeta_1 \quad (3)$$

Table 3. Scales reliability and convergent validity.

Items	Mean	SD	Loadings	AVEs	CR
Entrepreneurial Psychology Capital (EPC)				0.641	0.811
EPC-1	3.451	1.240	0.645		
EPC-2	3.145	1.024	0.634		
EPC-3	4.015	1.541	0.598		
EPC-4	3.254	0.951	0.644		
EPC-5	3.224	1.142	0.710		
EPC-6	4.025	0.861	0.632		
EPC-7	3.421	1.240	0.598		
EPC-8	3.374	1.454	0.634		
EPC-9	3.640	1.369	0.636		
EPC-10	4.045	1.028	0.688		
Employee Wellbeing (EWb)				0.631	0.810
EWb-1	3.245	1.242	0.658		
EWb-2	3.120	1.221	0.565		
EWb-3	3.336	1.641	0.636		
EWb-4	3.048	1.024	0.648		
EWb-5	3.984	1.364	0.554		
EWb-6	4.154	1.441	0.756		
EWb-7	4.125	1.239	0.639		
EWb-8	3.648	1.098	0.598		
EWb-9	3.223	1.420	0.675		
EWb-10	3.481	0.984	0.756		
Sustainable Business Performance (SBP)				0.621	0.745
SBP-1	3.245	1.235	0.693		
SBP-2	4.015	1.235	0.701		
SBP-3	3.235	1.329	0.636		
SBP-4	3.654	1.086	0.586		
SBP-5	3.235	1.341	0.663		
SBP-6	3.951	1.325	0.768		

All the items having loadings and AVEs < 0.05 were eliminated; SD = deviation values; CR = composite reliability values; AVE = Average variance extracted.

Source: own representation.

Table 4. Discriminant validation process (Fornell and Larcker).

	EPC	OP*	SE*	RS*	HP	EWb	SBP
EPC	0.800						
OP*	0.235	0.781					
SE*	0.344	0.421	0.841				
RS*	0.421	0.358	0.541	0.741			
HP	0.364	0.450	0.264	0.358	0.842		
EWb	0.347	0.235	0.641	0.204	0.239	0.794	
SBP	0.421	0.452	0.223	0.654	0.332	0.354	0.788

Abbreviations: EPC = entrepreneurial psychology capital; OP = Optimism; SE = self-efficacy; RS = Resilience; HP = Hope; EWb = employee wellbeing; SBP = sustainable business performance; *predictors of EPC.

Source: own representation.

Table 5. Summary of hypothesized relationships.

Hypotheses	Directions	ED	DE	MD	SE	Sig.	Decision
H1	EPC→SBP	±	0.324	–	0.0124	0.000	Supported
H2	EWb→SBP	±	0.329	–	0.0234	0.000	Supported
H3	EPC × Edu.→SBP		–	0.154	0.0317	0.001	Supported
H4	EWb × Edu.→SBP	±	–	0.234	0.0842	0.000	Supported
	Firm size→SBP*		NS				
	Age→SBP*		NS				–

Significance 0.05; SE = Standard error.

EPC = entrepreneurial psychology capital; EWb = employee wellbeing; SBP = sustainable business performance; *predictors of EPC; Edu = education; ED = expected direction; DE = direct effect; MD = moderating; NS = not significant; *control variables.

Source: own representation.

$$\text{BSP}^{\text{(Business Sustainable Performance)}} = \gamma_1 \text{EWb}^{\text{(Employee Wellbeing)}} + \gamma_2 \text{EWb} * \text{edu.}^{\text{(education)}} + \zeta_1 \quad (4)$$

Where BSP is a dependent factor, EPC and EWb are the independent factors, and education was utilized as moderating factor among EPC, EWb, and SBP. In these equations, γ is an unidentified parameter whereas ζ shows the term of error.

4. Results

Analysis of correlation (Pearson correlation) was carried out to calculate the interrelationships between independent variables (e.g., entrepreneur psychological capital and employee well-being) as well as the dependent variable (e.g., business sustainable performance). It is suggested by statisticians, the higher positive values toward a positive direction (+1) infer a greater connection between two variables, while lower positive values toward a negative direction (-1) show a lower or negative connection between two variables (Brown, 2002; Hair et al., 2017), as shown in Table 2.

