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MJHE

MALAYSIAN JOURNAL OF HUMAN ECOLOGY

Volume 4, 2023



A scientific journal published by
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MALAYSIAN JOURNAL OF HUMAN ECOLOGY



The Malaysian Journal of Human Ecology (MJHE) is published by Faculty of Human Ecology, Universiti Putra Malaysia. MJHE is an open-access journal and published once a year, in December. The aim of MJHE is to provide the platform for research paper publication and for public references, especially in human ecology.

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Malaysian Journal of Human Ecology Volume 4 2023 eISSN 2773-4951

A scientific journal published by Faculty of Human Ecology, Universiti Putra Malaysia

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VOLUME 4, 2023**

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MALAYSIAN JOURNAL OF HUMAN ECOLOGY

Journal Homepage:

https://eco1.upm.edu.my/malaysian_journal_of_human_ecology_mjhe-3740

CORRELATES OF EMOTIONAL INTELLIGENCE AMONG IRANIAN ADOLESCENTS DURING THE POST PANDEMIC ERA

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ABSTRACT

COVID-19 indeed had both positive and negative emotional impacts on adolescents, who grappled with challenging physical and mental changes. Some adolescents demonstrated resilience during the pandemic, adapting to the challenges and uncertainties they faced. Emotional intelligence, which involves recognizing and managing emotions, became crucial for adolescents undergoing significant physical and psychological changes during the pandemic. COVID-19 had adverse effects on the mental health of adolescents, leading to increased stress and emotional struggles. Measures such as social distancing negatively impacted adolescents' social interactions and emotional well-being. Moving forward to a post-pandemic world, it is essential to consider strategies for preventing or enhancing emotional intelligence among adolescents. Effective communication, whether with peers or parents, can equip adolescents with the emotional skills they need to transition into post-pandemic life and return to a sense of normality. These strategies can be informed by a deeper understanding of the emotional impact of COVID-19 on this demographic. This study tries to enhance emotional intelligence according to the Goleman Mixed Model (1995), The Theory of Attachment by Bowlby (1983), and Social Information Process Theory by Crick and Dodge (1994). Data collected from 384 Iranian adolescents from Ahvaz aged between 15 to 18 years old, using a self-administered questionnaire that combined Emotional Intelligence Scale by Salovey and Sluyter (1997), COVID-19 Impact Scale by Brome et al. (2020), Parent and Peer Attachments Scale by Armsden and Greenberg (1987), and Online Networking Scale by Soleymani (2016). The hypotheses were tested using the Statistical Package for the Social Sciences version 26 (SPSS). Accordingly, COVID-19 ($r = -.285, p < .05$), maternal attachment ($r = .217, p < .05$), paternal attachment ($r = .375, p < .05$), peer attachment ($r = .441, p < .05$), and online networking ($r = .141, p < .05$), showed significant relationships with emotional intelligence among adolescents in Ahvaz, Iran. In conclusion, concerted efforts to enhance emotional intelligence among adolescents is essential in developing strategies that support their emotional well-being.

Keywords: Adolescent, Emotional Intelligence, Covid-19 Impact, Mother Attachment, Paternal Attachment, Peers Attachment, Online Networking.

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INTRODUCTION

During the unpredictable COVID-19 crisis, the global spotlight has turned to the emotional well-being of adolescents. As the world struggled with the pandemic, understanding how it has shaped emotional intelligence in adolescents has emerged as a relevant and imperative topic. In these times, where resilience, adaptability, and empathy are more vital than ever, our study undertakes the intricate task of examining the pandemic's impact on the emotional intelligence of adolescents (Bera et al., 2022). Moreover, it scrutinises the essential preparations engaged in for a post-pandemic world.

Adolescence, characterised by the transition from childhood to adulthood, encompasses profound biological, cognitive, and sociolect-emotional developments, resulting in a complex interplay of positive and negative influences on thoughts, feelings, and behaviours (Samosir et al., 2022). During this phase, it was important to understand and manage how people express their emotions and thoughts, both in one and in others. This skill is essential for overcoming physical and mental challenges. Drawing from this perspective, Goleman (1995) introduced the mixed model of emotional intelligence, comprising five distinct sub-components stemming from traits: self-awareness, self-management, social awareness, social management, and emotional regulation (Rochat et al., 2022).

