REVIEW ARTICLE

Well-being sciences in China: Contributions, critiques, and future prospects

Zixie Zheng[1], Xinyu Zhu[2], Yumeng Sun[3], Kaiping Peng[4], Xiaomeng Hu[3,*]

[1]College of Education, University of Washington, Seattle, WA 98195, United States
[2]University of Melbourne, Melbourne School of Psychological Science, Melbourne VIC 3010, Australia
[3]Department of Psychology, Renmin University of China, Beijing 100872, China
[4]Department of Psychological and Cognitive Sciences, Tsinghua University, Beijing 100084, China

ABSTRACT

Since the positive psychology movements spread across the globe, numerous highly influential theories, research and applications emerge for the past several decades. China is undergoing large-scale modernization and social change, the rapidly evolving socio-economic landscape of China presents both opportunities and challenges for wellbeing research. As the country continues to undergo significant transformations, such as Chinese modernization, technological advancement, and demographic shifts, it is crucial to examine how these social changes impact the well-being of individuals and communities. Our current work synthesizes recent cutting-edge research on Wellbeing in Chinese cultural contexts. Future research should prioritize the development and evaluation of evidence-based interventions that can be implemented in culturally diverse Chinese contexts, such as schools, workplaces, and communities. It is our hope that our current work can provide a brief overview and the state of the art and future exciting directions for well-being research in China and across the globe.

Key words: positive psychology, Chinese cultural contexts, well-being research, social transformation, evidence-based interventions

INTRODUCTION

Over the past two decades, the field of well-being sciences has advanced significantly, driven by Western and Chinese research. Foundational theories such as Maslow's "Theory of Human Motivation" (Maslow, 1943) and Martin Seligman's positive psychology movement (Seligman *et al.*, 2004) have deepened our understanding of human happiness and psychological well-being. Central to this field is the distinction between hedonic well-being, focusing on pleasure attainment, and eudaimonic well-being, which concerns virtues and self-realization (Lucas, 2007; Ryan & Deci, 2001). These concepts have been explored through frameworks like Seligman's PERMA model (Seligman, 2018) and the Subjective Well-Being (SWB) Scale (Diener, 1984). The unique cultural context of China enriches the global discourse, providing critical insights into how cultural factors influence happiness and well-being. This review synthesizes major contributions, implications, critiques, and future prospects of well-being sciences in China. It explores key areas such as the impacts of economic growth, social inequality, positive education, creativity, aesthetic appreciation, growth mindset, and artificial intelligence (AI) on well-being. It also discusses societal and policy implications, highlighting strengths and limitations of current research and suggesting future directions. This analysis underscores the contributions

***Corresponding Author:**
Xiaomeng Hu, Department of Psychology, Renmin University of China, 59 Zhongguancun Street, Haidian District, Beijing 100872, China. Email: xiaomenghu@ruc.edu.cn; https://orcid.org/0000-0003-0177-1993
Received: 3 June 2024; Revised: 8 August 2024; Accepted: 27 August 2024
https://doi.org/10.54844/wsr.2024.0622

of Chinese scholars to global well-being science and charts a promising course for future research.

ADVANCES IN WELL-BEING SCIENCE IN CHINA

Economic growth and its impacts on well-being

The well-being of the Chinese populace has shown a growing trend over the past several decades, clearly evidenced by the results of numerous large-scale surveys (Helliwell *et al.*, 2024; Institute for China Sustaintable, 2021; Ipsos, 2023). Notably, the Ipsos Global Happiness Index (2023) reveals that an impressive 91% of Chinese respondents describe themselves as "very or quite happy," placing China at the forefront globally. However, this optimistic self-assessment contrasts sharply with the United Nations' Ranking of Well-being 2021-2023 (2024), which ranks China 60th worldwide. This discrepancy highlights diverse methodologies and the complexity of well-being. In order to better understand this complexity, the following sections will examine the macro factors that affect happiness and well-being, including economic development, social inequality, and cultural change.

Since the 1980s, China's significant economic growth has had a complex impact on well-being, particularly in discussions surrounding the Easterlin Paradox, which suggests that increased income does not necessarily lead to increased well-being. Easterlin and colleagues analyzed large-scale survey data from China between 1990 and 2010, finding that the relationship between SWB and socioeconomic status (SES) in China followed a U-shaped trajectory similar to that of central and Eastern European transition countries, with a decline in well-being from the 1990s to 2005, followed by a rise (Easterlin *et al.*, 2012; Easterlin & Sawangfa, 2010). Li & Raine (2014) confirmed this U-shape with surveys from 1990 to 2010. Easterlin *et al.* (2017) extended this analysis to 2015. Zhao et al. (2019) analyzed 2016 microblog data, showing that the relationship between well-being and GDP per capita and population size formed inverted U-shaped curves. Specifically, in poorer cities, levels of well-being increase as GDP per capita increases. Zeng *et al.* (2023) constructed an index of psychological stress (IPS) for major Chinese cities from 2011 to 2021, discovering that housing prices and commuting time are significant predictors of IPS. This suggests that the Easterlin Paradox in China may be explained by the rising IPS associated with higher living expenses during urbanization.

However, other studies have shown results inconsistent with the U-shaped swing and nil or declining trend. For example, research based on the Chinese General Social Survey (CGSS) found that the well-being of Chinese people exhibited a linear rising trend from 2003 to 2015 (Li, 2018; Liu & Wang, 2020). The People's Well-being Index Research Report released by Tsinghua University in 2021 also indicated that although the impact of economic growth on well-being has weakened since 2006, the overall increase in well-being and the trend of economic growth are consistent. Moreover, some meta-analyses have similarly presented conclusions that contradict the Easterlin Paradox. The latest study using national survey data (1990-2018) and cross-temporal meta-analysis (2001-2019) revealed a significant U-shaped trend and upward trend in the well-being of Chinese people from 1990 to 2018. Additionally, Granger causality analysis identified economic growth as a cause of the increase in well-being in China, indicating that since 1990, and particularly since 2001, economic growth has indeed improved the well-being of Chinese people (Cai *et al.*, 2023). Similar findings appear in the cross-temporal meta-analysis by Xing & Hu (2022), which showed that the well-being of Chinese residents generally trended upward during the study period.

This comprehensive examination of the relationship between economic growth and well-being in China reveals a nuanced narrative that both confirms and challenges the Easterlin Paradox. Despite earlier trends indicating periods of stagnation, more recent studies suggest a more optimistic outlook. In other words, Chinese people's well-being declined in the 1990s, and began to recover after 2000.

While economic growth has had varied impacts on well-being across different regions and income groups, it is crucial to examine how these economic disparities translate into social inequality and its psychological effects on happiness and well-being.

Social inequality on well-being

According to the United Nations 2024 report, global happiness inequality has increased by over 20% in the past decade, and China faces similar challenges, with significant gaps in happiness between different regions and age groups. Happiness levels in eastern regions have risen more than in central and western areas due to regional economic and social imbalances (Institute for China Sustaintable, 2021). Income inequality, as a key factor in happiness inequality, is especially pronounced in China, where the Gini coefficient remains high, with urban-rural and regional disparities being the main reasons (Xie & Zhou, 2014). There is an inverted U-shaped relationship between income inequality and happiness, where moderate inequality can promote happiness, but excessive levels are detrimental (Wang *et al.*, 2015).

Empirical studies show that income inequality's impact on well-being is influenced by various socio-psychological factors. Neighbourhood trust is an important pathway to mitigate inequality's negative effects on happiness (Jiang *et al.*, 2012; Zhang & Awaworyi Churchill, 2020). Additionally, a sense of hope positively modulates the relationship between income inequality and happiness in rural areas (Cheung, 2016). These findings suggest policymakers should focus on fostering social trust and psychological support, alongside economic indicators, to reduce inequality and enhance the well-being of all Chinese citizens. Future research should explore the interaction mechanisms between inequality, mental health, happiness, and well-being, and assess the effectiveness of policy interventions to promote comprehensive social development.

Confucianism and Daoism in the pursuit of well-being

As we consider the impact of inequality on well-being, it becomes apparent that cultural values and philosophical underpinnings play a significant role in how individuals manage their emotions and perceptions of happiness and well-being. Theoretical contributions to the study of happiness and well-being in China are profoundly influenced by cultural philosophies, notably Confucianism and Daoism and the concept of Yin and Yang, which offer distinctive explanations of how Chinese individuals approach life attitudes and emotional management. In traditional Eastern philosophy, the Yin and Yang represent balanced and interdependent forces. This philosophy promotes balance between happiness and unhappiness, avoiding emotional extremes. This aligns closely with the Confucian doctrine of the "Doctrine of the Mean" (Zhong Yong), which advocates for a balanced and moderate approach to life (Zhao *et al.*, 2019b). Therefore, while Chinese may not place excessive importance on experiencing high-arousing happiness, this moderation strategy is designed to maintain better emotional stability when facing adversities. This psychological strategy might explain why scores on SWB assessments are often lower for Chinese, which does not necessarily indicate a lower life satisfaction (Zhao *et al.*, 2019b).

