Exploring the impact of serious leisure on well-being and self-perceived employability: The mediating role of career adaptability among Chinese undergraduates

Abstract

Purpose: This study aims to explore the impact of engaging in serious leisure (SL) on the well-being (WB) and self-perceived employability (PE) of university students while also considering the role of career adaptability (CA) as a mediator.

Design/methodology/approach: A total of 905 domestic undergraduate students from China completed an online survey.

Findings: The findings reveal that participation in SL positively influences WB and PE. Additionally, the results indicate that CA mediates the SL-WB relationship but not the SL-PE relationship.

Originality: The theoretical contribution of this research comes from advancing our understanding of sustainable career theory through empirical testing of SL, PE, and CA on WB outcomes within a higher education setting. The practical implications of this study involve providing universities with strategies to support domestic Chinese undergraduate students in enhancing their WB and PE through active engagement in SL pursuits and the development of CA. Moreover, our findings serve as a foundation for future research investigating whether insights gained from domestic Chinese undergraduate students can provide solutions on a global scale to address the persistent challenges of improving student WB and PE.

Keywords: career adaptability; career development; higher education; self-perceived employability; serious leisure; sustainable career; well-being.

Article Classification: Research Paper   **Word Count**: 6,970

Introduction

Universities worldwide face two interrelated challenges regarding their student populations (Belle *et al.*, 2022; Bennett, 2019; Choi *et al.*, 2023; Donald *et al.*, 2024; Kee, 2021). The first revolves around student well-being (WB), which refers to their overall assessment of life quality and positive emotions (Diener *et al.*, 1985). The COVID-19 pandemic has exacerbated pre-existing issues with student WB, leading to its recognition as a global priority (Donald and Jackson, 2022; Xiong *et al.*, 2020). The second challenge pertains to students' self-perceived employability (PE), defined as 'the individual's perception of his or her possibilities of obtaining and maintaining employment' (Vanhercke *et al.*, 2014, p. 594). PE is considered a significant psychological resource for career sustainability, enabling a person to navigate a variety of contexts over time (Donald *et al.*, 2020; Nimmi *et al.*, 2022). However, increasing levels of participation in higher education have shown graduate unemployment or underemployment to be a global issue (Orsmond *et al.*, 2022; Small *et al.*, 2022).

China, as a context for this research, has witnessed a significant increase in the number of university graduates, reaching a record 11.58 million in 2023, driven by higher education expansion since 1998 (Chan and Zhang, 2021; Mok and Jiang, 2018; Xu and Ma, 2023). In recent years, factors such as shifting economic structures, geopolitical conflicts, and global chance events like the pandemic have brought WB and PE issues to the forefront (Brown *et al.*, 2021; Mok, 2022). Although international students' perspectives in China and Chinese graduates abroad have

received attention (e.g., Singh and Kaur, 2023; Tang and Jiang, 2023), the viewpoints of domestic students in China remain underrepresented in the higher education literature. Understanding the views of domestic students in China is timely, given the substantial number of graduates entering the labour market and China's growing prominence globally. Moreover, facilitating a smooth transition from university to work is essential for national competitiveness and individual WB across all counties (Mok, 2022).

An emerging area of interest revolves around the role of serious leisure (SL) in enhancing WB and PE among university graduates (Nimmi and Donald, 2023; Nimmi *et al.*, 2023). SL is defined as

> the systematic pursuit of an amateur, hobbyist, or volunteer activity that participants find so substantial and interesting that, in the typical case, they launch themselves on a career centred on acquiring and expressing its special skills, knowledge and experience (Stebbin, 1992, p. 3).

Engaging in leisure activities has been recognised as beneficial to WB (Clifford *et al.*, 2022). Unlike casual leisure, SL entails lifelong dedication, self-actualisation, and resource accumulation (Mansourian, 2021; Stebbins, 1992, 1997, 2006a), offering opportunities for personal growth and adaptability, influencing WB and PE outcomes throughout one's life (Chen, 2014; Donald and Nimmi, 2023; Mansourian, 2021; Stebbins, 2006b).

Adaptability and resource accumulation can lead to career adaptability (CA), defined as '*a psychosocial construct that denotes an individual's resources for coping with current and anticipated tasks, transitions, traumas in their occupational roles'*

(Savickas and Porfeli, 2012, p. 662). Recent research has shown the mediating role of CA in the relationship between perceived organisational support and career exploration among Chinese undergraduates (Ma *et al.*, 2023). However, the potential mediating role of CA in the relationship between SL-WB and SL-PE remains unexplored.

This research aims to explore the impact of engaging in SL on the WB and PE of university students while considering the mediation role of CA. The relationships between SL and workplace WB (Nimmi and Donald, 2023) and SL-PE (Nimmi *et al.*, 2023) have been evidenced in Indian graduates. Additionally, the SL-WB relationship has previously been evidenced in China (Liu and Yu, 2015). However, it remains to be seen if the SL-WB (rather than the SL and workplace WB) relationship or the SL-PE relationship is replicated in undergraduates in China and if CA acts as a mediator. Consequently, we collected data from 905 domestic Chinese undergraduates concerning their SL, CA, PE, and WB.

The theoretical contribution of this research comes from advancing our understanding of sustainable career theory through empirical testing of SL, PE, and CA on WB outcomes within a higher education setting. The study's practical implications include providing strategies for universities to enhance WB and PE in domestic Chinese undergraduates through SL engagement and CA development. Furthermore, the findings lay the groundwork for global research to address the persistent challenges of improving student WB and PE using insights from domestic Chinese undergraduates concerning SL and CA.

Theoretical Framework

The theoretical framework for this study is Sustainable Career Theory (SCT; De Vos *et al.*, 2020; Van der Heijden and De Vos, 2015; Van der Heijden *et al.*, 2020). The SCT captures three dimensions of person, context, and time (De Vos *et al.*, 2020) and three indicators of health, happiness, and productivity (Van der Heijden, 2005; Van der Heijden and De Vos, 2015). SCT is a suitable framework for our current study for several reasons. First, it responds to recent calls by Akkermans *et al.* (2024) to use the framework in studies looking at graduate employability. Second, career development is viewed as an ongoing process of CA. Experiences within the context of a university and through participation in SL provide students with opportunities to explore career options, whereby time at university can be an antecedent to a sustainable career (De Vos *et al.*, 2020). Third, we respond to calls for empirical research to bridge the higher education and career development literature streams (Healy *et al.*, 2022). Fourth, the focus on WB in our study aligns with the health and happiness indicators of career sustainability (Van der Heijden, 2005; Van der Heijden and De Vos, 2015). Fifth, the focus on CA and PE offers empirical testing of the proposed link in a conceptual paper focusing on the career sustainability of graduates (see Donald *et al.*, 2020).