Furthermore, the study's findings emphasise the urgent need for targeted interventions and support systems to

enhance emotional intelligence among adolescents and alleviate the emotional distress they experience (Drigas & Papoutsis, 2020). In a 2021 study conducted by Shahriarirad et al., which involved 8,591 participants aged 15 and older (comprising 66.4% females and 33.6% males), it was discovered that a substantial number of adolescents within the general population are grappling with emotional distress. This is a cause for concern as emotional intelligence is pivotal in bolstering adolescents' mental health and emotional well-being. Official sources have additionally documented low levels of emotional intelligence among adolescents in Iran, including those residing in Ahwaz (Research Center Priorities, 2021).

By examining this critical aspect, the study aims to shed light on the nuanced ways the pandemic has influenced emotionally on adolescents and the implications it carries for their preparations in the post-pandemic era. It is crucial to grasp these factors to create specific help and support for vulnerable adolescents navigating a changing world. Therefore, the findings hold implications for designing targeted interventions and support systems that can successfully empower adolescents to navigate the challenges of the post-pandemic era.

One of the supporting systems is parents' attachment. Communicating and trusting parents significantly nurture emotional intelligence (Roy & Giraldo-García, 2018). Parental behaviour is essential in establishing attachment styles among adolescents and is viewed as a critical

determinant of children's emotional and social development (Bowlby, 1983). The parent-child relationship quality remains critical even as children move through adolescence, which is often associated with social competence and cognitive and emotional processes. This necessitates a safe and secure environment for adolescents to manage new experiences independently (Armsden et al., 1987). A healthy relationship with parents helps adolescents feel secure and remain well-adjusted in their social environment (An et al., 2021). Having supportive parents as an external component is critical for emotional intelligence among adolescents. Adolescents with secure attachments can easily express their emotions using verbal or nonverbal signals and regulate them, leading to positive emotions and calmness (Bowlby, 1979). On the other hand, individuals with anxious attachments tend to employ emotional regulation strategies that emphasise stressful behaviour, while those with avoidant attachments tend to suppress emotional experiences (An et al., 2021).

Moreover, insecure adolescents seek security from their peers instead of their parents (Brown et al., 2021). Correspondingly, positive attachments with peers can enhance adolescents' ability to adapt their emotions to unfavourable environmental and family conditions (Brown et al., 2019). In other words, peers may play an important role in influencing adolescents' emotional abilities. Accordingly, research in Iran showed that adolescents who reported positive peer attachments generally demonstrated better emotional health and an improved ability to understand others' feelings. Conversely,

they exhibited lower psychopathic symptoms, such as emotional distress (Ghasemi et al., 2019; Moshki et al., 2017). Indirect communication, which has become increasingly common during the COVID-19 pandemic, is another factor that may have influenced people's emotional bonds and, consequently, their well-being through emotional regulation (Ruggieri et al., 2021). Additionally, adolescents can use online social networking to establish connections with their peers and society, which, in turn, may contribute to emotional regulation.

This research ultimately serves as a foundation for informed decision-making and policy development to ensure the mental and emotional resilience of the next generation in the face of ongoing uncertainties. The study considers the unique cultural, social, and environmental factors specific to Ahwaz, Iran, which can affect both the development of emotional intelligence and the strategies adolescents employ as they prepare for life after the pandemic. Hence, the study's objective is to determine relationships between (age, parent attachment, peer attachment, online networking, and emotional intelligence among adolescents from Ahwaz, Iran. The following sections will present the methodology employed, discuss our findings, and critically analyse their implications.