Moreover, the principle of Yin and Yang also enhances the resilience of Chinese people in the face of stress and challenges. For example, research by Alter and Kwan (2009) indicated that Chinese are more likely to psychologically anticipate potential market downturns when faced with stock market fluctuations. Therefore, they do not experience excessive excitement during periods of market highs, which minimizes potential disappointment from future downturns. This pre-emptive emotional regulation strategy, rooted in Chinese dialectical thinking (Peng & Wang, 2018), is a practical manifestation of the Yin and Yang philosophy. It helps individuals maintain emotional balance and stability, thereby showing greater resilience during unpredictable fluctuations of life. A distinguishing feature of traditional Chinese dialectic thought is the emphasis on holism, a stark contrast to Western philosophy's focus on deconstructing elements and structures constituting entities (Chen & Wang, 2021). When it comes to happiness and well-being, it involves seeing emotions and mood as fluid and changeable, and treating positive and negative emotions as part of a whole. With this mindset, Chinese individuals may not feel so depressed when experiencing negative emotions, knowing that these will pass eventually. After all, without experiencing negative emotions, positive ones would not seem as joyful. Incorporating dialectical thinking (Peng & Wang, 2018), this perspective considers that truth or reality is achieved through acknowledging opposing viewpoints or forces and finding a rational balance between them (Jin *et al.*, 2020). This approach is not only prevalent in how emotions are regulated but also in broader decision-making processes where Chinese individuals might display greater anticipation and adaptability to change (Chen & Wang, 2021).

Therefore, these insights into the intersection of Confucianism, Yin and Yang, and dialectical thinking illustrate a unique, culturally embedded framework that significantly influences the theoretical understanding and practical application of happiness and well-being in Chinese scholarship. Through examining the complex interplay between economic factors, inequality, and cultural philosophies, we gain a comprehensive understanding of happiness and well-being in China. Each factor contributes uniquely to shaping the psychological experiences and emotional responses of Chinese individuals, demonstrating the multifaceted nature of happiness and well-being science in Chinese cultural context.

The role of positive education in cultivating well-being

Positive education, which integrates principles of positive psychology into educational settings, has increasingly garnered attention in China for its potential to not only enhance academic performance but also to significantly improve student well-being (Au & Kennedy, 2018; Lambert *et al.*, 2015). Chan *et al.* (2022) through Project Bridge, blended Western positive psychology with Chinese values to enhance well-being among Hong Kong university students. The results of Chan *et al.* (2022) from both qualitative and quantitative analyses robustly supports the program's effectiveness. Notably, it has yielded significant enhancements in self-reliance, responsibility, and appreciation for diversity.

The qualitative findings further underscore improvements across six developmental domains. These include self-cultivation, harmonizing familial relationships, fostering a community spirit, commitment to professionalism, societal care, and global awareness, all of which resonate with the core goals of positive education to foster both intrapersonal and interpersonal well-being.

A study by Zhao *et al.* (2019) further explores the applications of positive education and developed a positive education program, comprising 10 sessions aimed at middle school students, with a focus on the understanding, awareness, creation, and utilization of positive emotions. While Chan *et al.* (2022) focused on a culturally specific model of positive education in Hong Kong, Zhao *et al.* (2019) adopted a broader experimental approach. Zhao *et al.* (2019) implemented a pseudo-random experimental design to conduct the research. By comparing depression levels in both groups before and after the program, the findings indicated that positive education significantly impacts adolescent depression. This implies that positive education is beneficial not only within educational environments but also in preventing adolescent depression through interventions cantered on positive emotions. However, it is important to note that cultural factors play a significant role in these settings. Research by Miyamoto & Ryff (2011) suggests that East Asians often experience positive and negative emotions concurrently, more so than Euro-Americans. As a result, the impact of enhancing positive emotions to reduce negative ones may be less pronounced for East Asians, and the dialectical emotional style of the Chinese participants in this study might have mitigated the intervention's effect on depression.

Furthermore, in the study conducted by Chui & Chan (2020), the intricate relationships between positive thinking, school adjustment, and the psychological well-being of Chinese college students are meticulously explored. The research aims to uncover how positive thinking could moderate the impacts of school adjustment on stress levels and overall life satisfaction among students. Chui & Chan (2020) conducted a cross-sectional survey with 695 college students from eight Hong Kong universities. Their findings showed that better school adjustment correlated with lower stress and higher life satisfaction. Positive thinking moderated these relationships, intensifying the link between school adjustment and stress reduction, but diminishing the impact on life satisfaction for those with higher levels of positive thinking. This suggests that while positive thinking generally supports well-being, its effects on life satisfaction vary with the level of positive thinking and school adjustment.The findings of Chui & Chan (2020) align with previous research, such as that conducted by Zhao *et al.* (2019), which also underscored the benefits of positive education interventions in managing stress and enhancing well-being among students. Both studies emphasize the potential of positive psychological approaches to mitigate the challenges faced by students in educational settings. However, Chui & Chan (2020)'s study contributes uniquely by highlighting the nuanced role that positive thinking plays in moderating stress responses through suggesting that overly high levels of positive thinking might not always correlate with increased life satisfaction, especially in the face of poor school adjustment.

These studies collectively highlight how positive education not only boosts academic performance but also significantly contributes to the psychological well-being of students across various educational stages. Importantly, they also emphasize the need for culturally sensitive implementations of positive education programs, which consider the unique emotional dynamics and cultural contexts of the student populations involved.

The role of creativity and aesthetic appreciation in enhancing well-being

Creativity

Creativity is closely linked to well-being and is defined as the ability to generate novel or original ideas that are useful or applicable (Runco, 2010). On the one hand, research on creativity at the individual level has been continuously deepened. Some scholars have focused on the shaping role of individual personality traits and internal psychological states on creativity. For example, Yan *et al.* (2024) proposed the localized concept of "Buddha-like mentality" (i.e., the psychological state of being indifferent and content with the status quo, and the behaviour pattern of treating others with kindness and non-dispute and treating work naturally, shown by individuals in the work situation) and found that the higher the degree of Buddha-like mentality, the worse the employee's creativity performance, but the higher their work well-being. This reflects the complex relationship between individual motivation, values, and creativity. Xu *et al.* (2023) explored the impact of family environmental factors on creativity, finding that parents' gender bias can inhibit females' creativity by lowering their self-esteem. This highlights the profound influence of individual growth backgrounds on creative personality. Other scholars have examined the link between emotional experiencesand creativity. Cheng *et al.* (2022) found a significant negative correlation between anxiety and children's creativity, likely due to anxiety consuming cognitive resources. Cheng *et al.* (2021) studied 102 adults, finding that anger promotes malevolent creativity and exploring regulatory strategies. These studies have enriched our understanding of creative emotions and provided new ideas for emotional management.

On the other hand, research on creativity in team and organizational contexts has also made progress. Leadership behaviour is an important factor that has received much attention. Wang *et al.* (2024) found that overqualified leaders can enhance team creativity by encouraging team innovation, especially when team capabilities are strong. This finding demonstrates that through encouraging team innovation, leadership potential can be cultivated, thus creating an innovative atmosphere. In addition to leadership factors, team interaction processes have also received attention. Dong *et al.* (2023) examined the double-edged sword effect of leaders' negative feedback on employee creativity and found the moderating role of employee goal orientation. For employees with high proving goal orientation, leaders' daily negative feedback enhanced next-day creativity by promoting problem-solving reflection in the evening. In contrast, for employees with high avoiding goal orientation, leaders' daily negative feedback inhibited next-day creativity by triggering emotional rumination in the evening. This indicates that creativity cultivation needs to take into account both external feedback and internal motivation. Zhu *et al.* (2020) compared cross-boundary behaviours at the team and individual levels and found that their paths of influence on creativity differ. The study revealed that at the team level, cross-boundary behaviour enhances team creativity, while at the individual level, it increases role stress and negatively impacts individual creativity. Besides, role breadth self-efficacy moderates this relationship, with lower self-efficacy individuals experiencing greater role stress and a stronger negative impact on creativity. This enlightens us to consider the creativity mechanisms of individuals and the collective as a whole and their interactions.

It is worth mentioning that some studies have gone beyond the conventional organizational context to explore creativity issues in broader interpersonal interactions and socio-cultural contexts. For example, Luan *et al.* (2020) conducted a series of experiments and found that merely anticipating communication with others can enhance individual creativity, especially in abstract thinking tasks. This highlights the potential motivational function of social interaction for creativity. Shao *et al.* (2019) highlighted that people's implicit concepts of creativity differ across cultural backgrounds, necessitating a culturally sensitive approach in creativity assessment and cultivation. This is inspiring for future cross-cultural comparative studies. Chua *et al.* (2018) mapped cultural tightness (degree of societal rules and norms enforcement) and its relationship to innovation across 31 Chinese provinces. They found that tighter provinces, with increased governmental control and constraints, exhibit lower rates of radical innovation but higher rates of incremental innovation. Additionally, Tang *et al.* (2021)'s cross-cultural examination of the crisis-creativity-well-being relationship during the COVID-19 pandemic highlights the potential of creativity as a coping mechanism, especially for individuals with collectivistic orientations.

Methodologically, the introduction of innovative approaches, such as virtual reality (Ke *et al.*, 2021) and longitudinal tracking (Zhang *et al.*, 2020), has broadened the understanding of creativity as a dynamic, context-dependent process. Moreover, research on the mediating role of psychological mechanisms, such as self-determination and job crafting (Dong & Wang, 2020; Hu *et al.*, 2020a; Luo *et al.*, 2020), has deepened our understanding of the underlying processes that shape creative performance.

In summary, recent research by Chinese scholars underscores the multifaceted nature of creativity, exploring its roots in individual traits, team dynamics, and broader socio-cultural contexts. These findings emphasize the importance of a holistic approach to creativity cultivation, integrating internal psychological states, external feedback, and cultural influences to foster innovation effectively.