Literature Review and Hypotheses Development

Serious Leisure (SL), Well-Being (WB), and Self-Perceived Employability (PE)

Previous research suggests that engaging in leisure activities can enhance WB (an indicator of career sustainability) by facilitating social connections among students

(Mansfield *et al.*, 2020). The association between social capital and WB has also been evidenced in Chinese international graduates working in Australia (Tang and Jiang, 2023). Furthermore, participation in sports clubs, societies, and volunteering can enhance PE by increasing cultural capital as a form of employability capital in university students (Donald *et al.*, 2024).

However, research exploring the impact of SL on WB and PE in university students remains embryonic. Recent empirical interest has tended to focus on university graduates in India. For instance, Nimmi and Donald (2023) found a positive association between SL and workplace WB based on a sample of 225 graduates in India. Additionally, Nimmi *et al.* (2023) found a positive association between SL and PE in a sample of 228 marketing graduates in India. In our current study, we consider the *person* (undergraduates), *context* (participating in SL in universities in China), and *time* (specific point in time) dimensions of a sustainable career. Therefore, our particular interest is in WB rather than specifically workplace WB (per Nimmi and Donald, 2023; Nimmi *et al.*, 2023). Nevertheless, based on the limited empirical studies to date, we propose the following hypotheses:

H1: SL is positively associated with WB.

H2: SL is positively associated with PE.

Serious Leisure (SL) and Career Adaptability (CA)

De Vos and colleagues (2020) propose that time spent at university can be viewed as a crucial exploration period for shaping long-term career sustainability. During the context of their university journey, students can cultivate social and cultural capital,

which empowers them by facilitating the creation of professional networks and boosting their confidence (Donald *et al.*, 2024; Mansfield *et al.*, 2020; Pham, 2023). For instance, a study of 505 management students in India found that social capital was the strongest predictor of graduates' perceived employability and investment in psychological capital increases self-perceived employability (Agnihotri *et al.*, 2023).

SL offers more significant advantages than conventional casual leisure activities as it involves active engagement in new situations and sustained commitment (Stebbins, 2006a) while also having the potential to develop new networks and boost one's hope, self-efficacy, resilience, and optimism (Nimmi *et al.*, 2022; Stebbins, 2006a). Based on the ability of SL to provide a person with exposure and the need to adapt to a wider variety of contexts than would otherwise be experienced during one's time at university (representing the three dimensions of a sustainable career per De Vos *et al.*, 2020), we propose:

H3: SL is positively associated with CA.

Career Adaptability (CA), Well-being (WB), and Self-Perceived Employability (PE)

CA plays a crucial role in transitioning from university to the labour market as it involves adapting to changing situations (Monteiro *et al.*, 2019). CA is developed through a series of destabilisation cycles, enabling individuals to integrate into their work roles successfully. These could take the form of career shocks, such as those experienced during the COVID-19 pandemic, that were unforeseen and unplanned, with the potential to be positive or negative in nature (Akkermans *et al.*, 2020). To prepare for the university-to-work transition and to navigate uncertain and volatile

work environments, students can acquire CA resources such as curiosity, a sense of control, and confidence in their abilities, which have been linked to enhanced WB and PE in graduates in India (Nimmi *et al.*, 2022).

From the perspective of university students and graduates, research indicates that CA can enhance WB and PE. Studies have shown that CA is associated with career maturity, a sense of meaning, and WB among Turkish university students (Buyukgoze-Kavas *et al.*, 2015). Additionally, CA can enable students to reflect on their passions, which has been linked to greater life satisfaction and WB among young adults (Akkermans *et al.*, 2018), evidencing the health and happiness indicators of career sustainability (De Vos *et al.*, 2020).

Conceptual work focusing on sustainable careers of graduates by Donald *et al.* (2020) proposed how CA via career ownership can enhance PE, while a systematic literature review on employability capital suggested a positive association between CA and PE in various university student studies (Donald *et al.*, 2024).

Consequently, we propose the same CA-WB and CA-PE relationships for university students in China, leading to the following hypotheses:

H4: CA is positively associated with WB.

H5: CA is positively associated with PE.

The Mediation Role of Career Adaptability (CA)

Previous studies have highlighted the importance of individual agency and contextual factors in establishing sustainable careers (De Vos and Van der Heijden, 2017) and its indicators, including WB (De Vos *et al.*, 2020) and PE (Nimmi and Donald, 2023). It

seems reasonable to suggest that SL (via exposure to additional contexts), through the psychosocial resource of CA (representing individual agency), will lead to increased WB and PE. Therefore, based on literature that underpinned the development of H1-H5, we propose that:

H6: CA mediates the positive association between SL and PE.

H7: CA mediates the positive association between SL and WB.

Conceptual Model

Figure 1 shows the proposed conceptual model.

<center>INSERT FIGURE 1 HERE</center>

Method

Participants and Procedure

The participants for this study were domestic undergraduates currently studying at a university in Northwest China specialising in science and technology. Ethics approval was obtained from the Institutional Review Board (ERGO: 7834). The data were collected in January 2023 via an online survey. Criterion sampling was followed, where participants had to be (a) domestic undergraduates, (b) currently specialising in a science- or technology-related degree, and (c) studying at a specific university in Northwest China. University career counsellors emailed the survey to all students who met all three of the above criteria. Participation was voluntary, and informed consent was provided before completing the survey. The principal author, adept in Mandarin and English, translated the survey from English to Mandarin. Students completed the survey in Mandarin, and their responses were then translated back to English for

analysis.

A total of 905 students completed the questionnaire with a mean age of 19.51 (SD 1.695). Of the 905 participants, 592 identified as men (65.4%) and 313 as women (34.6%), while 255 (28.2%) hail from urban areas and 650 (71.8%) from rural areas. The sample was representative of the target population of the study. With regards to year of study, 503 (55.6%) were first-year students, 139 (15.4%) were second-year students, 80 (8.8%) were third-year students, and 183 (20.2%) were fourth-year students. With regards to degree major, 603 (66.6%) were enrolled in engineering-related subjects (e.g., civil engineering, materials engineering, and environmental engineering), 218 (24.1%) were studying scientific subjects (e.g., mathematics and physics), whilst 84 (9.3%) were enrolled in humanities and social science degrees.