LITERATURE REVIEW

According to the British Broadcasting Corporation (2007), adolescence has three stages. The first stage is body maturation, from 12 to 14 years old. The second stage is middle adolescence, from 14 to 16 years old, characterised by setting goals and looking inward as a psychological development. The third stage is late adolescence, occurring from 16 to 19 years old, which involves a greater capacity for moral reasoning and identity and a more significant wish for privacy, resulting in distancing oneself from others. During adolescence, emotional development is often the cause of more time spent with friends and distancing from parents. On the other hand, the Quran and Islamic literature divide the duration of life into two stages, namely, childhood and adulthood. Accordingly, adolescence is a normal stage of life marked by a lack of experience and immaturity.

Studies have shown linear changes in trait emotional intelligence across adolescence (Petrides et al., 2016). Similarly, a cross-sectional study by Gardner and Lambert (2019) showed that older adolescents reported lower emotional intelligence among 334 Jamaican adolescents aged 10 to 18 years old. Additionally, a study by Gallitto et al. (2019) among 1850 Canadian adolescents aged 10 to 12 years revealed that trait emotional intelligence had a significant relationship with prosaic behaviour. Specifically, higher emotional intelligence was related to higher prosaic behaviour in adolescents with average or low emotional intelligence at 14 to 16 years old.

According to the study by Esnaola et al. (2017) among 484 Spanish students aged 12 to 18 years, all subscales of emotional intelligence were associated with age, except for stress management. Gomez-Baya et al. (2017) found

no significant relationship between age and emotional skills. Studies showed that emotional intelligence generally does not change over the years, except for emotional management and trait emotional intelligence skills.

Parents' attachment style pertains to emotional feedback on individuals' social relationships. Individuals with different attachment styles use distinct emotional regulation strategies (Shaver, 1996). Accordingly, securely attached adolescents can regulate their emotions to reduce stress, whereas those insecurely attached (e.g., anxiously attached) are more susceptible to experiencing negative emotions and elevated stress. In contrast, avoidantly attached individuals try to regulate negative emotions to avoid stressful situations. Children and adolescents need to develop social and emotional health through emotional regulation. Effective emotion regulation as a developmental skill is critical for children's mental health and successful relationships. Indeed, children's attachment relationships help them to feel supported and emotionally safe. Scarlat (2021) studied 281 people (i.e., male = 52 and female = 229) in Bucharest, aged 18 to 40, from single- and two-parent families. The researcher found that secure and avoidant attachment positively predicted emotional intelligence, while anxious attachment negatively correlated with emotional intelligence. According to a study by Liang et al. (2021) in Italy involving 838 children and adolescents aged 3 to 18 and their parents, fearful attachment styles in children were related to higher emotional disturbance during the coronavirus pandemic. Therefore, parent attachment is essential for promoting balanced physical and mental well-being (Buheji et al., 2020). Additionally, a study by Ye et al. (2022) of 733 middle school students (54.3% boys) in Beijing, China, found that positive parent-child relationships positively

affected adolescents' emotional regulation during the pandemic.

A literature review by Branje et al. (2020) of 21 journal articles similarly demonstrated that adolescents with supportive families exhibited better emotional regulation during the pandemic.

Sabina Kaepetanovic et al. (2020) conducted a study among 1767 Swedish adolescents, which found no apparent psychosocial dysfunction during the COVID-19 pandemic. However, adverse changes in psychosocial functioning were likely to be reported during the outbreak of the COVID-19 disease by female adolescents, highlighting the importance of monitoring changes in psychosocial functioning during such crises.

Rogers et al. (2021) conducted a study among 470 American adolescents aged 15 (50% males, 52% females), which found various changes in perceived support from family and friends during COVID-19. Results of a longitudinal study by Weisman et al. (2021) among 145 children aged 10 to 15 showed that encountering stressors related to the pandemic was closely associated with internalising problems. Specifically, children with high suppression and less use of cognitive reappraisal in the early days of the pandemic showed higher internalising problems. Overall, emotional intelligence protects children during times of crisis.