Aesthetics

Given the intricate relationship between creativity and various psychological, social, and cultural factors, it is essential to examine another closely related construct: aesthetic appreciation. Aesthetic appreciation, defined as the extent to which a stimulus is enjoyed because of its beauty, or some other factor associated with aesthetic preference (American Psychological, 2018), is intrinsically linked to creativity. Research indicates that engaging with art can enhance emotional well-being and cognitive functions, which in turn can inspire and foster creative thinking. Thus, understanding aesthetic appreciation can provide deeper insights into the holistic cultivation of creativity and well-being (Mastandrea *et al.*, 2019). Many studies have explored the relationship between aesthetic experiences triggered by visual and auditory stimuli and SWB. For example, Qin & Song (2020) found that aesthetic perception of Buddhist gesture symbols has a positive impact on Chinese people's SWB and life satisfaction. Liu (2023) suggested that digital visual language provides new ways for human emotional communication and enriches visual aesthetic experiences. Liu *et al.* (2021) discovered that mindfulness meditation can influence the processing of musical aesthetic emotions and enhance beautiful musical experiences. Other studies have focused on the influence of environmental and cultural backgrounds on aesthetic preferences. Wan *et al.* (2021) found that natural elements in urban parks are more likely to elicit a sense of happiness and restorative experiences, while Yang *et al.* (2019) revealed that Chinese and Western participants

exhibit cultural biases in aesthetic appreciation when appreciating domestic and exotic landscape paintings.

Furthermore, some studies have investigated the relationship between aesthetic experiences, engagement, emotional experiences, and cultural identity. Xie *et al.* (2022) demonstrated the crucial role of sensorimotor, knowledge-meaning, and emotion-valuation systems in appreciating architectural aesthetics. Yang *et al.* (2022) explored the relationship between heritage tourism aesthetics, tourist engagement, psychological experiences, and cultural identity. In the field of education, scholars have proposed reform measures for college students' cultural and aesthetic education (Sun *et al.*, 2022). Some studies have employed cognitive neuroscience methods to examine the impact of dynamics, artistic expertise, emotional intelligence, and other factors on aesthetics (Li *et al.*, 2022a; Xin *et al.*, 2021; Zhang & Zhou, 2024).

In summary, these studies have revealed factors influencing Chinese people's aesthetic experiences from multiple perspectives, including environment, culture, education, and cognition, providing important references for understanding the role of aesthetics in the formation of happiness.

Growth mindset and its implications for personal development

Research in motivation has significantly advanced our understanding of learning behaviours and outcomes, highlighting the role of implicit theories of intelligence in shaping individuals' "meaning systems" that cohesively explain their affects, behaviours, and cognitions (Pintrich & de Groot, 1990). These beliefs about intelligence influence learners' goals, efforts, and responses to challenges (Pintrich & de Groot, 1990). Studies have shown that a growth mindset, viewing intelligence as changeable, is linked to greater persistence in challenges, psychological well-being, and academic engagement, while a fixed mindset can lead to avoidance and reduced effort when faced with difficulties (Chen & Wong, 2015).

Building on this foundation, the exploration of growth mindset interventions within different cultural contexts becomes particularly salient. Although extensive research in Western settings has explored strategies to modify students' intelligence beliefs to boost academic performance (Blackwell *et al.*, 2007), the adaptability and effectiveness of these strategies in non-Western contexts, such as China, remain less explored. In Chinese educational settings, where the cultural valorisation of effort is deeply embedded by Confucian values, the potential for cultivating a growth mindset presents both a unique challenge and an opportunity. Sun *et al.* (2021) provided a crucial examination of how cultural differences in intelligence mindsets between US and Chinese students impact academic outcomes. Their findings revealed that while US students benefit from growth mindsets linked to higher academic performance, Chinese students maintain high academic achievement despite more prevalent fixed mindsets. This study, utilizing large datasets including the Programme for International Student Assessment (PISA) and a university survey, highlights a cultural paradox where fixed mindsets in Chinese students do not correlate with lower academic performance, attributed to the cultural emphasis on effort and diligence. This insight is critical for understanding the nuanced roles that cultural contexts play in educational psychology, particularly in how students perceive intelligence and effort.

Traditionally, efforts to enhance beliefs about the malleability of intelligence have yielded modest and often limited effects on academic achievement. An alternative approach could instead emphasize the belief that mastering academic subjects through effort is key to educational success. This perspective, reflected in the cultural expectations noted by Ng & Wei (2020), anticipates that Chinese parents expect their children to invest consistent effort in their education, irrespective of perceived innate talent. By shifting the focus from intelligence to effort and the learning process, interventions could encourage students to persist in their studies even without endorsing a growth mindset about intelligence (Ng & Wei, 2020). This strategy aligns with a broader cultural acknowledgment that school success is only modestly related to innate intelligence and emphasizes that effort is often considered more crucial for achieving academic goals. Such a shift could potentially offer a more impactful way of enhancing student motivation across different cultural settings.

Expanding upon these insights, the study by Lee & Fong (2023) becomes particularly relevant. They extended this understanding by implementing a brief growth mindset intervention among college students in Hong Kong and examined if it could enhance academic resilience, especially among students facing academic setbacks. This approach demonstrated that the personal relevance of the growth mindset significantly mitigated the effects of academic setbacks, underscoring the viability of growth mindset interventions in Chinese contexts. However, the study also highlighted limitations due to the short interval between repeated measures, indicating the need for more robust longitudinal research designs to capture the sustainable effects on students' academic trajectories and broader psychological profiles.

As demonstrated above, exploring the growth mindset within the Chinese educational context highlights a critical intersection of cultural values and psychological

theories of intelligence. Research in Chinese schools underscores the unique challenges and opportunities of the Confucian emphasis on effort and indicates the transformative impact of culturally adapted mindset interventions on student well-being and academic resilience. Thus, the integration of growth mindset strategies tailored to specific cultural paradigms can profoundly influence personal development and academic success across diverse populations.

AI and its impacts on well-being

Over the past few decades, AI has evolved from a theoretical concept to an indispensable technological force. Fields like machine learning, natural language processing, AI assistants, and robotics have rapidly advanced. These developments have produced powerful solutions for complex real-world problems, including image understanding, speech recognition, big data analytics, and healthcare (Chen & Decary, 2020). In social life, AI has demonstrated its potential to enhance individual and societal well-being, quality of life, and efficiency in various areas such as public health management, medicine, mental health and emotional support, and education and personal growth.

AI in public health

The extensive deployment of emerging technologies like AI and big data in China's COVID-19 prevention has showcased their potential in public health management. These technologies provide data-driven support and intelligent decision-making for effective pandemic control.

Specifically, Yang *et al.* (2020) utilized AI models combined with big data from population movements and pandemic data to dynamically predict pandemic trends. This approach not only forecasts peak and estimates their scale but also informs proactive resource deployment for pandemic control. Similarly, Zheng *et al.* (2020) introduced a hybrid AI model that enhances transmission predictions by analysing the impact of preventive measures and public awareness through natural language processing and deep learning. On the front of precision control, big data and AI have been pivotal in identifying key transmission points and high-risk groups. For example, Dong *et al.* (2021) demonstrated how big data analysis could distinguish between close contacts and potential suspects, facilitating precise isolation and tracking measures. Zhu *et al.* (2022) explored the feasibility of a public health emergency response mechanism powered by AI, aiming to boost governmental response and decision-making efficiency.

Moreover, these technologies have broadened their application to clinical decision-making support. Ruan *et al.* (2021) leveraged natural language processing to extract information from vast electronic medical records to estimate disease burden, aiding in the optimization of medical resources. A number of studies have shown that AI systems are effective in image recognition (Jin *et al.*, 2020; Shen *et al.*, 2019; Zhou *et al.*, 2019), electronic medical record mining (Liang *et al.*, 2019), and other fields have demonstrated diagnostic performance comparable to or even exceeding that of human doctors, which can not only improve the quality of diagnosis, but also optimize the doctor's workflow and reduce the work burden. In addition, AI technologies are seen as accelerating drug discovery (Dong *et al.*, 2021), supporting public health decision-making (Yang *et al.*, 2020) as an important force.

In conclusion, AI and big data are indispensable in pandemic monitoring, precision control, and clinical decision support, reshaping public health governance. Yet, as Pham *et al.* (2020) noted, while these technologies serve as valuable tools, the primary decision-making responsibility still lies with governments. It's also crucial to address ethical challenges like algorithm safety and data privacy in utilizing these technologies.

AI in mental health

AI applications are extensively used to provide self-help cognitive support based on Cognitive Behavioural Therapy (CBT), utilizing predefined templates and exercises to help users improve symptoms, effectively reducing depression and anxiety, and establishing good working alliances and high usability (He *et al.*, 2024; Sabour *et al.*, 2023). Some AI applications also offer emotional support, allowing users to express emotions (Sabour *et al.*, 2023). User reviews indicate these applications can effectively alleviate negative emotions (Shan *et al.*, 2022). However, the emotional support offered by applications is found to be weaker compared to cognitive support (Liu *et al.*, 2022). In addition to general adult users, AI technology is also applied in children and individuals with autism spectrum disorders (ASD). Chatbots specifically developed for children with ASD have achieved encouraging results (Li *et al.*, 2020), and a new computational affective model called Appraisal Cloud PCT has been introduced to meet the unique needs of children with autism (Yan *et al.*, 2023).

Moreover, the analysis of social media data is another focus. In China, AI assistants like Microsoft's Xiaoice are popular on social media, especially among the youth. Some users become overly dependent on interactions with AI assistants, which may lead to negative effects such as social anxiety (Ali *et al.*, 2024). Social media data also provide researchers with valuable resources for analysing public emotional responses to various social issues like child abuse (Lyu *et al.*, 2020). Additionally, studies using social media data to examine the effects of rumour rebuttal and group polarization found that

online users' information-seeking behaviour was often accompanied by incivility, and information-sharing behaviour was associated with more negative sentiment, often accompanied by incivility (Wang & Qian, 2021).