Measures

Serious Leisure (SL) was measured using an 18-item scale adapted from Gould *et al.* (2011), which was based on the Serious Leisure Inventory and Measure (SLIM) by Gould *et al.* (2008). A sample item was '*I overcome difficulties in my hobby by being persistent.*' The scale utilized a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Cronbach's α was 0.971.

Career Adaptability (CA) was assessed utilising a 16-item scale adapted from Savickas and Porfeli's (2012) Career Adaptability Scale. This scale encompasses four factors that reflect students' adaptability resources: concern, control, curiosity, and confidence. The sample items of these four dimensions are '*preparing for the future*'

(concern), '*counting on myself*' (control), '*looking for opportunities to grow as a person*' (curiosity) and '*learning new skills*' (confidence). This scale used a seven-point Likert scale, ranging from 1 (do not agree at all) to 7 (very strongly agree). Cronbach's α was 0.980.

Well-being (WB) was assessed utilising a 5-item scale derived from the World Health Organization (WHO) Five Well-Being Index (1998). A sample item is '*Over the last month, I have felt active and vigorous*'. The scale uses a six-point Likert scale ranging from 0 (at no time) to 5 (all the time). Cronbach's α was 0.959.

Self-Perceived Employability (PE) was evaluated through 5 items taken from a Self-Perceived Employability scale by Berntson and Marklund (2007). The scale utilises a five-point Likert scale ranging from 1 (do not agree at all) to 5 (agree entirely). A sample item is '*My competence is sought-after in the labour market.*' Cronbach's α for this scale was 0.936.

Strategy of Analysis

IBM SPSS 26.0 and AMOS v24 were used for data analysis. Structural Equation Modelling (SEM) was employed to perform the analysis, as SEM facilitates the in-depth examination of intricate interconnections between observed variables and latent variables. We used Covariance-Based Structured Equation Modelling (CB-SEM) rather than Partial Least Squares Structural Equation Modelling (PLS-SEM) because our study explicitly tests theory, and CB-SEM is considered more appropriate for theory testing (Byrne, 2001). This is because, compared to CB-SEM, the variance-based technique relaxes some research assumptions in PLS-SEM without

imposing distributional assumptions on the data (Hair *et al.*, 2019). Thus, CB-SEM was preferred for analysis.

Results and Analysis

Descriptive Statistics

Table I shows the means, standard deviations, and correlations for the variables under study.

INSERT TABLE I HERE

Assessment of Measurement Model

The study data were generated for a single source of self-reported survey data. Thus, we needed to check for common method bias (Podsakoff *et al.*, 2003). We used Harman's single-factor test as an exploratory assessment. The factor extraction results revealed an extracted total variance of 44.65%, showing the absence of common method bias.

We utilised a CB-SEM technique employing maximum likelihood estimation using AMOS v24 to test the proposed hypotheses and IBM-SPSS for initial data exploration. Before hypothesis testing, our analytical process assessed the measurement model's reliability (Cronbach's alpha, composite reliability), validity (convergent and discriminant), common method bias, and the structural model. Descriptive statistics and validity test outcomes are presented in Table II.

INSERT TABLE II HERE

The criteria for item reliability were satisfied if factor loadings exceeded .70 (Hair *et*

al., 2019). Both Cronbach's α and composite reliability (CR) were employed to assess internal consistency reliability, with benchmark values of .80 and .70, respectively (Hair *et al.*, 2019). Convergent validity was ascertained through the average variance extracted (AVE), which needed to be at least .50 to be deemed acceptable (Hair *et al.*, 2019). Lastly, discriminant validity was gauged via the Heterotrait-monotrait ratio (HTMT) within the multitrait-multimethod matrix, and it was considered valid if the HTMT value remained beneath the HTMT0.90 value of .90 (Hair *et al.*, 2019).

In our data, all the factor loadings except *SL15* and *SL17* are above .70, showing that the item reliability was met. We did not delete either *SL15* or *SL17*, for Hair *et al.* (2019) suggested that items like these could be preserved if Cronbach's α of the construct reaches satisfactory. The internal consistency reliability measured with Cronbach's α and CR is satisfactory, all above the recommended values (per Table II). AVE was above .50, indicating that the standards for convergent validity were met. Additionally, the maximum HTMT value is .704 (Table III), much less than .90, showing that the discriminant validity met the requirements. These results collectively demonstrate adequate construct reliability and internal consistency.

<center>INSERT TABLE III HERE</center>

To evaluate the measurement model and determine the correspondence between the hypothetical models and the sample data, confirmatory factor analysis (CFA) was conducted. The overall fit was assessed using established criteria from the literature, including the CMIN/DF ($\chi2$/df) ratio, root mean square error of approximation (RMSEA), standardised root mean square residual (SRMR), comparative fit index

(CFI), and Tucker-Lewis coefficient (TLI). Typically, good model fit is indicated by $\chi^2/df \le 2$ (Byrne, 2001), RMSEA ≤ .06, SRMR ≤ .08 (Hu & Bentler, 1999), and CFI > .90 (Hair et al., 2019). The estimated fit indices satisfied the specified cutoff criteria, indicating that the measurement model performed effectively in the study. The results, $\chi^2/df = 4.83$, RMSEA = .065, CFI = .947, TLI = .941, indicated a strong fit with the data and significant relationships. Our model fit indices were excellent: $\chi^2/df = 4.89$, RMSEA = .060, CFI = .931, TLI = .921, indicating a strong match with the data.

Hypothesis Testing

Direct Effect

Path coefficients and t-values evaluated the structural model. Path coefficients showed the significance and directions of the relations proposed in the model. Bootstrapping was employed to evaluate the path's significance (Hair *et al.*, 2019). Table IV summarises the results of the direct significance test.

INSERT TABLE IV HERE

The results show that SL positively and significantly predicts WB (β=.304), PE (β=.648) and CA (β=.910). Therefore, H1-H3 are supported.

The results also showed that CA positively and significantly predicts WB (β=.294), but PE's positive prediction was non-significant (β=0.052ns). Therefore, H4 is supported by H5 is rejected.

Mediation Analysis

A 95% confidence interval was produced through bootstrapping to scrutinise the

mediation effects of CA on SL-WB (H6) and SL-PE (H7). As per the literature, indirect effects can be established if the confidence interval does not encompass zero (MacKinnon *et al.*, 2004). Table V shows the results, including the original sample, the t-statistics and 95% bias-corrected confidence intervals.