Emotional intelligence is the capacity to organise and manage thoughts and feelings to achieve more desirable choices and decisions. Every person interacts with others his/her age in a small and relatively intimate group, referred to as a peer group. A peer group for

most teens is a reference group to form viewpoints, behaviours, goals, group norms, and ways of conduct (Marengo et al., 2021). Compared to childhood, peer relationships in adolescents are more profound, intimate, and influential (Marengo et al., 2021). Moreover, a study by Rajendran et al. (2022) among 400 grade 7 students in general schools in Malaysia showed a significant positive association between peer attachment and emotional well-being. In summary, the review of past studies showed the positive impact of peer attachment on emotional intelligence among adolescents in both Eastern and Western cultures.

Moreover, Rossi Shao et al. (2021) conducted a study on 538 Chinese Internet users aged 18 to 78 from Hubei province during the COVID-19 pandemic. They found a positive relationship between emotional regulation strategies and communication. Similarly, a study by Ellis et al. (2020) of 1,054 Canadian adolescents aged 16 showed that online networking was a pathway to regulating emotion during the COVID-19 crisis. Saladino et al. (2020) further emphasised the effect of emotional well-being among children, who are more likely to face emotional distress due to social distance and perception of empathy toward others via online networking.

A study by Hang et al. (2020) conducted during the COVID-19 outbreak found that fear and anxiety are common among both groups under study. As Hang et al. (2020) argued, crisis communication focusing on shared emotions during the COVID-19 pandemic is vital due to its emotional attachment. According to a study by Li (2020) among 3159 18 years old respondents from China, more discussions of COVID-19 via online networking were positively correlated with emotional well-being. Further, the findings of

the study by Subramaniam (2020) among 10 adolescents aged 16 to 18 years old from divorced families in Malaysia indicated the positive effect of online networking on the emotional well-being of adolescents.

The results of the study by Zhang and Wang (2021) among 406 left-behind children aged 12 years (i.e., 202 were males and 204 were females) from China showed the significant negative impact of online networking on the relationship between peers' attachment and level of emotional intelligence. Adolescents with social anxiety manifested poorer peer relationships than others. Since peer relationships are essential for psychosocial functioning and outcomes, the shift to online communication during the pandemic may be necessary.

METHOD

The study was conducted in Ahvaz, a city in the Southwest of Iran, among 383 adolescents aged 15 to 18 studying in public high schools. The cluster random sampling method was utilised to select the respondents for the study. The study was quantitative and utilised a self-report questionnaire to collect data. The study used a correlational research design.

The Siberia Schering's (1995) Emotional Intelligence Questionnaire, developed by adapting the mixed model of Goleman (1995), was used to assess respondents' emotional intelligence. The questionnaire contains 33 items. The reliability of the questionnaire was determined by Haddadi et al. (2011) using Cronbach's alpha and was reported to be equal to 0.87 on an Iranian sample.

The Corona Virus Health Impact Survey (CRISIS) V0.3, designed by Brome et al.

(2020), utilises a 5-point Likert scale. The results indicated high reliability (0.87). The questionnaire assesses mood, daily behaviours, and changes resulting from COVID-19. In this context, a high score suggests a significant impact of COVID-19 on mental health.

The Inventory of Attachment by Armsden and Greenberg (1987) assessed respondents' attachment to their parents. The IPPA was reported to be reliable for measuring attachment with a Cronbach's alpha value of .93 (Armsden & Greenberg, 1987). The studies by Mobarakeh (2014) and Jafary et al. (2022) conducted in Iran indicated that Cronbach's alpha value for paternal and maternal was .83 and .82, respectively. In addition, the IPPA has been proven to have good construct validity.

An 11-item questionnaire, the Online Networking Scale, designed by Majid Soleymani (2016), was used to gather data for the study. Respondents were asked to answer questions on the spent on social networking sites. In this questionnaire, a high score indicates extensive usage of online networking. The measure demonstrated excellent internal consistency in the original article (Cronbach's alpha =0.80). Additionally, using Cronbach's alpha, the construct validity of online networking was supported in the original study by Saadipour et al. (2016). It was reported to be equal to 0.87 on an Iranian sample. All questionnaires are according to five likert scale.