Overall, AI technology shows tremendous potential in the fields of mental health and emotional support in China. By improving the accessibility of cognitive and emotional support, AI holds promise in alleviating the severe shortage of mental health services in China. However, balancing the benefits and potential risks of AI interventions and developing more sophisticated AI models requires further research and exploration.

AI in education

AI technology has advanced China's educational modernization by enhancing personalized learning and optimizing resource recommendations. Studies by Wei *et al.* (2021) and Bhutoria (2022) demonstrate AI's ability to tailor learning experiences based on educational psychology and student abilities, improving outcomes by overcoming the limitations of traditional methods. Specifically, in improving educational equity and accessibility, multiple studies have validated the value of AI applications. Empirical analysis by Wang *et al.* (2021a) found that AI-enhanced teaching designs significantly improve student performance; Knox (2020) observed that Chinese companies are actively developing AI educational applications to expand service coverage; studies by Fu *et al.* (2020) found that AI's automated scoring features facilitate language learning and enhance learning efficiency. These studies collectively highlight AI technology's crucial role in enhancing the quality and accessibility of education.

Meanwhile, fostering students' AI literacy is crucial to ensuring that technological innovation and educational reform mutually enhance each other. Addressing this issue, Dai *et al.* (2020) found that the influences of AI literacy were mediated by the students' confidence and perception of AI relevance; Chai *et al.* (2020) identified eight decisive psychological variables of student's willingness to learn AI through structural equation model, including AI literacy, subjective norms, AI anxiety, etc; Qin *et al.* (2020) further explored trust issues in AI educational systems, identifying factors affecting trust including technology, individual, and contextual elements.

Building on this foundation, a recent study introduced the concept of artificial intelligence quotient (AIQ), which refers to an individual's ability to utilize AI to complete various tasks (Qin *et al.*, 2020). This research spans different contexts, including human-machine gaming (such as chess and Gomoku) and using ChatGPT to accomplish tasks. It involves various types of AI, such as game-playing AI and language models, and employs samples of Chinese students and chess enthusiasts. By comprehensively applying methods like archival analysis and experiments, the study preliminarily confirms the existence of AIQ as a new form of intelligence and its distinction from intelligence quotient (IQ) and emotional quotient (EQ). Specifically, the research finds that AIQ is closely related to an individual's performance when using AI to complete tasks, while IQ and EQ cannot effectively predict such human-machine collaboration performance. This indicates that AIQ is a unique dimension of ability, reflecting an individual's capacity to effectively solve problems using AI. Furthermore, AIQ is negatively correlated with the tendency to anthropomorphize AI and attribute emotional experiences to it, suggesting that properly understanding the characteristics of AI and not blindly applying interpersonal interaction patterns may help to enhance the effectiveness of human-machine collaboration. This discovery not only enriches our understanding of the key capabilities required in the era of AI but also provides new perspectives and directions for cultivating AI literacy.

In summary, AIQ represents a new critical ability in the age of AI. Unlike IQ, which focuses on cognitive abilities, and EQ, which emphasizes emotional management, AIQ uniquely reflects an individual's ability to effectively solve problems using AI. This ability depends not only on one's cognition of AI but also on grasping the complementary advantages of human-machine collaboration. Therefore, in AI literacy education, we should not only help students establish a correct understanding of AI but also improve their ability to apply AI in practice through targeted training, cultivating "super human-machine collaborators."

CONTRIBUTION AND IMPLICATIONS OF WELL-BEING SCIENCE IN CHINA

Domestic policy implications

The emphasis of growth mindset in positive education

The integration of growth mindset principles within the framework of positive education in China has important social and policy implications, highlighting the transformative potential of educational strategies that emphasize both personal development and academic resilience. Research has demonstrated that fostering a growth mindset, where intelligence and abilities are seen as improvable, significantly enhances students' engagement, perseverance, and performance (Lee & Fong, 2023). This approach resonates deeply with traditional Chinese values, which historically emphasize diligence, persistence, and the gradual mastery of skills.

Incorporating growth mindset into educational policies can lead to the development of curricula and teaching

methods that actively promote adaptive learning behaviours. Studies such as those by Sun *et al.* (2021) have shown that while Chinese students often exhibit higher levels of academic achievement, this is not necessarily linked to a growth mindset. However, when educational interventions specifically encourage the belief that abilities can be developed through effort, Chinese students report increased motivation and a greater willingness to tackle challenging academic tasks (Sun *et al.*, 2021). This suggests that educational systems can benefit from policies that not only recognize the role of effort in student success but also actively cultivate environments that foster growth mindsets.

Policy implications extend beyond the classroom. Firstly, educational authorities could invest in teacher training programs that focus on the pedagogical strategies associated with growth mindset. Such programs would teach educators how to praise effort rather than inherent ability, how to encourage students to embrace challenges, and how to frame setbacks as opportunities for learning rather than failures (Dweck, 2006). This requires a shift in the traditional narrative to one that supports an iterative process of improvement and learning. Another important policy implication involves the development of school-wide programs that embed the principles of positive psychology within the school culture. These programs could involve regular workshops for students and parents alike, aimed at explaining the benefits of a growth mindset and providing practical tips for fostering this at home and in the classroom (Limeri *et al.*, 2020). By involving the wider community, schools can create a supportive environment that consistently reinforces the growth mindset message.

The emphasis on aesthetic education and cultural activities

Integrating aesthetic education into China's educational system has profound social and policy implications, highlighting its potential to enhance creativity and well-being. Research indicates that engagement with art improves emotional well-being and cognitive functions, fostering creative thinking (Liu, 2023; Mastandrea *et al.*, 2019). To achieve this, educational policies should embed aesthetic principles into the curriculum, promoting both creative and emotional resilience. Teacher training programs should be developed to incorporate art appreciation into various subjects and encourage creative expression. Additionally, creating urban parks with natural elements can improve public happiness and mental well-being, providing environments that support creativity (Wan *et al.*, 2021). Supporting cultural and artistic events, such as heritage tourism and festivals, can strengthen cultural identity and psychological engagement, further enhancing well-being (Yang *et al.*, 2022). These initiatives promote a holistic approach to personal and societal development, enriching cultural understanding and fostering a more innovative and culturally vibrant society.

Elderly health promotion

Research concerning the well-being of the elderly in China has demonstrated that social support, cultural practices, employment status, and the application of technology play critical roles in shaping their life satisfaction and psychological health. Studies like those by Yao *et al.* (2018) highlight how social support significantly mediates the effects of loneliness and enhances social well-being through mechanisms of hope. Similarly, Li *et al.* (2022) explore how discrepancies between expected and received filial support based on traditional values like filial piety influence both life satisfaction and loneliness among the elderly. Additionally, the role of employment in later life is nuanced; Zhang & Zhou (2017) indicate that continued work may detract from happiness when it impedes leisure activities, suggesting the complexity of extending work life into older age. Chen & Wang (2021) delve into how wisdom, a valued trait in Chinese culture, aids the elderly in adapting to aging-related declines, thus promoting well-being through cognitive and emotional strategies.

Recent studies on the well-being of the elderly in China offer valuable insights that can guide the enhancement of health promotion policies. Enhancing social support systems through community engagement is critical; this involves not just providing physical spaces like community centres, but also organizing activities that foster interaction and counteract loneliness. Additionally, integrating cultural values such as filial piety into care strategies ensures that these programs resonate with their target demographic and address their specific psychosocial needs effectively.

The use of technology in maintaining intergenerational communication is another crucial strategy. By facilitating easier and more frequent contact between the elderly and their families, technology can play a significant role in bolstering their mental health and overall well-being. Moreover, adapting employment policies to better suit the needs of the elderly, and offering flexible working conditions and meaningful job opportunities, can significantly enhance their engagement and satisfaction, positively impacting their social life and mental health.

Employee well-being promotion

Employee well-being is increasingly recognized as a critical component of organizational management. It is influenced by individual factors such as employees' psychological state and work attitudes, which significantly affect their happiness. Research

demonstrates that various factors, including a Buddhist-like approach to work (Yan *et al.*, 2024), adherence to leadership prototypes (Peng & Wang, 2018), and overall work engagement (Zheng *et al.*, 2022), play significant roles in shaping employee experiences of well-being. Furthermore, organizational factors like interactional justice (Zheng & Liu, 2016) and organizational support (Cheng & Lin, 2017) serve as crucial precursors to well-being, highlighting the importance of a supportive work environment.

Family life also impacts employee well-being, where a spouse's emotional intelligence can enhance work engagement and overall happiness (Zheng *et al.*, 2022). The detrimental effects of work-related stressors, such as long commutes, can be mitigated by leisure activities, illustrating the importance of recovery experiences (Wu, 2017). Additionally, socio-economic changes and social dynamics have been linked to the well-being of specific groups, such as teachers, whose happiness has declined over two decades due to various macro-social indicators (Xin *et al.*, 2021).

Personal traits, such as marital status and gender, also mediate the relationship between external factors and well-being (Wu, 2017; Zheng *et al.*, 2022). Cross-cultural adaptability influences the well-being of employees working in international contexts, showcasing the diverse factors affecting employee happiness (He *et al.*, 2019). Therefore, enhancing employee well-being requires a multi-faceted approach that considers the complex interplay of individual, organizational, familial, and societal factors.