INSERT TABLE V HERE

The findings illustrated that CA failed to mediate the relationship between SL and PE, with zero in the 95% confidence intervals. Thus, H6 is rejected. The findings also show that CA mediated the relations between SL and WB without zero included in the 95% confidence intervals. Therefore, H7 is supported.

Discussion

Our study examined the impact of engaging in SL on the WB and PE among university students, focusing on the mediating role of CA. Consistent with previous research on Chinese students (Liu and Yu, 2015) and Indian graduates (Nimmi and Donald, 2023), we found a positive association between SL and WB, supporting H1. Furthermore, in line with Nimmi and Donald (2023), we found a positive association between SL and PE, supporting H2. These findings align with Stebbins' (1992; 2006a; 2006b) perspective that engaging in SL can lead to the accumulation of resources, ultimately enhancing WB and PE.

Our study supported H3, indicating a positive association between SL and CA. This aligns with previous research highlighting the influence of SL on the development of personality traits (Savickas, 2005) and the importance of the

university period as a crucial exploration opportunity for shaping long-term career sustainability (De Vos *et al.*, 2020). Our findings are consistent with other studies demonstrating that fostering networks can enhance confidence and CA (e.g., Mansfield *et al.*, 2020; Pham, 2023).

Our study also supported H4, indicating a positive association between CA and WB. This aligns with previous research highlighting the link between high levels of psychosocial resources and WB (Konstam *et al.*, 2015; Maggiori *et al.*, 2013). However, H5 was rejected since the positive association between CA and PE was not significant. This was surprising given the positive association found in previous studies (e.g., Monteiro *et al.*, 2019; Tavitiyaman *et al.*, 2023). However, given our focus on the perceptions of employability (PE), the following reasons may be applicable.

Firstly, *cultural influences* in collectivist societies like China prioritise social and family expectations over individual adaptability (Liu, 2016). Secondly, *labour market conditions*, including high unemployment and underemployment rates (Chan and Zhang, 2021; Mok and Jiang, 2018; Xu and Ma, 2023), might impact perceptions of employability (PE), limiting the translation of CA into PE. Furthermore, factors such as shifting economic structures, geopolitical conflicts, and chance events like the pandemic acknowledge the contextual dimension of sustainable careers (De Vos *et al.*, 2020) with the impact to influence perceptions of employability (PE).

Regarding the mediating role of CA, our study confirms H7 by showing that CA mediates the SL-WB relationship, consistent with prior research (Buyukgoze-Kavas *et*

al., 2015). However, we find no support for H6 as CA does not mediate the SL-PE relationship. We propose two potential reasons for this outcome.

Firstly, a *skill set mismatch* may exist between the skills developed through SL activities and the skills demanded by employers, which could explain why CA does not mediate the SL-PE relationship (Savickas and Porfeli, 2012). However, if SL enhances resources such as flexibility and resilience, that might explain why CA mediates the SL-WB relationship. Secondly, *employability perceptions* acknowledge that PE is influenced not only by CA but also by external job market conditions and opportunities (Ma and Bennett, 2021). This indicates the importance of contextual factors beyond an individual's agency in shaping PE (Donald *et al.*, 2024).

The suggested reasons for the outcomes are somewhat speculative. Additional research is needed to determine the specific factors at play and identify any other influences. However, investigating these factors is beyond the scope of this study.

Theoretical and Practical Implications

Our research addresses the need to integrate the higher education and career development literature, which has historically developed independently despite shared themes such as PE and WB (Healy *et al.*, 2022). We also provide insights into the views of domestic Chinese undergraduates, who are an underrepresented group in the higher education and career development literature. Additionally, we respond to calls for empirically testing sustainable career theory (Van der Heijden and De Vos, 2015) in the context of graduate employability (Akkermans *et al.*, 2024). Our focus on the determinants of WB aligns with the health and happiness indicators of career

sustainability (per Van der Heijden, 2005), while focus on CA and PE offers empirical testing of the proposed links in an earlier conceptual paper (Donald et al., 2020).

Furthermore, we contribute to understanding SL among higher education students (Liu and Yu, 2015) and graduates (Donald and Nimmi, 2023; Nimmi and Donald, 2023; Nimmi *et al.*, 2023). We achieve this by recognising CA as a psychosocial resource that mediates the SL-WB relationship. By positioning SL as an antecedent of CA, we integrate personal and social support antecedents (Al Khemeiri *et al.*, 2005; Hui *et al.*, 2018) since SL can embody both factors (Liu and Yu, 2015; Stebbins, 2006a). Additionally, previous studies have focused on how work-integrated learning opportunities can enhance students' PE (e.g. Hughes *et al.*, 2023; Jackson and Dean, 2022) through experiential learning (Kolb, 2015). Our findings emphasise the need for a more holistic approach to learning, embracing lifewide learning opportunities (Cole and Donald, 2022) and highlighting the potential significance of non-traditional forms of learning and development on WB and PE outcomes.

Career advisors must clearly distinguish between SL activities and CL pursuits, such as attending concerts, napping, or watching television series (Stebbins, 1997). Students may engage in various forms of SL during their university studies, encompassing sports team participation, hobbies via student or local societies, and volunteering endeavours (Stebbins, 1992). This differentiation is crucial in addressing the contemporary challenges faced by students globally, particularly concerning WB and PE

Encouragement to participate in SL enables educational institutions to play "a

strategic role in developing networks and connections that provide students with valuable information, supports and a sense of belonging" (Bye *et al.*, 2020, p. 898). This takes on an increased focus when preparing students for sustainable careers following the reduced opportunities for SL and developing networks and connections during the pandemic-related restrictions (Donald and Mouratidou, 2022). Efforts to mitigate barriers to SL access, including time constraints (by embedding SL into the curriculum) and financial burdens (through providing funding for SL-related activities and equipment), can significantly enhance CA and social mobility (Donnelly *et al.*, 2019). Additionally, universities should consider offering courses that enable students to explore and deepen their SL interests, establish dedicated spaces for SL engagement, and recognise SL as a meaningful form of learning and development.