Sampling Method

The researchers used cluster sampling to select students from government high schools in Ahvaz, Iran, to study the relationship between various factors and emotional intelligence. Cochran's formula was employed to determine the sample size, and additional questionnaires were distributed to account for potential issues. The final sample consisted of

383 students aged between 15 and 18 years old from selected schools.

RESULTS

Correlational Analyses

This section presents the relationship between respondent's parents' attachment, peers' attachment, and online networking with emotional intelligence (Refer to Table 1).

Table 1

Correlations between respondent's Emotional Intelligence, Age, COVID-19 impact, Maternal Attachment, Paternal Attachment, Peers Attachment, Online Networking

	1	2	3	4	5	6	7
1. Emotional Intelligence	1						
2. Age	.014	1					
3. COVID_19	-.285**	.044	1				
4. Maternal Attachment	.217**	-.062	-.194**	1			
5. Paternal Attachment	.375**	-.028	-.097	.262**	1		
6. Peers Attachment	.441**	-.002	-.163**	.158**	.544**	1	
7. Online Networking	.141**	.024	-.068	.120*	-.029	-.064	1

Objective 1: To determine relationships between (Age, COVID-19 impact, maternal attachment, paternal attachment, peer attachment, and online networking with emotional intelligence among adolescents from Ahvaz, Iran.

Ha1: A significant relationship exists between the respondent's age and emotional intelligence among adolescents in Ahvaz, Iran.

The study, employing the Pearson correlation test, found no significant relationship between respondents' age and emotional intelligence among adolescents ($r = 0.014$, $p > 0.05$), leading to the conclusion that age does not impact emotional intelligence in this context, thereby failing to support the alternative hypothesis Ha₁ (Refer to Table1).

Ha2: There is a significant relationship between COVID-19 impact and adolescent emotional intelligence in Ahvaz, Iran.

The study, employing the Pearson correlation test, found a negative significant relationship between respondents' COVID-19 impact and emotional intelligence among adolescents ($r = -.285$, $p > .01$), leading to the conclusion that COVID-19 hurts emotional intelligence in this context, thereby support the alternative hypothesis Ha₂ (Refer to Table1).

Ha3: A significant relationship exists between maternal attachment and emotional intelligence among adolescents in Ahvaz, Iran.

The study, employing the Pearson correlation test, found a positive significant relationship between respondents' maternal

attachment and emotional intelligence among adolescents ($r = .217$, $p < .05$), leading to the conclusion that maternal attachment has a positive impact on emotional intelligence in this context, thereby support the alternative hypothesis Ha₃ (Refer to Table1).

Ha4: A significant relationship exists between paternal attachment and emotional intelligence among adolescents in Ahvaz, Iran.

The study, employing the Pearson correlation test, found a positive significant relationship between respondents' paternal attachment and emotional intelligence among adolescents ($r = .375$, $p < .05$), leading to the conclusion that paternal attachment has a positive impact on emotional intelligence in this context, thereby support the alternative hypothesis Ha₄ (Refer to Table1).

Ha5: There is a significant relationship between peer attachment and emotional intelligence among adolescents in Ahvaz, Iran.

The study, employing the Pearson correlation test, found a positive significant relationship between respondents' peer attachment and emotional intelligence among adolescents ($r = .441$, $p < .05$), leading to the conclusion that peer attachment has a positive impact on emotional intelligence in this context, thereby support the alternative hypothesis Ha₅ (Refer to Table1).

Ha 6: There is a significant relationship between online networking and emotional

intelligence among adolescents in Ahvaz, Iran.

The study, employing the Pearson correlation test, found a positive significant relationship between respondents' online networking and emotional intelligence among adolescents ($r = .141, p < .05$), leading to the conclusion that online networking has a positive impact on emotional intelligence in this context, thereby support the alternative hypothesis H_{a6} (Refer to Table1).