International policy implications

To advance the global understanding of well-being sciences, there is a pressing need for enhanced cross-cultural research and international collaborations. This pursuit should focus on sharing localized practices and insights to contribute to a comprehensive global framework that accommodates diverse cultural perspectives. Engaging in comparative studies that examine how different cultural settings influence the effectiveness of positive education and well-being strategies can provide valuable insights (Markus & Kitayama, 1991). These studies reveal the various ways cultural contexts shape psychological practices and outcomes, thereby enriching our global understanding of well-being.

Furthermore, international policies should emphasize the dissemination of best practices in positive education that have proven successful across varied cultural landscapes, including innovative approaches developed in China. By sharing these strategies through international forums and educational exchanges, policymakers and educators can adapt and implement effective well-being interventions on a global scale. This approach not only fosters international dialogue but also facilitates the mutual adaptation of successful strategies, enhancing the global impact of positive education (Seligman & Csikszentmihalyi, 2000).

With the growing influence of AI in enhancing well-being, there is an essential need for developing robust international ethical frameworks to govern AI applications. These frameworks should prioritize fairness, transparency, and accountability, particularly in how AI is employed to monitor and enhance psychological health across diverse global populations (Ursin *et al.*, 2022). Establishing these ethical standards is crucial to ensuring that AI technologies support well-being enhancements in a manner that respects cultural differences and promotes equitable outcomes.

Overall, these efforts highlight the significant domestic contributions of Chinese happiness science research in shaping local policies and its potential to influence international well-being practices and policies. This dual perspective not only points out the internal significance of these studies but also elevates their global relevance in the field of well-being sciences, demonstrating a shared commitment to improving human flourishing worldwide.

LIMITATIONS AND FUTURE DIRECTIONS

While the past two decades have witnessed significant advancements in the field of well-being sciences in China, several limitations persist, highlighting the need for further research and translational work. One major challenge is the lack of a unified theoretical framework that integrates the diverse perspectives and methodologies employed in the study of well-being. The current research landscape is characterized by a multitude of approaches, ranging from traditional psychological theories to culturally specific philosophies, such as Confucianism and the Yin-Yang principle (Ng & Wei, 2020; Zhao *et al.*, 2019b). While this diversity enriches our understanding of well-being, it also presents difficulties in synthesizing findings and developing a cohesive narrative. The heterogeneity in theoretical approaches and methodological practices makes it challenging to compare results across studies and to draw generalized conclusions (Linden & Hönekopp, 2021). This fragmentation can lead to inconsistencies in the conceptualization and measurement of well-being, resulting in complicating the formulation of effective interventions and policies (Chen & Wang, 2021). Future research should aim to bridge these theoretical gaps by exploring the commonalities and differences between various frameworks and developing integrative models that capture the complexity of well-being in the Chinese

cultural context.

Another limitation lies in the methodological constraints of existing studies. Despite the growing adoption of innovative techniques, such as longitudinal analysis (Dong *et al.*, 2023; Wang *et al.*, 2021b), multi-level modelling (Huang & Fang, 2021; Shi, 2022), and big data analytics (Zhao *et al.*, 2019a), many studies still rely on cross-sectional designs and self-report measures (Faulkner *et al.*, 2021; Hu *et al.*, 2020b; Villani *et al.*, 2021). These approaches, while valuable, may not fully capture the dynamic and contextual nature of well-being. Cross-sectional designs provide a snapshot at a single point in time, failing to account for changes over time and the fluctuating nature of well-being (Smith *et al.*, 2022). Self-report measures, on the other hand, are subject to biases such as social desirability and recall bias, which can distort the accuracy of the data (Althubaiti, 2016). Consequently, these methods may not adequately reflect the complexities of well-being, which can vary significantly across different contexts and over time.

The rapidly evolving socio-economic landscape of China also presents both opportunities and challenges for well-being research. As the country continues to undergo significant transformations, such as Chinese modernization, technological advancement, and demographic shifts, it is crucial to examine how these social changes impact the well-being of individuals and communities. Future studies should investigate the role of emerging social factors, such as the rise of the digital economy, the aging population (Li *et al.*, 2022a; Zhang & Zhou, 2017), and the shifting family structures, in shaping the experiences and perceptions of well-being. Furthermore, research should explore the potential of innovative interventions, such as those based on positive psychology (Chan *et al.*, 2022; Zhao *et al.*, 2019b) and digital technologies (He *et al.*, 2024; Sabour *et al.*, 2023), in promoting well-being across different segments of the population.

The cultural diversity of China presents another meaningful avenue for future research. While existing studies have shed light on the influence of traditional Chinese philosophies and values on well-being (Chen & Wang, 2021; Jin *et al.*, 2020), there is a need for more specific investigations into the variations and similarities across different regions, ethnicities, and subcultures. Comparative studies that examine the well-being of minority groups, rural populations, and other underrepresented communities can provide valuable insights into the complex interplay between culture, context, and well-being. Moreover, cross-cultural research that compares the findings from China with those from other countries can contribute to the development of a global understanding of well-being and inform the design of culturally sensitive interventions (Markus & Kitayama, 1991; Seligman & Csikszentmihalyi, 2000).

Finally, the translation of research findings into practice remains a critical challenge. While the past two decades have produced a wealth of knowledge on the determinants and consequences of well-being, the application of this knowledge in real-world settings has been limited. Future research should prioritize the development and evaluation of evidence-based interventions that can be implemented in various contexts, such as schools, workplaces, and communities. Collaborative efforts between researchers, policymakers, and practitioners are necessary to ensure that the insights from well-being sciences are effectively translated into policies and practices that promote the flourishing of individuals and society.

DECLARATION

Author contributions

Zheng ZX: Conceptualization, Writing—Original draft preparation. Zhu XY: Conceptualization, Writing—Original draft preparation. Sun YM: Conceptualization, Writing—Reviewing and Editing. Peng KP: Conceptualization, Supervision. Hu XM: Conceptualization, Supervision, Project administration.

Source of funding

This work was supported by the people's psychology innovation research fund of the Department of psychology, Renmin University of China (No. RXB003).

Ethical approval

Not applicable.

Conflict of interest

Peng KP is the Editor-in-Chief of the journal. Hu XM is the editorial board member of the journal. The article was subject to the journal's standard procedures, with peer review handled independently of the editor and the affiliated research groups.

Use of large language models, AI and machine learning tools

None declared.

Data availability statement

Not applicable.

REFERENCES

Ali, F., Zhang, Q., Tauni, M. Z., & Shahzad, K. (2024). Social Chatbot: My Friend in My Distress. *International Journal of Human-Computer Interaction*,

40(7), 1702-1712. https://doi.org/10.1080/10447318.2022.2150745

Alter, A. L., & Kwan, V. S. Y. (2009). Cultural sharing in a global village: Evidence for extracultural cognition in European Americans. *Journal of Personality and Social Psychology*, *96*(4), 742-760. https://doi.org/10.1037/a0014036

Althubaiti, A. (2016). Information bias in health research: definition, pitfalls, and adjustment methods. *Journal of Multidisciplinary Healthcare, 9*, 211-217. https://doi.org/10.2147/JMDH.S104807

American Psychological Association. (2018). *APA dictionary of psychology (2nd ed.*). American Psychological Association.

Au, W. C. C., & Kennedy, K. J. (2018). A Positive Education Program to Promote Wellbeing in Schools: A Case Study from a Hong Kong School. *Higher Education Studies*, *8*(4), 9. https://doi.org/10.5539/hes.v8n4p9

Bhutoria, A. (2022). Personalized education and artificial intelligence in the United States, China, and India: A systematic review using a human-in-the-loop model. *Computers and Education: Artificial Intelligence*, *3*, 100068. https://doi.org/10.1016/j.caeai.2022.100068

Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development*, *78*(1), 246-263. https://doi.org/10.1111/j.1467-8624.2007.00995.x

Cai, H., Yuan, J., Su, Z., Wang, X., Huang, Z., Jing, Y., & Yang, Z. (2023). Does economic growth raise happiness in China A comprehensive reexamination. *Social Psychological and Personality Science*, *14*(2), 238-248. https://doi.org/10.1177/19485506221089804

Chai, C. S., Wang, X., & Xu, C. (2020). An extended theory of planned behavior for the modelling of Chinese secondary school students' intention to learn artificial intelligence. *Mathematics*, *8*(11), 2089. https://doi.org/10.3390/math8112089

Chan, G. H., Lee, G. K. W., Kong, C. Y. W., & Lo, T. W. (2022). An Innovative Model of Positive Education with Traditional Chinese Moral Values: An Evaluation of Project Bridge. *International Journal of Environmental Research and Public Health*, *19*(7), 3797. https://doi.org/10.3390/ijerph19073797

Chen, H., & Wang, F. (2021). Wisdom in old age. *Advances in Psychological Science*, *29*(5), 885-893. https://doi.org/10.3724/SP.J.1042.2021.00885

Chen, M., & Decary, M. (2020). Artificial intelligence in healthcare: An essential guide for health leaders. *Healthcare Management Forum*, *33*(1), 10-18. https://doi.org/10.1177/0840470419873123

Chen, W. W., & Wong, Y. L. (2015). Chinese mindset: Theories of intelligence, goal orientation and academic achievement in Hong Kong students. *Educational Psychology*, *35*(6), 714-725. https://doi.org/10.1080/01443410.2014.893559

Cheng, K., & Lin, Y. (2017). Congruence in organizational support and new generation employees' turnover intention: The mediating role of employee well-being. *Acta Psychologica Sinica*, *49*(12), 1570-1580.

Cheng, R., Lu, K., & Hao, N. (2021). The effect of anger on malevolent creativity and strategies for its emotion regulation. *Acta Psychologica Sinica*, *53*(8), 847-860.