Finally, employers and government bodies can benefit from acknowledging the significance of encouraging individuals to participate in SL activities, which enhance CA, WB, and PE. Employers can augment their recruitment strategies by emphasising evidence of SL engagement among candidates and actively supporting continued SL opportunities for their workforce. This necessitates a societal shift towards integrating leisure pursuits with professional endeavours. Recognising the value of SL activities promotes a more holistic understanding of PE and career development, fostering a resilient, healthy, and adaptable workforce. In recognition of these considerations, national governments should invest in initiatives that facilitate opportunities for citizens to engage in diverse forms of SL. Such investment contributes to career sustainability indicators, such as health, happiness, and productivity, and stimulates

national economic growth.

Limitations and Future Research

Our study has several limitations in common with other published studies: (i) data were collected via a single method of questionnaires, (ii) participants self-reported their perceptions, and (iii) participants came from a single university in China.

Future research should consider comparing findings across different countries to examine the influence of cultural and contextual factors on outcomes. It would be valuable to explore if different types of SL yield varying benefits and if these benefits are affected by factors such as gender or year of study. Longitudinal studies could provide insights into the temporal aspects of sustainable careers (De Vos *et al.*, 2020). Qualitative studies could deepen our understanding of the complex interactions between SL, CA, WB, and PE. Finally, investigating additional mediators and moderators in the relationship between SL-WB and SL-PE could be interesting.

Conclusion

This study examined the impact of SL on the WB and PE of university students while also considering the mediating role of CA. Results indicated that SL positively influences WB and PE. Moreover, CA mediates the SL-WB relationship but not the SL-PE relationship. The theoretical contribution comes from advancing our understanding of sustainable career theory through empirical testing of SL, PE, and CA on WB outcomes within the context of higher education. The study also offers practical implications for Chinese universities to enhance WB and PE through SL and

CA development, with potential global applicability.

References

Agnihotri, S., Shiva, A. and Khan. F.N. (2023), "Investigating the forms of graduate capital and their relationship to perceived employability: An application of PLS predict and IPMA", *Higher Education, Skills and Work-Based Learning*, Vol. 13 No. 1, pp. 179-197. https://doi.org/10.1108/HESWBL-07-2022-0146

Akkermans, J., Donald, W.E., Jackson, D. and Forrier, A. (2024), "Are we talking about the same thing? The case for stronger connections between graduate and worker employability research", *Career Development International*, Vol. 29 No. 1, pp. 80-92. https://doi.org/10.1108/CDI-08-2023-0278

Akkermans, J., Paradniké, K., Van der Heijden, B.I.J.M. and De Vos, A. (2018), "The best of both worlds: The role of career adaptability and career competencies in students' well-being and performance", *Frontiers in Psychology,* Vol. 9, 1678. https://doi.org/10.3389/fpsyg.2018.01678

Akkermans, J., Richardson, J. and Kraimer, M.L. (2020), "The COVID-19 crisis as a career shock: Implications for careers and vocational behavior", *Journal of Vocational Behavior*, Vol. 119, 103434. https://doi.org/10.1016/j.jvb.2020.103434

Al Khemeiri, A.K., Khalid, K. and Musa, N. (2021), "The role of career competencies and proactive personality in early-career employee career adaptability", *European Journal of Training and Development,* Vol. 45 No. 4/5, pp. 285-300. https://doi.org/10.1108/EJTD-05-2020-0081

Belle, M.A., Antwi, C.O., Ntim, S.Y., Affum-Osei, E. and Ren, J. (2022), "Am I gonna get a job? Graduating students' psychological capital, coping styles, and employment anxiety", *Journal of Career Development,* Vol. 49 No. 5, pp. 1122-1136. https://doi.org/10.1177/08948453211020124

Bennett, D. (2019), "Graduate employability and higher education: Past, present and future", *HERDSA Review of Higher Education,* Vol. 5, pp. 31-61.

Berntson, E. and Marklund, S. (2007), "The relationship between perceived employability and subsequent health", *Work & Stress*, Vol. 21 No. 3, pp. 270-292. https://doi.org/10.1080/02678370701659215

Brown, P., Sadik, S. and Xu, J. (2021), "Higher education, graduate talent and the prospects for social mobility in China's innovation nation", *International Journal of Educational Research,* Vol. 109, 101841. https://doi.org/10.1016/j.ijer.2021.101841

Buyukgoze-Kavas, A., Duffy, R.D. and Douglass, R.P. (2015), "Exploring links between career adaptability, work volition, and well-being among Turkish students", *Journal of Vocational Behavior,* Vol. 90, pp. 122-131. https://doi.org/10.1016/j.jvb.2015.08.006

Bye, L-A., Muller, F. and Oprescu, F. (2020), "The impact of social capital on student wellbeing and university life satisfaction: a semester-long repeated measures study", *Higher Education Research & Development*, Vol. 39 No. 5, pp. 898-912. https://doi.org/10.1080/07294360.2019.1705253

Byrne, B.M. (2001), *Structural Equation Modeling with AMOS: Basic Concepts, Applications, and Programming*. Lawrence Erlbaum Associates Publishers.

Chan, W.K. and Zhang, J.Y. (2021), "Can university qualification promote social mobility? A review of higher education expansion and graduate employment in China", *International Journal of Educational Development,* Vol. 84, 102423. https://doi.org/10.1016/j.ijedudev.2021.102423

Chen, K.-Y. (2014), "The relationship between serious leisure characteristics and subjective well-being of older adult volunteers: The moderating effect of spousal support", *Social Indicators Research,* Vol. 119 No. 1, pp. 197-210. https://doi.org/10.1007/s11205-013-0496-3

Choi, T., Palermo, C., Sarkar, M., Whitton, J., Rees, C. and Clemans, A. (2023),

    "Priority setting in higher education research using a mixed methods

    approach", *Higher Education Research & Development*, Vol. 42 No. 4,

    pp. 816-830. https://doi.org/10.1080/07294360.2022.2082389

Clifford, C., Paulk, E., Lin, Q., Cadwallader, J., Lubbers, K. and Frazier, L. (2022),

    "Relationships among adult playfulness, stress, and coping during the

    COVID-19 pandemic", *Current Psychology*, pp. 1-10.

    https://doi.org/10.1007/s12144-022-02870-0

Cole, D. and Donald, W.E. (2023), "Shifting the narrative. Towards a more holistic

    approach to learning", *GiLE Journal of Skills Development*, Vol 2. No. 1,

    pp. 3-4. https://doi.org/10.52398/gjsd.2022.v2.i1.pp3-4

De Vos, A. and Van der Heijden, B.I.J.M. (2017), "Current thinking on contemporary

    careers: the key roles of sustainable HRM and sustainability of careers",

    Current Opinion in Environmental Sustainability, Vol. 28, pp. 41-50.