DISCUSSION

Understanding the positive and negative emotional impacts of COVID-19 can inform strategies for preventing or enhancing emotional intelligence in a post-pandemic world. Here is a summary of these impacts: Many individuals displayed resilience during the pandemic, coping effectively with stress and uncertainty, which can be a positive trait to expand upon post-pandemic. People became more emotionally connected to their communities, emphasising the importance of social support networks. COVID-19 brought about increased stress and anxiety, highlighting the need to address these negative emotions in post-pandemic mental health strategies. Constant exposure to pandemic news contributed to emotional fatigue, indicating the importance of managing information consumption. Strategies to prevent negative emotional impacts should focus on stress management, information control, and building emotional resilience (Drigas et al., 2020). Post-pandemic efforts to enhance emotional intelligence could leverage the positive aspects, such as fostering

emotional connections and resilience while addressing negative emotions through mental health support (Rossettini et al., 2021). In conclusion, understanding the emotional impacts of COVID-19 can guide strategies to prevent adverse outcomes and enhance emotional intelligence in the post-pandemic era. Leveraging resilience and emotional connections while addressing stress and emotional fatigue will be critical.

The present study aimed to investigate whether the involvement of parents and peers and online networking could be a beneficial strategy for enhancing adolescents' emotional intelligence following the pandemic and post-pandemic. The results of Pearson correlation analysis indicated that both mother and father attachment were significantly and positively correlated with emotional intelligence. Similarly, peer attachment and online networking significantly positively correlated with emotional intelligence. However, the observed negative relationship between COVID-19 impact and emotional intelligence is worth noting, but not for age.

During the COVID-19 pandemic, where direct relationship with friends was not possible, indirect relationships through online networking enhanced emotional intelligence among adolescents in Ahvaz, Iran. According to Goleman's Mixed Model (1985), emotional intelligence is established during the adolescent stage within the context of close and supportive relationships with parents and peers, either directly or indirectly. The quality of the relationship is crucial to the adolescent individuation process, especially during a

crisis, as they may experience more significant emotional challenges that can lead to greater emotional intelligence. As emotional intelligence plays a vital role in everyday functioning, adolescents who can manage their negative emotions will be less affected by their environment. They can redirect negative emotions into positive ones, which can help enhance their performance (Tabroni et al., 2022). Therefore, there is a close association between emotional management, emotional intelligence, social interaction, and interpersonal skills, which are assets when working with others in a group (Green et al., 2021).

According to Bowlby (1983), social context, including family members, parents, schools, and neighbours, significantly enhances emotional well-being and creates a sense of safety among adolescents. The present study supports this assertion, as adolescents who reported strong relationships with their parents showed better emotional intelligence outcomes. Conversely, adolescents who reported weak relationships with their parents and peers exhibited poor emotional outcomes. These findings suggest that social interaction skills enable individuals to perform better in group assessments as they gain social support and a sense of well-being in their environment (Prochnow et al., 2023). Moreover, the present study's significant association between communication and emotional intelligence is consistent with Goleman's (1995) assumption regarding the role of communication in emotional health.

Social information processing pertains to how individuals, particularly children, establish successful relationships with society. This includes their ability to decipher and understand social cues, set goals, create responses, make decisions on actions, and comprehend the behaviours of others during communication, whether directly or indirectly. Research on online social media has shown positive effects on emotion management, as emotions expressed through online interactions lead to positive psychological implications that help adolescents gain better self-control and a sense of belonging through social connections, particularly when they lack opportunities to communicate with peers and others. Furthermore, after experiencing social rejection by peers or parents, social interactions through online media can fulfil the need for belonging. Adolescents who have an insecure attachment to their parents and peers are likely to feel challenged by their family, peer groups, and society during a crisis. Thus, it is suggested that parents are equipped with appropriate strategies and knowledge or awareness to help them increase the adolescents' emotional awareness, emotional regulation, motivation, and social skills that help improve emotional intelligence and ability to face a crisis.