4.1. Reliability and convergent validity

Table 3 shows the reliability and validity of the latent variables to affirm the validation of factors using three sub-methods, i.e., convergent validity (factor loading and AVEs) as well as reliability (composite reliability), inspired by past studies (Hu & Bentler, 1999). As per the recommendations of the experts, values should be > 0.5 for loadings and AVEs, while $>.7$ for composite reliability (Brown, 2002; Fornell & Larcker, 1981; Hair et al., 2017; Hu & Bentler, 1999).

4.2. Validity of discrimination

Analysis of discriminant validity was utilized to determine the degree of differentiation among the main latent variables (Fornell & Larcker, 1981; Zaiř & Berteau, 2011), as presented in Table 4 below. It could be assessed by comparing interrelationships of the variables with $\sqrt{\text{AVEs}}$ for each factor such as entrepreneur psychological capital, employee well-being, and business sustainable performance. It is recommended that outcome values of $\sqrt{\text{AVEs}}$ must $>$ than subsequent relationship values to confirm such validity (Hu & Bentler, 1999; Zaiř & Berteau, 2011).

4.2.1. Common method biased

Another analysis of common methods used to authenticate the biasness within adopted scales such as entrepreneurial psychology capital, employee wellbeing, and sustainable business performance. A common method might be calculated by comparing values of loadings (with CLF and without CLF) as per the recommendations of the experts (Podsakoff et al., 2003). The outcomes values for the common method after assessing the employed techniques (CLF) should be less than 0.02 (Podsakoff et al., 2003). The present values stand within the suggested criteria by the experts (<0.02) such as EPC at 0.001, EWB at 0.012, and SBP at 0.009, respectively.

Therefore, we observed no issues in the dataset with respect to the common method. Our technique to explore a common method for the dataset is consistent with the previous studies of the scholars where the researcher employed a similar method for such assurance (Ashfaq et al., 2019; Waheed, Zhang, Rashid, & Zaman Khan, 2020).

4.3. SEM-structure equation modeling

SEM was used for path values among proposed relationships (see Table 5). However, statistical experts have suggested certain recommendations for SEM model fitness such as NFI and SRMR (Hu & Bentler, 1999). The values of NFI should be (>.9) and SRMR should be (<0.8). The current fitness outcomes for NFI stood at .912 and SRMR at 0.0564 which supports SEM model by following recommended criteria (Hu & Bentler, 1999). Moreover, SEM was utilized using SmartPLS where findings revealed the positive connections among key variables of the study such as entrepreneurial psychology capital, employee wellbeing, and sustainable business performance based on beta values (β) for each path using direct relationships and moderating relationships of education among latent factor at 0.05 level of significance. The following Table 5 and Figure 2 indicate the directions of the relationships among entrepreneurial psychology capital, employee wellbeing, and sustainable business performance.

5. Discussion and implications

Four propositions were carried out to uphold the empirical nexus among latent factors, i.e., entrepreneurial psychology capital, employee wellbeing, and sustainable business performance from the Chinese sports industry, as shown in Figure 2.