De Vos, A., Van der Heijden, B.I.J.M. and Akkermans, J. (2020), "Sustainable careers:

    Towards a conceptual model", *Journal of Vocational Behavior,* Vol. 117,

    103196. https://doi.org/10.1016/j.jvb.2018.06.011

Diener, E., Emmons, R.A., Larsen, R.J. and Griffin, S. (1985), "The satisfaction with

    life scale", *Journal of Personality Assessment,* Vol. 49 No. 1, pp. 71-75.

    https://doi.org/10.1207/s15327752jpa4901_13

Donald, W.E., Baruch, Y. and Ashleigh, M.J. (2024), "Construction and

operationalisation of an Employability Capital Growth Model (ECGM) via a

systematic literature review (2016–2022)", *Studies in Higher Education*, Vol.

49 No. 1, pp. 1-15. https://doi.org/10.1080/03075079.2023.2219270

Donald, W.E., Baruch, Y. and Ashleigh, M.J. (2020), "Striving for sustainable

graduate careers: Conceptualization via career ecosystems and the new

psychological contract", *Career Development International*, Vol. 25 No. 2, pp.

90-110. https://doi.org/10.1108/cdi-03-2019-0079

Donald, W.E. and Jackson, D. (2022), "Subjective wellbeing among university

students and recent graduates: Evidence from the United Kingdom",

International Journal of Environmental Research and Public Health, Vol. 19

No. 11, 6911. https://doi.org/10.3390/ijerph19116911

Donald, W.E. and Mouratidou, M. (2022), "Preparing for a sustainable career:

Challenges and opportunities", *GiLE Journal of Skills Development*, Vol. 2

No. 2, pp. 3-5. https://doi.10.52398/gjsd.2022.v2.i2.pp3-5

Donald, W.E. and Nimmi, P. M. (2023), "How Seriously Do You Take Your Leisure?",

GiLE Journal of Skills Development, Vol 3 No. 1, pp. 7-9.

https://doi.org/10.52398/gjsd.2023.v3.i1.pp7-9

Donnelly, M., Lažetić, P., Sandoval-Hernandez, A., Kumar, K. and Whewall. *An

Unequal Playing Field: Extra-Curricular Activities, Soft Skills and Social

Mobility*. Social Mobility Commission. https://www.gov.uk/government/

publications/extra-curricular-activities-soft-skills-and-social-mobility

Gould, J., Moore, D., Karlin, N.J., Gaede, D.B., Walker, J. and Dotterweich, A.R. (2011), "Measuring serious leisure in Chess: Model confirmation and method bias", *Leisure Sciences*, Vol. 33 No. 4, pp. 332-340. https://doi.org/10.1080/01490400.2011.583165

Gould, J., Moore, D., McGuire, F. and Stebbins, R.A. (2008), "Development of the Serious Leisure Inventory and Measure", *Journal of Leisure Studies*, Vol. 40 No. 1, pp. 47-68. https://doi.org/10.1080/00222216.2008.11950132

Hair, J.F., Risher, J.J., Sarstedt, M. and Ringle, C.M. (2019), "When to use and how to report the results of PLS-SEM", *European Business Review,* Vol. 31 No. 1, pp. 2-24. https://doi.org/10.1108/EBR-11-2018-0203

Healy, M., Hammer, S. and McIlveen, P. (2022), "Mapping graduate employability and career development in higher education research: A citation network analysis", *Studies in Higher Education*, Vol. 47 No. 4, pp. 799-811. https://doi.org/10.1080/03075079.2020.1804851

Hu, L.T. and Bentler, P.M. (1999), "Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives", *Structural Equation Modeling*, Vol. 6, No. 1, pp.1-55.

Hughes, H.P.N., Mouratidou, M. and Donald, W.E. (2023), "Exploring the impact of an industrial placement year on students' competency development: A three-cohort, longitudinal study", *Higher Education, Skills and Work-Based Learning*. Vol. 13 No. 6, pp. 329-348. https://doi.org/10.1108/HESWBL-02-2023-0044

Hui, T., Yuen, M. and Chen, G. (2018), "Career adaptability, self-esteem, and social

    support among Hong Kong University students", *The Career Development*

    Quarterly, Vol. 66 No. 2, pp. 94-106. https://doi.org/10.1002/cdq.12118

Jackson, D. and Dean, B.A. (2023), "The contribution of different types of

    work-integrated learning to graduate employability", *Higher Education*

    Research & Development, Vol. 42 No. 1, pp. 93-110.

    https://doi.org/10.1080/07294360.2022.2048638

Kee, C.E. (2021), "The impact of COVID-19: Graduate students' emotional and

    psychological experiences", *Journal of Human Behavior in the Social*

    Environment, Vol. 31 No. 1-4, pp. 476-488.

    https://doi.org/10.1080/10911359.2020.1855285

Kolb, D.A. (2015), *Experiential Learning: Experience as the Source of Learning and*

    Development, Pearson Education, Upper Saddle River: NJ.

Konstam, V., Celen-Demirtas, S., Tomek, S. and Sweeney, K. (2015), "Career

    adaptability and subjective well-being in unemployed emerging adults: A

    promising and cautionary tale", *Journal of Career Development,* Vol. 42 No. 6,

    pp. 463-477. https://doi.org/10.1177/0894845315575151

Liu, D. (2016), "Parental involvement and university graduate employment in China",

    Journal of Education and Work, Vol. 29 No. 1, pp. 98-113.

    https://doi.org/10.1080/13639080.2015.1049029

Liu, H. and Yu, B. (2015), "Serious leisure, leisure satisfaction and subjective well-being of Chinese university students", *Social Indicators Research,* Vol. 122 No. 1, pp. 159-174. https://doi.org/10.1007/s11205-014-0687-6

Ma, Y. and Bennett, D. (2021), "The Relationship between Higher Education Students' Perceived Employability, Academic Engagement and Stress among Students in China", *Education + Training,* Vol. 63 No. 5, pp. 744-762. https://doi.org/10.1108/ET-07-2020-0219

Ma, Y., Bennett, D. and Chen, S-C. (2023), "Perceived organisational support and university students' career exploration: The mediating role of career adaptability", *Higher Education Research & Development*, Vol. 42 No. 4, pp. 903-919. https://doi.org/10.1080/07294360.2022.2115983