Cheng, T., Cheng, N., Wang, M., & Wang Z. (2022). Toddlers' anxiety predicts their creativity at the age of five: The chain mediation effects of general cognition and mastery motivation. *Acta Psychologica Sinica*, *54*(7), 799-812.

Cheung, F. (2016). Can income inequality be associated with positive outcomes Hope mediates the positive inequality-happiness link in rural China. *Social Psychological and Personality Science*, *7*(4), 320-330. https://doi.org/10.1177/1948550615619762

Chua, R. Y., Huang, K. G., & Jin, M. (2019). Mapping cultural tightness and its links to innovation, urbanization, and happiness across 31 provinces in China. *Proceedings of the National Academy of Sciences*, *116*(14), 6720-6725. https://doi.org/10.1073/pnas.1815723116

Chui, R. C. F., & Chan, Chi-K. (2020). Positive Thinking, School Adjustment and Psychological Well-being among Chinese College Students. *The Open Psychology Journal*, *13*(1), 151-159. https://doi.org/10.2174/1874350102013010151

Dai, Y., Chai, C. S., Lin, P. Y., Jong, M. S. Y., Guo, Y., & Qin, J. (2020). Promoting students' well-being by developing their readiness for the artificial intelligence age. *Sustainability*, *12*(16), 6597. https://doi.org/10.3390/su12166597

Diener, E. (1984). Subjective well-being. *Psychological Bulletin, 95*(3), 542-575. https://doi.org/10.1037/0033-2909.95.3.542

Dong, J., Wu, H., Zhou, D., Li, K., Zhang, Y., Ji, H., Tong, Z., Lou, S., & Liu, Z. (2021). Application of Big Data and Artificial Intelligence in COVID-19 Prevention, Diagnosis, Treatment and Management Decisions in China. *Journal of Medical Systems*, *45*(9), 84. https://doi.org/10.1007/s10916-021-01757-0

Dong, N., & Wang, X. (2020). Where there's a will, there's a way: Intrinsic motivational orientation, idea quality, and idea implementation. *Acta Psychologica Sinica*, *52*(6), 801-810. https://doi.org/10.3724/SP.J.1041.2020.00801

Dong, N., Yin, K., Xing, L., Sun, X., & Dong, Y. (2023). The effects of daily supervisor negative feedback on employee creativity. *Acta Psychologica Sinica*, *55*(5), 831-843.

Dweck, C. S. (2006). *Mindset: the New Psychology of Success*. New York, NY: Random House.

Easterlin, R. A., Morgan, R., Switek, M., & Wang, F. (2012). China's life satisfaction, 1990-2010. *Proceedings of the National Academy of Sciences*, *109*(25), 9775-9780. https://doi.org/10.1073/pnas.1205672109

Easterlin R. A., & Sawangfa, O. (2010). Happiness and economic growth: Does the cross section predict time trends Evidence from developing countries. In E. Diener, J. F. Helliwell, D. Kahneman (Eds.), *International differences in well-being* (pp. 166-216). Oxford University Press.

Easterlin, R. A., Wang F., & Wang, S. (2017). Growth and happiness in China, 1990-2015. In J. F. Helliwell, R. Layard, Sachs J. D. (Eds.), *A modern guide to the economics of happiness* (pp. 48-83). Edward Elgar.

Faulkner, J., O'brien, W. J., McGrane, B., Wadsworth, D., Batten, J., Askew, C. D., Badenhorst, C., Byrd, E., Coulter, M., Draper, N., Elliot, C., Fryer, S., Hamlin, M. J., Jakeman, J., MacKintosh, K. A., McNarry, M. A., Mitchelmore, A., Murphy, J., Ryan-Stewart, H., Saynor, Z., Schaumberg, M., Stone, K., Stoner, L., Stuart, B., & Lambrick, D. (2021). Physical activity, mental health and well-being of adults during initial COVID-19 containment strategies: A multi-country cross-sectional analysis. *Journal of Science and Medicine in Sport*, *24*(4), 320-326. https://doi.org/10.1016/j.jsams.2020.11.016

Fu, S., Gu, H., & Yang, B. (2020). The affordances of AI□ enabled automatic scoring applications on learners' continuous learning intention: An empirical study in China. *British Journal of Educational Technology*, *51*(5), 1674-1692. https://doi.org/10.1111/bjet.12995

He, G., An, R., & Hewlin, P. F. (2019). Paternalistic leadership and employee well-being: A moderated mediation model. *Chinese Management Studies*, *13*(3), 645-663. https://doi.org/10.1108/CMS-10-2018-0724

He, W., Zhang, W., Jin, Y., Zhou, Q., Zhang, H., & Xia, Q. (2024). Physician versus large language model chatbot responses to web-based questions from autistic patients in Chinese: Cross-sectional comparative analysis. *Journal of Medical Internet Research*, *26*, e54706. https://doi.org/10.2196/54706

Helliwell, J. F., Layard, R., Sachs, J. D., De Neve, J.-E., Aknin, L. B., & Wang, S. (Eds.). (2024). *World Happiness Report 2024*. University of Oxford: Wellbeing Research Centre.

Hu, Q. T., Wang, H. J., & Long, L. R. (2020a). Will newcomer job crafting bring positive outcomes. The role of leader-member exchange and traditionality. *Acta Psychologica Sinica*, *52*(5), 659-668. https://doi.org/10.3724/SP.J.1041.2020.00659

Hu, Z., Lin, X., Chiwanda Kaminga, A., & Xu, H. (2020b). Impact of the COVID-19 epidemic on lifestyle behaviors and their association with subjective well-being among the general population in mainland China: cross-sectional study. *Journal of Medical Internet Research*, *22*(8), e21176. https://doi.org/10.2196/21176

Huang, J., & Fang, Y. (2021). Income inequality, neighbourhood social capital

and subjective well-being in China: Exploration of a moderating effect. *International journal of environmental research and public health, 18*(13), 6799. https://doi.org/10.3390/ijerph18136799

Institute for China Sustaintable Urbanization. (2021). [*People's Well-being Index Research Report 2021*]. Tsinghua University.

Ipsos. (2023). *Global Happiness 2023*. Ipsos.

Jiang, S., Lu, M., & Sato, H. (2012). Identity, inequality, and happiness: Evidence from urban China. *World Development*, *40*(6), 1190-1200. https://doi.org/10.1016/j.worlddev.2011.11.002

Jin, C., Chen, W., Cao, Y., Xu, Z., Tan, Z., Zhang, X., Deng, L., Zheng, C., Zhou, J., Shi, H., & Feng, J. (2020). Development and evaluation of an artificial intelligence system for COVID-19 diagnosis. *Nature Communications*, *11*(1), 5088. https://doi.org/10.1038/s41467-020-18685-1

Ke, X., Qi, H., Liang, J., Jin, X., Gao, J., Zhang, M., & Wang, Y. (2021). Situational evaluation method of the Chinese people's holistic thinking characteristics and their application. *Acta Psychologica Sinica*, *53*(12), 1299-1309. https://doi.org/10.3724/SP.J.1041.2021.01299

Knox, J. (2020). Artificial intelligence and education in China. *Learning, Media and Technology*, 45(3), 298-311. https://doi.org/10.1080/17439884.2020.1754236

Lambert, L., Passmore, H.-A., & Holder, M. D. (2015). Foundational frameworks of positive psychology: Mapping well-being orientations. *Canadian Psychology/Psychologie Canadienne*, *56*(3), 311-321. https://doi.org/10.1037/cap0000033

Lee, W.W.S., & Fong, R.W. (2023). Instilling Growth Mindset and Grit in Hong Kong Chinese Community College Students: A Randomized Controlled Intervention Study. In: King, R.B., Caleon, I.S., Bernardo, A.B.I. (eds) Positive Psychology and Positive Education in Asia. Springer. https://doi.org/10.1007/978-981-99-5571-8_14

Li, J., & Raine, J.W. (2014). The Time Trend of Life Satisfaction in China. *Social Indicators Research, 116*, 409-427. https://doi.org/10.1007/s11205-013-0300-4

Li, T. (2018). Which generation is happier An age-period- cohort analysis on the subjective well-being of Chinese residents. *Population & Economics*, (1), 90-102.

Li, X., Jin, Y., Liu, J., Zhang, X., & Pi, Z. (2022). Is older adult happier with more filial piety children The role of filial responsibility expectation of older adult. *Acta Psychologica Sinica*, *54*(11), 1381-1390. https://doi.org/10.3724/SP.J.1041.2022.01381

Li, X., Zhong, H., Zhang, B., & Zhang, J. (2020). A general Chinese chatbot based on deep learning and its' application for children with ASD. *International Journal of Machine Learning and Computing*, *10*(4), 519-526. https://doi.org/10.18178/ijmlc.2020.10.4.967

Li, Y., Ding, Y., Liu, M., Zhang, W., Li, H., & Li, X. (2022). The effect of expertise on the aesthetic consistency of Chinese painting: An fNIRS study. *Journal of Psychological Science*, *45*(3), 514-522.