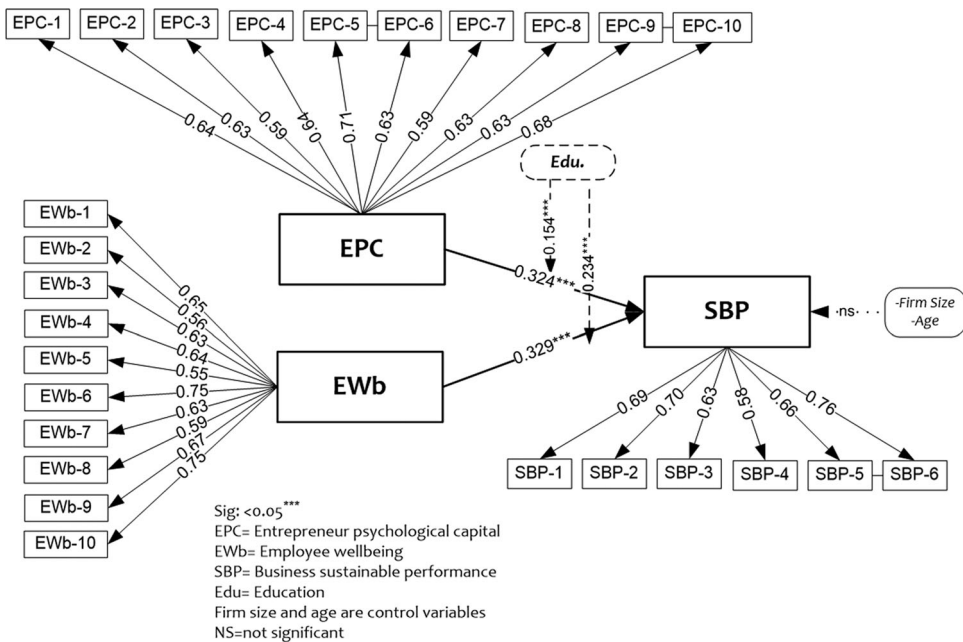


Figure 2. Structural paths model.
 Source: own representation.

First, it was propositioned in hypothesis one (H1) that there is a positive association between EPC and SBP. The results have established the connection (EPC→SBP) using SEM with outcomes values at ($\beta = 0.324^{***}$; Sig = 0.000). Therefore, H1 is accepted owing to a positive direction of the results in the present instant. Our findings are quite consistent with previous related studies whereby academic scholars, world researchers, and practitioners advocated the essentiality of entrepreneurship and entrepreneurial capital concerning different contexts and themes across the globe (Hmieleski & Carr, 2008; Pease & Cunningham, 2016; Tang, 2020; Welter & Scrimshire, 2021; Yousaf et al., 2015; Youssef-Morgan & Luthans, 2015; Yu & Liu, 2021).

Second, it was propositioned in hypothesis two (H2) that there is a positive correlation between EWb and SBP. The results have established the linkage (EPC→SBP) through SEM utilization at ($\beta = 0.329^{***}$; Sig = 0.000). Therefore, H2 is accepted because of the positive direction of the results. The present findings are consistent with previous related studies whereby academic scholars and practitioners claimed an important role EWb in terms of various contexts and themes other than the sports industry and the Chinese market, worldwide (Cotton & Hart, 2003; Guest, 2002; Hart, 2019; Jain, Giga, & Cooper, 2009; Ernst Kossek et al., 2012; Krekel et al., 2019). Third, it was proposed in hypothesis three (H3) that there is a positive moderation correlation of education between EPC and SBP. The results confirmed the significant connection (EPC × Edu.→SBP) at ($\beta = 0.151^{***}$; Sig = 0.001). Therefore, H3 is accepted because of its significant influence. The present findings are consistent with previous related studies whereby academic scholars claimed an important role of education as an intervening factor concerning numerous contexts other than the sports industry and the Chinese market, worldwide. Finally, it is assumed in hypothesis four (H4) that there is a significant moderation of education between EWb and SBP. The results confirmed the significant connection (EWb × Edu.→SBP) at ($\beta = 0.234^{***}$; Sig = 0.000). Therefore, H4 is supported because of its significant influence. The findings are consistent with past studies in which researchers have shown an intense value of education as an intervening cause within distinct contexts globally (Aminu, 2016; Ashraf et al., 2019; Bae et al., 2014; Hou et al., 2022; Y. Li, Sha, Lv, Wu, & Liu, 2022; Mu, Shi, Ma, & Tan, 2020; Wei, Liu, & Sha, 2019). Finally, two major variables were utilized as control factors such as age and firm size. The outcomes confirmed an insignificant connection of these factors at any stage. Therefore, age and firm size both factors were dropped because of weaker significance in the present instant.