MacKinnon, D.P., Lockwood, C.M. and Williams, J. (2004), "Confidence limits for the indirect effect: Distribution of the product and resampling methods", *Multivariate Behavioral Research,* Vol. 39 No. 1, pp. 99-128. https://doi.org/10.1207/s15327906mbr3901_4

Maggiori, C., Johnston, C.S., Krings, F., Massoudi, K. and Rossier, J. (2013), "The role of career adaptability and work conditions on general and professional well-being", *Journal of Vocational Behavior,* Vol. 83 No. 3, pp. 437-449. https://doi.org/10.1016/j.jvb.2013.07.001

Mansfield, L., Daykin, N. and Kay, T. (2020), "Leisure and wellbeing", *Leisure Studies,* Vol. 39 No. 1, pp. 1-10. https://doi.org/10.1080/02614367.2020.1713195

Mansourian, Y. (2021), "Information activities in serious leisure as a catalyst for

self-actualisation and social engagement", *Journal of Documentation,*

Vol. 77 No. 4, pp. 887-905. https://doi.org/10.1108/JD-08-2020-0134

Mok, K.H. (2022), *Globalizing China–Social and Governance Reforms*, Taylor &

Francis, Milton Park, Oxfordshire.

Mok, K.H. and Jiang, J. (2018), "Massification of higher education and challenges for

graduate employment and social mobility: East Asian experiences and

sociological reflections", *International Journal of Educational Development,*

Vol. 63, pp. 44-51. https://doi.org/10.1016/j.ijedudev.2017.02.003

Monteiro, S., Taveira, M. C. and Almeida, L. (2019), "Career adaptability and

university-to-work transition: Effects on graduates' employment status",

Education+Training, Vol. 61 No. 9, pp. 1187-1199.

https://doi.org/10.1108/ET-10-2018-0206

Nimmi, P.M. and Donald, W.E. (2023), "Modelling the interaction between serious

leisure, self-perceived employability, stress, and workplace well-being:

empirical insights from graduates in India", *Personnel Review,* Vol. 52 No. 1,

pp. 272-287. https://doi.org/10.1108/PR-04-2021-0305

Nimmi, P.M., Joseph, G. and Donald, W.E. (2022), "Is it all about perception? A

sustainability viewpoint on psychological capital and life well-being of

management graduates", *Higher Education, Skills and Work-based Learning,*

Vol. 12 No. 2, pp. 384-398. https://doi.org/10.1108/HESWBL-01-2021-0004

Nimmi, P.M., Krishna, A. and Donald, W.E. (2023), "Enabling educators to foster creativity and perceived employability: The role of serious leisure", Christiansen, B. and Even, A.M. (Eds.), *Examining Applied Multicultural Industrial and Organizational Psychology*, IGI Global, Pennsylvania, pp. 235-254. https://doi.org/10.4018/978-1-6684-7212-5.ch012

Orsmond, P., Merry, S. and Reiling, K. (2022), "Interconnected learning between university and the workplace: a socio-cultural perspective of graduate employability in the UK", *Oxford Review of Education,* Vol. 48 No. 3, pp. 303-319. https://doi.org/10.1080/03054985.2021.1978961

Pham, T. (2023), "What really contributes to employability of PhD graduates in uncertain labour markets?", *Globalisation, Societies and Education*, Vol. (ahead-of-print) No. (ahead-of-print). https://doi.org/10.1080/14767724.2023.2192908

Podsakoff, P.M., MacKenzie, S.B., Lee, J.-Y. and Podsakoff, N.P. (2003), "Common method biases in behavioral research: A critical review of the literature and recommended remedies", *Journal of Applied Psychology,* Vol. 88 No. 5, 879. https://doi.org/10.1037/0021-9010.88.5.879

Savickas, M.L. (2005), "The Theory and Practice of Career Construction", Brown, S.D. and Lent, R.W. (Eds.), *Career Development and Counseling: Putting Theory and Research to Work*, John Wiley & Sons inc., Hoboken, pp. 42-70.

Savickas, M.L. and Porfeli, E.J. (2012), "Career Adapt-Abilities Scale: Construction, reliability, and measurement equivalence across 13 countries", *Journal of Vocational Behavior,* Vol. 80 No. 3, pp. 661-673. https://doi.org/10.1016/j.jvb.2012.01.011

Singh, J.KN. and Kaur, A. (2023), "Is teaching and learning in Chinese higher education classrooms internationalized? Perspectives from international students in China", *Higher Education Research & Development*, Vol. 42 No. 5, pp. 1283-1297. https://doi.org/10.1080/07294360.2023.2197196

Small, L., McPhail, R. and Shaw, A. (2023), "Graduate employability: the higher education landscape in Australia", *Higher Education Research & Development,* Vol. 41, No. 3, pp. 919-933. https://doi.org/10.1080/07294360.2021.1877623

Stebbins, R.A. (1992). *Amateurs, Professionals, and Serious Leisure*, McGill-Queen's University Press, Montreal, QC.

Stebbins, R.A. (1997), "Casual leisure: a conceptual statement", *Leisure Studies,* Vol. 16 No. 1, pp. 17-25. https://doi.org/10.1080/026143697375485

Stebbins, R.A. (2006a), "*The serious leisure perspective and positive psychology"*, Paper presented at the 3rd European Conference on Positive Psychology, Braga, Portugal.

Stebbins, R.A. (2006b), "Serious leisure and well-being", Haworth, J.T. (Ed.), *Work, Leisure and Well-Being*, Routledge, Milton Park, Oxfordshire, pp. 129-142.

Tang, M. and Jiang, W. (2023), "Chinese international graduates in the Australian

labor market: Employability capitals and wellbeing", Donald, W.E. (Ed.),

Handbook of Research on Sustainable Career Ecosystems for University

Students and Graduates, IGI Global, Pennsylvania, pp. 214-237.

https://doi.org/10.4018/978-1-6684-7442-6.ch012

Tavitiyaman, P., Tsui, B. and Ng, P.M.L. (2023), "Effect of Hospitality and Tourism

Students' Perceived Skills on Career Adaptability and Perceived

Employability", *Journal of Hospitality & Tourism Education*,

Vol. (ahead-of-print) No. (ahead-of-print).

https://doi.org/10.1080/10963758.2023.2200003

Van der Heijden, B.I.J.M. (2005), *No one has ever promised you a rose garden: On*

shared responsibility and employability enhancing strategies throughout

careers. Heerlen, Open University of the Netherlands/Assen.