Liang, H., Tsui, B. Y., Ni, H., Valentim, C. C. S., Baxter, S. L., Liu, G., Cai, W., Kermany, D. S., Sun, X., Chen, J., He, L., Zhu, J., Tian, P., Shao, H., Zheng, L., Hou, R., Hewett, S., Li, G., Liang, P., & Xia, H. (2019). Evaluation and accurate diagnoses of pediatric diseases using artificial intelligence. *Nature Medicine*, *25*(3), 433-438. https://doi.org/10.1038/s41591-018-0335-9

Limeri, L. B., Carter, N. T., Choe, J., Harper, H. G., Martin, H. R., Benton, A., & Dolan, E. L. (2020). Growing a Growth mindset: Characterizing How and Why Undergraduate Students' Mindsets Change. *International Journal of STEM Education*, *7*(1), 35. https://doi.org/10.1186/s40594-020-00227-2

Linden, A. H., & Hönekopp, J. (2021). Heterogeneity of research results: A new perspective from which to assess and promote progress in psychological science. *Perspectives on Psychological Science, 16*(2), 358-376.

Liu, H., Peng, H., Song, X., Xu, C., & Zhang, M. (2022). Using AI chatbots to provide self-help depression interventions for university students: A randomized trial of effectiveness. *Internet Interventions*, *27*, 100495. https://doi.org/10.1016/j.invent.2022.100495

Liu, R. (2023). WeChat online visual language among Chinese Gen Z: virtual gift, aesthetic identity, and affection language. *Frontiers in Communication*, *8*, 1172115. https://doi.org/10.3389/fcomm.2023.1172115

Liu, X., Liu, Y., Shi, H., & Zheng, M. (2021). Effects of mindfulness meditation on musical aesthetic emotion processing. *Frontiers in Psychology*, *12*, 648062. https://doi.org/10.3389/fpsyg.2021.648062

Liu, Y., & Wang, J. (2020). The changes of sense of happiness of Chinese residents in the era: A reanalysis based on generations. *Population and Society*, *36*(6), 94-108. https://doi.org/10.14132/j.2095-7963.2020.06.009

Luan, M., Wu, S., & Li, H. (2020). The relationship between anticipated communication and creativity: Moderating role of construal level. *Acta Psychologica Sinica*, *52*(10), 1178-1188. https://doi.org/10.3724/SP.J.1041.2020.01178

Lucas, R. E. (2007). Adaptation and the Set-Point Model of Subjective Well-Being: Does Happiness Change After Major Life Events. *Current Directions in Psychological Science, 16*(2), 75-79. https://doi.org/10.1111/j.1467-8721.2007.00479.x

Luo, P., Shi, J. Q., Zhu, Y. N., & Fang, Y. R. (2020). The influence of idiosyncratic deals on employee proactive career behavior and creativity. *Acta Psychologica Sinica, 52*(1), 81-92. https://doi.org/10.3724/SP.J.1041.2020.00081

Lyu, Y., Chow, J. C. C., & Hwang, J. J. (2020). Exploring public attitudes of child abuse in mainland China: A sentiment analysis of China's social media Weibo. *Children and Youth Services Review*, *116*, 105250. https://doi.org/10.1016/j.childyouth.2020.105250

Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, *98*(2), 224-253. https://doi.org/10.1037//0033-295x.98.2.224

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review, 50* (4), 370-396.https://doi.org/10.1037/h0054346.

Mastandrea, S., Fagioli, S., & Biasi, V. (2019). Art and psychological well-being: Linking the brain to the aesthetic emotion. *Frontiers in Psychology*, *10*, 739. https://doi.org/10.3389/fpsyg.2019.00739

Miyamoto, Y., & Ryff, C. D. (2011). Cultural differences in the dialectical and non-dialectical emotional styles and their implications for health. *Cognition & Emotion*, *25*(1), 22-39. https://doi.org/10.1080/02699931003612114

Ng, F. F., & Wei, J. (2020). Delving Into the Minds of Chinese Parents: What Beliefs Motivate Their Learning Related Practices? *Child Development Perspectives*, *14*(1), 61-67. https://doi.org/10.1111/cdep.12358

Peng, J., & Wang, Z. (2018). Being a prototypic follower: Burdening or enabling The paradoxical effect of followership prototype-trait match. *Acta Psychologica Sinica*, *50*(2), 216-225. https://doi.org/10.3724/SP.J.1041.2018.00216

Pham, Q. V., Nguyen, D. C., Huynh-The, T., Hwang, W. J., & Pathirana, P. N. (2020). Artificial intelligence (AI) and big data for coronavirus (COVID-19) pandemic: a survey on the state-of-the-arts. *IEEE access, 8*, 130820-130839.

Pintrich, P. R., & de Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology*, *82*(1), 33-40. https://doi.org/10.1037/0022-0663.82.1.33

Qin, F., Li, K., & Yan, J. (2020). Understanding user trust in artificial intelligence□based educational systems: Evidence from China. *British Journal of Educational Technology*, *51*(5), 1693-1710. https://doi.org/10.1111/bjet.12994

Qin, Z., & Song, Y. (2020). The sacred power of beauty: Examining the perceptual effect of buddhist symbols on happiness and life satisfaction in China. *International Journal of Environmental Research and Public Health*, *17* (7), 2551. https://doi.org/10.3390/ijerph17072551

Ruan, X., Li, Y., Jin, X., Deng, P., Xu, J., Li, N., Li, X., Liu, Y., Hu, Y., Xie, J., Wu, Y., Long, D., He, W., Yuan, D., Guo, Y., Li, H., Huang, H., Yang, S., Han, M., … Xu, L. (2021). Health-adjusted life expectancy (HALE) in Chongqing, China, 2017: An artificial intelligence and big data

method estimating the burden of disease at city level. *The Lancet regional health. Western Pacific*, *9*, 100110. https://doi.org/10.1016/j.lanwpc.2021.100110

Runco, M. A. (2010). Divergent thinking, creativity, and ideation. In J. C. Kaufman & R. J. Sternberg (Eds.), *The Cambridge handbook of creativity* (pp. 413-446). Cambridge University Press. https://doi.org/10.1017/CBO9780511763205.026

Ryan, R. M., & Deci, E. L. (2001). On Happiness and Human Potentials: a Review of Research on Hedonic and Eudaimonic Well-Being. *Annual Review of Psychology*, *52*(1), 141-166. https://doi.org/10.1146/annurev.psych.52.1.141

Sabour, S., Zhang, W., Xiao, X., Zhang, Y., Zheng, Y., Wen, J., Zhao, J., & Huang, M. (2023). A chatbot for mental health support: exploring the impact of Emohaa on reducing mental distress in China. *Frontiers in Digital Health*, *5*, 1133987. https://doi.org/10.3389/fdgth.2023.1133987

Seligman, M. (2018). PERMA and the building blocks of well-being. *The Journal of Positive Psychology*, *13*(4), 333-335. https://doi.org/10.1080/17439760.2018.1437466

Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive Psychology: An Introduction. *American Psychologist*, *55*(1), 5-14. https://doi.org/10.1037/0003-066x.55.1.5

Seligman, M. E. P., Park, N., & Peterson, C. (2004). The Values In Action (VIA) classification of character strengths. *Ricerche di Psicologia*, *27*(1), 63-78

Shan, Y., Ji, M., Xie, W., Lam, K. Y., & Chow, C. Y. (2022). Public trust in artificial intelligence applications in mental health care: Topic modeling analysis. *JMIR Human Factors, 9*(4), e38799. https://doi.org/10.2196/38799

Shao, Y., Zhang, C., Zhou, J., Gu, T., & Yuan, Y. (2019). How Does Culture Shape Creativity? A Mini-Review. *Frontiers in Psychology*, *10*, 1219. https://doi.org/10.3389/fpsyg.2019.01219

Shen, J., Zhang, C. J. P., Jiang, B., Chen, J., Song, J., Liu, Z., He, Z., Wong, S. Y., Fang, P. H., & Ming, W. K. (2019). Artificial Intelligence Versus Clinicians in Disease Diagnosis: Systematic Review. *JMIR medical informatics*, *7*(3), e10010. https://doi.org/10.2196/10010

Shi Y. (2022). Assessment of Effect of Perceived Social Support on School Readiness, Mental Wellbeing, and Self-Esteem: Mediating Role of Psychological Resilience. *Frontiers in psychology, 13*, 911841. https://doi.org/10.3389/fpsyg.2022.911841

Smith, C. E., Wayne, J. H., Matthews, R. A., Lance, C. E., Griggs, T. L., & Pattie, M. W. (2022). Stability and change in levels of work-family conflict: A multi-study, longitudinal investigation. *Journal of Occupational and Organizational Psychology, 95*(1), 1-35. https://doi.org/10.1111/joop.12372

Sun, W., Wang, H., Wang, L., Ye, L., & Chen, P. (2022). The cultural art aesthetic behavior of entrepreneurship education for college students in the characteristics of film and television media. *Frontiers in Psychology*, *13*, 880649. https://doi.org/10.3389/fpsyg.2022.880649

Sun, X., Nancekivell, S., Gelman, S. A., & Shah, P. (2021). Growth mindset and academic outcomes: a comparison of US and Chinese students. *Npj Science of Learning*, *6*(1), 21. https://doi.org/10.1038/s41539-021-00100-z

Tang, M., Hofreiter, S., Reiter-Palmon, R., Bai, X., & Murugavel, V. (2021). Creativity as a Means to Well-Being in Times of COVID-19 Pandemic: Results of a Cross-Cultural Study. *Frontiers in Psychology*, *12*, 601389. https://doi.org/10.3389/fpsyg.2021.601389

Ursin, F., Timmermann, C., & Steger, F. (2022). Explicability of artificial intelligence in radiology: Is a fifth bioethical principle conceptually necessary? *Bioethics*, *36*(2), 143-153. https://doi.org/10.1111/bioe.12918

Villani, L., Pastorino, R., Molinari, E., Anelli, F., Ricciardi, W., Graffigna, G., & Boccia, S. (2021). Impact of the COVID-19 pandemic on psychological well-being of students in an Italian university: a web-based cross-sectional survey. *Globalization and Health*, *17(1)*, 39. https://doi.org/10.1186/s12992-021-00680-w