6. Implications

Our study endows with several interesting and abundant contributions both managerial and theoretical for the concerned body. From a theoretical perspective, our study adds to the literature on entrepreneurial psychology capital (EPC), employee well-being (EWb), and sustainable business performance (SBP) with additional empirical confirmation from the Chinese sports industry. From a managerial viewpoint, organizations should grasp the insights into EPC and EWb to augment SBP as well as to win over the market players in the present era of the vicious contest. It is worth

mentioning to realize the importance of entrepreneurs that eventually support the economic growth of a nation. Entrepreneurship can stimulate existing and new employees which helps to augment the economic development of a country like China. It is one of the core capabilities of the organizations to achieve a sustainability level to survive in the competitive era, especially during uncertain challenges such as Covid-19 or the challenges that could be encountered post-covid era. During both conditions, an entrepreneur could play an essential role as a key pillar of economic growth for any industry such as the sports industry as currently uncovered the nexus among EPC, EWb, and SBP. Likewise, EPC enables the firms to embark on sustainable practices by considering entire opportunities that may support achieving such a level SBP.

However, employee wellbeing (EWb) is another capability that organizations take into account to satisfy the employees. Employee satisfaction is key to success for any organization which could be achieved by working on employee wellbeing practices. Since Covid-19 has raised issues regarding employment and several firms terminated their employees because of this uncertain challenge. Therefore, sustaining the employees during such kind of a hard time is a prime role of entrepreneurial and entrepreneurial psychology capital to support sustainable business performance. Organizations must invest in employee wellbeing to accelerate resilience, employee's commitment, and minimize the risk of employee absence owing to sickness to ensure maximum productivity, particularly during Covid-19 and post-covid time. Because employee wellbeing is a major predictor of the health environment for the organizations. It is observed that establishing a cooperative, healthy, and favorable working environment may enhance the level of employee wellbeing and eventually support to optimize sustainable business performance.

Hence, to overcome the Covid-19 challenges and to be sustainable during the post-covid era, managers are suggested to fully incorporate entrepreneurial capabilities (i.e., optimism, self-efficacy, resilience, and hope) as well as employee wellbeing capabilities to survive in the market by achieving sustainable performance. In addition, managers are encouraged to consider the level of education as we found a significant moderation of this factor among the relationships of entrepreneurial psychology capital, employee wellbeing, and sustainable business performance, respectively. During the era of Covid-19, the concerned management are advised to ensure the employee has a holistic or healthy working environment where they feel secure and comfortable. It is direly needed for employee motivation and engagement toward a particular firm. Similarly, organizations should assure the employee that the organization can overcome such unprecedented challenges in the future or post covid-19 era to acquire sustainable relationships and SBP. Additionally, it found that education might be an influencing factor that boosts the relational intensity between entrepreneurial psychology capital and sustainable business performance. Likewise, findings uncovered significant results by showing a positive moderating relationship between employee wellbeing and sustainable business performance. Besides, there are certain shortcomings of this study in terms of sampling, sample size, and geographical contextualization along with several interesting potentials for future scholars.

6.1. Limitations and future work

Although the present study furnishes numerous valuable and interesting ramifications for the management by showing insights into entrepreneurship psychological capital and employee wellbeing in terms of sustainable performance from the perspective of the Chinese sports industry. However, this study bears certain confines that could be deemed by experts, academic scholars, and professionals in future inquiries with consideration of the sports industry within the Chinese market or across the globe other than the sports sector as well. It helps to validate the current relationships of the adopted variables with additional empirical studies from both developing and developed countries. Since the current study has considered a sample size from limited Chinese regions whereas more sample size might be acknowledged in future studies to validate the findings on a larger scale. This study particularly focused on the sports industry within the Chinese market to affirm the nexus between entrepreneurship psychological capital and employee wellbeing in terms of sustainable performance. Nevertheless, more industrial sectors from China or the global market could be taken for future work showing analysis on a larger platform to promote the notion of entrepreneurship psychological capital and employee wellbeing. Another drawback of this study to consider only a single moderating factor and entirely ignored the role of mediation among target variables. Therefore, the study could be equipped with additional intervening factors both mediation and moderation to affirm the relational strength among entrepreneurship psychological capital, employee wellbeing, and sustainable performance.

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Disclosure statement

No potential conflict of interest was reported by the authors.

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