Van der Heijden, B.I.J.M. and De Vos, A. (2015), "Sustainable careers: Introductory

chapter", De Vos, A. and Van der Heijden, B.I.J.M. (Eds.), *Handbook of*

Research on Sustainable Careers, Edward Elgar Publishing, Cheltenham,

pp. 1-19

Van der Heijden, B.I. J. M., De Vos, A., Akkermans, J., Spurk, D. Semeijn, J., Van der

Velde, M. and Fugate M. (2020), "Sustainable careers across the lifespan:

Moving the field forward", *Journal of Vocational Behavior*, Vol. 117, 103344.

https://doi.org/10.1016/j.jvb.2019.103344

Vanhercke, D., De Cuyper, N., Peeters, E. and De Witte, H. (2014), "Defining perceived employability: a psychological approach", *Personnel Review,* Vol. 43 No. 4, pp. 592-605. https://doi.org/10.1108/pr-07-2012-0110

World Health Organization. (1998). *The World Health Organisation-Five Well-being Index (WHO-5)*. https://www.corc.uk.net/outcome-experience-measures/the-world-health-organisation-five-well-being-index-who-5/

Xiong, J., Lipsitz, O., Nasri, F., Lui, L.M.W., Gill, H., Phan, L., Chen-Li, D., Lacobucci, M., Ho, R., Majeed, A. and McIntyre, R.S. (2020), "Impact of the COVID-19 pandemic on mental health in the general population: A systematic review", *Journal of Affective Disorders*, Vol. 277, pp. 55-64. https://doi.org/10.1016/j.jad.2020.08.001

Xu, C. L. and Ma, Y. (2023), "Geography-mediated institutionalised cultural capital: regional inequalities in graduate employment", *Journal of Education and Work*, Vol. 36 No. 1, pp. 22-36. https://doi.org/10.1080/13639080.2022.2162018

Table I: Descriptive Statistics

	SL	CA	WB	PE	Mean	SD
SL	1				3.89	0.76
CA	0.679*	1			5.47	1.08
WB	0.498*	0.504*	1		4.15	1.19
PE	0.707*	0.500*	0.501*	1	3.36	0.95

Note: SL = Serious Leisure; CA = Career Adaptability; WB = Well-Being;
PE = Self-Perceived Employability. * Correlation is significant at the 0.01 level (two-tailed).

Table II: Reliability and AVE of the Measured Model

	CR	AVE	MSV	MaxR(H)	1	2	3	4
1. SL	0.971	0.674	0.477	0.972	**0.821**			
2. WB	0.959	0.825	0.265	0.963	0.502***	**0.908**		
3. PE	0.933	0.737	0.466	0.941	0.682***	0.515***	**0.859**	
4. CA	0.979	0.744	0.477	0.981	0.691***	0.504***	0.498***	**0.863**

Note: ***p-value < 0.001

Table III: Discriminant Validity – HTMT Matrix

	CA	PE	SL	WB
CA	1			
PE	.522	1		
SL	.704	.701	1	
WB	.519	.527	.519	1

Note: CA = Career Adaptability; PE = Self-Perceived Employability; SL = Serious Leisure;
WB = Well-Being.

Table IV: Summary of Hypotheses Tests

| Hypotheses			Path coefficients	Supported
H1	SL	→ WB	.304[*]	Yes
H2	SL	→ PE	.648[*]	Yes
H3	SL	→ CA	.691[*]	Yes
H4	CA	→ WB	.294[*]	Yes
H5	CA	→ PE	.052(ns)	No

Note 1: SL = Serious Leisure; WB = Well-Being; PE = Self-Perceived Employability; CA = Career Adaptability. Note 2: *p-value < 0.001

Table V: Mediation Test

	Original sample	T value	95% Bias corrected Confidence Intervals	Supported
H6 SL → CA→PE	.03ns	1.397	[-.02, .08]	No
H7 SL → CA→WB	.32*	6.592	[.23,.42]	Yes

Note 1: SL = Serious Leisure; ; CA = Career Adaptability; PE = Self-Perceived Employability; WB = Well-Being;. Note 2: *p-value < 0.001 Note 3: Number of bootstrap samples = 10,000

Figure 1.
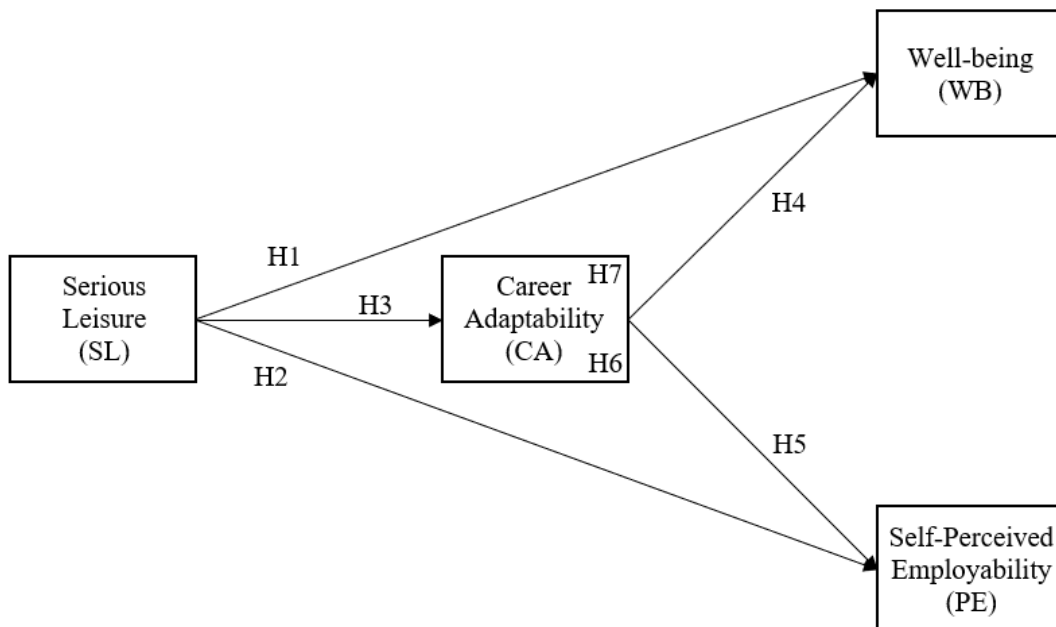
Caption: Figure 1 shows the proposed conceptual model for undergraduates in China.