Wan, C., Shen, G. Q., & Choi, S. (2021). Eliciting users' preferences and values in urban parks: Evidence from analyzing social media data from Hong Kong. *Urban Forestry & Urban Greening*, *62*, 127172. https://doi.org/10.1016/j.ufug.2021.127172

Wang, D., & Qian, Y. (2021). Echo chamber effect in rumor rebuttal discussions about COVID-19 in China: social media content and network analysis study. *Journal of Medical Internet Research*, *23*(3), e27009. https://doi.org/10.2196/27009

Wang, P., Pan, J., & Luo, Z. (2015). The impact of income inequality on individual happiness: Evidence from China. *Social Indicators Research*, *121*(2), 413-435. https://doi.org/10.1007/s11205-014-0651-5

Wang, Y., Chen, Z., Li R., & Zhou M. (2024). Positive effects of leader perceived overqualification on team creativity. *Acta Psychologica Sinica, 56*(3), 326-338. https://doi.org/10.3724/SP.J.1041.2024.00326

Wang, Z., Cai, L., Chen, Y., Li, H., & Jia, H. (2021a). The teaching design methods under educational psychology based on deep learning and artificial intelligence. *Frontiers in Psychology*, *12*, 711489. https://doi.org/10.3389/fpsyg.2021.711489

Wang, Z., Luo, S., Xu, J., Wang, Y., Yun, H., Zhao, Z., Zhan, H., & Wang, Y. (2021b). Well-Being Reduces COVID-19 Anxiety: A Three-Wave Longitudinal Study in China. *Journal of happiness studies, 22*(8), 3593-3610. https://doi.org/10.1007/s10902-021-00385-2

Wei, X., Sun, S., Wu, D., & Zhou, L. (2021). Personalized online learning resource recommendation based on artificial intelligence and educational psychology. *Frontiers in Psychology*, *12*, 767837. https://doi.org/10.3389/fpsyg.2021.767837

Wu, W. (2017). Resolving "Commuting Paradox": How commute time influences subjective well-being. *Acta Psychologica Sinica*, 49(11), 1449-1459. https://doi.org/10.3724/SP.J.1041.2017.01449

Xu, M., Liu, B., & Xu, Z. (2023). Lost radiance: Negative influence of parental gender bias on women's workplace performance. *Acta Psychologica Sinica*, *55*(7), 1148-1159. https://doi.org/10.3724/SP.J.1041.2023.01148

Xie, H., Chen, Q., Nespoli, C., & Riso, T. (2022). Understanding the Cognitive Immersion of Hospitality Architecture in Culture and Nature: Cultural Psychology and Neuroscience Views. *Frontiers in Psychology*, *13*, 833819. https://doi.org/10.3389/fpsyg.2022.833819

Xie, Y., & Zhou, X. (2014). Income inequality in today's China. *Proceedings of the National Academy of Sciences of the United States of America*, *111*(19), 6928-6933. https://doi.org/10.1073/pnas.1403158111

Xin, S., Liang, X., Sheng, L., & Zhao, Z. (2021). Changes of teachers' subjective well-being in mainland China (2002~2019): The perspective of cross-temporal meta-analysis. *Acta Psychologica Sinica*, *53*(8), 875-889. https://doi.org/10.3724/SP.J.1041.2021.00875

Xing, Z., & Hu, W. (2022). Changes in the happiness of Chinese residents (2002-2019): A cross-temporal meta-analysis. *Shandong Social Science*, (5), 129-138. https://10.14112/j.cnki.37-1053/c.2022.05.014

Yan, T., Lin, S., Wang, J., Deng, F., Jiang, Z., Chen, G., Su, J., & Zhang, J. (2023). AppraisalCloudPCT: A Computational Model of Emotions for Socially Interactive Robots for Autistic Rehabilitation. *Computational Intelligence and Neuroscience, 2023(1), 5960764*. https://doi.org/10.1155/2023/5960764

Yan, Y., Feng, M., Zhang Y. (2024). "Buddha-like" mentality in workplace: The building of fundamental theory and the empirical test of its validity in Chinese context. *Acta Psychologica Sinica, 56*(5), 594-611. https://10.3724/SP.J.1041.2024.00594

Yang, T., Silveira, S., Formuli, A., Paolini, M., Pöppel, E., Sander, T., & Bao, Y. (2019). Aesthetic experiences across cultures: Neural correlates when viewing traditional Eastern or Western landscape paintings. *Frontiers in Psychology*, *10*, 798. https://doi.org/10.3389/fpsyg.2019.00798

Yang, W., Chen, Q., Huang, X., Xie, M., & Guo, Q. (2022). How do aesthetics and tourist involvement influence cultural identity in heritage tourism? The mediating role of mental experience. *Frontiers in Psychology*, *13*, 990030. https://doi.org/10.3389/fpsyg.2022.990030

Yang, Z., Zeng, Z., Wang, K., Wong, S. S., Liang, W., Zanin, M., Liu, P., Cao, X., Gao, Z., Mai, Z., Liang, J., Liu, X., Li, S., Li, Y., Ye, F., Guan, W.,

Yang, Y., Li, F., Luo, S., … He, J. (2020). Modified SEIR and AI prediction of the epidemics trend of COVID-19 in China under public health interventions. *Journal of Thoracic Disease*, *12*(3), 165-174. https://doi.org/10.21037/jtd.2020.02.64

Yao, R. S., Guo, M. S., & Ye, H. S. (2018). The mediating effects of hope and loneliness on the relationship between social support and social well-being in the elderly. *Acta Psychologica Sinica*, *50*(10), 1151-1158. https://doi.org/10.3724/SP.J.1041.2018.01151

Zeng, Z. Y., Chen, Y. Q., & Su, W. L. (2023). Understanding the Easterlin Paradox in China: Investigating the Psychological Stress and its Relation to Nonincome Factors. *medRxiv*, 2023.12.20.23300287. https://doi.org/10.1101/2023.12.20.23300287

Zhang, J., Fu, M., Xin, Y., Chen, P., & Sha, S. (2020). The development of creativity in senior primary school students: Gender differences and the role of school support. *Acta Psychologica Sinica*, *52*(9), 1057-1070. https://doi.org/10.3724/SP.J.1041.2020.01057

Zhang, Q., & Awaworyi Churchill, S. (2020). Income inequality and subjective wellbeing: Panel data evidence from China. *China Economic Review*, *60*, 101392. https://doi.org/10.1016/j.chieco.2019.101392

Zhang, Q., & Zhou, Y. (2017). Work and happiness of the newly retired in urban China. *Acta Psychologica Sinica*, *49*(4), 472-481. https://doi.org/10.3724/SP.J.1041.2017.00472

Zhang, X., & Zhou, X. (2024). The neural mechanism of artistic creative process. *Journal of Psychological Science, 47*(1), 246-252. https://doi.org/10.16719/j.cnki.1671-6981.20240129

Zhao, Y., Yu, F., Jing, B., Hu, X., Luo, A., & Peng, K. (2019). An analysis of well-being determinants at the city level in China using big data. *Social Indicators Research*, *143(3)*, 973-994. https://doi.org/10.1007/s11205-018-2015-z

Zhao, Y., Yu, F., Wu, Y., Zeng, G., & Peng, K. (2019). Positive Education Interventions Prevent Depression in Chinese Adolescents. *Frontiers in Psychology*, *10, 1344*. https://doi.org/10.3389/fpsyg.2019.01344

Zheng, N., Du, S., Wang, J., Zhang, H., Cui, W., Kang, Z., Yang, T., Lou, B., Chi, Y., Long, H., Ma, M., Yuan, Q., Zhang, S., Zhang, D., Ye, F., & Xin, J. (2020). Predicting COVID-19 in China Using Hybrid AI Model. *IEEE Transactions on Cybernetics*, *50*(7), 2891-2904. https://doi.org/10.1109/TCYB.2020.2990162

Zheng, X., & Liu, X. (2016). The effect of interactional justice on employee well-being: The mediating role of psychological empowerment and the moderating role of power distance. *Acta Psychologica Sinica*, *48*(6), 693-709. https://doi.org/10.3724/SP.J.1041.2016.00693

Zheng, X. M., Yu, Y., & Liu, X. (2022). The effect of spouse emotional intelligence on employee work engagement: The mediating role of employee life well-being and the moderating role of gender. *Acta Psychologica Sinica*, *54*(6), 646-664. https://doi.org/10.3724/SP.J.1041.2022.00646

Zhou, L. Q., Wang, J. Y., Yu, S. Y., Wu, G. G., Wei, Q., Deng, Y. B., Wu, X. L., Cui, X. W., & Dietrich, C. F. (2019). Artificial intelligence in medical imaging of the liver. *World Journal of Gastroenterology*, *25*(6), 672-682. https://doi.org/10.3748/wjg.v25.i6.672

Zhu, J., Xu, S., Zhou, J., Zhang, B., Xu, F., & Zong, B. (2020). The cross-level double-edged-sword effect of boundary-spanning behavior on creativity. *Acta Psychologica Sinica*, *52*(11), 1340-1351. https://doi.org/10.3724/SP.J.1041.2020.01340

Zhu, L., Chen, P., Dong, D., & Wang, Z. (2022). Can artificial intelligence enable the government to respond more effectively to major public health emergencies?—Taking the prevention and control of Covid-19 in China as an example. *Socio-economic Planning Sciences*, *80*, 101029. https://doi.org/10.1016/j.seps.2021.101029