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MALAYSIAN JOURNAL OF HUMAN ECOLOGY

Journal Homepage:

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PRELIMINARY STUDY ON PARENTAL PERSPECTIVES TOWARDS THE BENEFITS AND CONSTRAINTS OF NATURE PLAYSCAPES FOR PRESCHOOLERS IN PETALING, SELANGOR

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ABSTRACT

In today's world, where technology has become an integral part of our lives, providing children with opportunities to explore and play in nature is crucial. In Malaysia, there needs to be more research on the benefits of learning with nature, particularly from parents who choose the best space for their child's nature play. This preliminary study examines parents' perspective of preschoolers' play behaviour in nature playscapes and evaluates how nature playscape features can enhance children's development. A quantitative approach was employed, and a convenient sampling method was applied to gather responses from 192 participants who were parents of children aged 3 to 6 years living in the Petaling District. Questionnaires constructed were reviewed and validated by panels of experts in the research field. Reliability tests and descriptive analyses were conducted using SPSS software. Results showed that most parents acknowledged the benefits of nature playscapes, mainly in reducing anxiety and depression symptoms, promoting physical development, resilience development, and creating opportunities for discovery.

Additionally, the study identified inadequate supervision, the absence of natural space, and inclement weather as the primary barriers to outdoor nature play for preschoolers. The study suggests that further research is necessary to investigate the potential of outdoor recreation spaces in enhancing preschoolers' nature play development. This will facilitate the creation of a broader range of high-quality outdoor recreation spaces that promote the healthy development of preschoolers at all levels.

Keywords: Parental perspectives, nature play, playscapes, preschoolers

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INTRODUCTION

The United Nations Convention on the Rights of the Child 1989 recognises that children's access to play is a fundamental human right. Article 31 of the convention states that every child has the right to participate in play and recreational activities suitable for their age and to engage in cultural life and the arts freely. Natural areas or outdoor recreational spaces allow preschoolers to play, discover the beauty of the natural world, and enjoy spending time outdoors. These spaces offer a range of physical activities across different environments that can contribute to developing and enhancing preschoolers' play skills (Cengiz & Boz, 2019). Erik Erikson's theory suggests preschoolers aged 3 to 6 can set goals, explore interpersonal skills, and initiate activities such as planning, developing games, and completing tasks. During this age range, preschoolers become more independent and focused as their world expands (Centers for Disease Control and Prevention, 2021). The connection between preschoolers and nature play can impact their play behaviour, particularly when they can direct their play by selecting activities and materials and forming groups based on their interests. Nathalie et al. (2022) indicate that a play-based learning approach enables preschoolers to discover and identify physical laws through self-directed, action-oriented, and playful activities that are essential for their future. Therefore, nature playscapes should be designed as creative, open environments encouraging preschoolers' understanding and physical exploration.

In many countries, there is a growing body of research linking natural outdoor

environments to children's well-being, and there has been renewed interest at both the policy and practice levels in promoting access to outdoor spaces, particularly natural areas, for nature play (Ernst & Burcak, 2019). However, in Malaysia, there needs to be more knowledge about parents' views on providing a nature playscape for preschoolers to learn and play in, as parents are the ones who make decisions about what is best for their children (Saleh et al., 2018). Nowadays, preschoolers are often confined within walls and doors that isolate them from the outside world. Von Benzon (2017) noted that many preschools are designed to restrict children's movement and maximise opportunities for adults to monitor them. Additionally, the design of playscapes often fails to meet preschoolers' needs and preferences (Aziz & Said, 2017). As a result, the separation from the natural environment can hinder preschoolers' developmental progress.

It is crucial to comprehend preschoolers' play behaviour and the requirements of nature playscapes, as nature play can impact their cognitive, physical, emotional, social, and motor development and overall well-being. This preliminary study investigates how parents perceive preschoolers' play behaviour in nature playscapes and how these natural settings can enhance the development of preschoolers' nature play. It is crucial to comprehend how preschoolers engage in play and recognise the significance of nature playscapes to establish guidelines that promote optimal development and improvement.

LITERATURE REVIEW

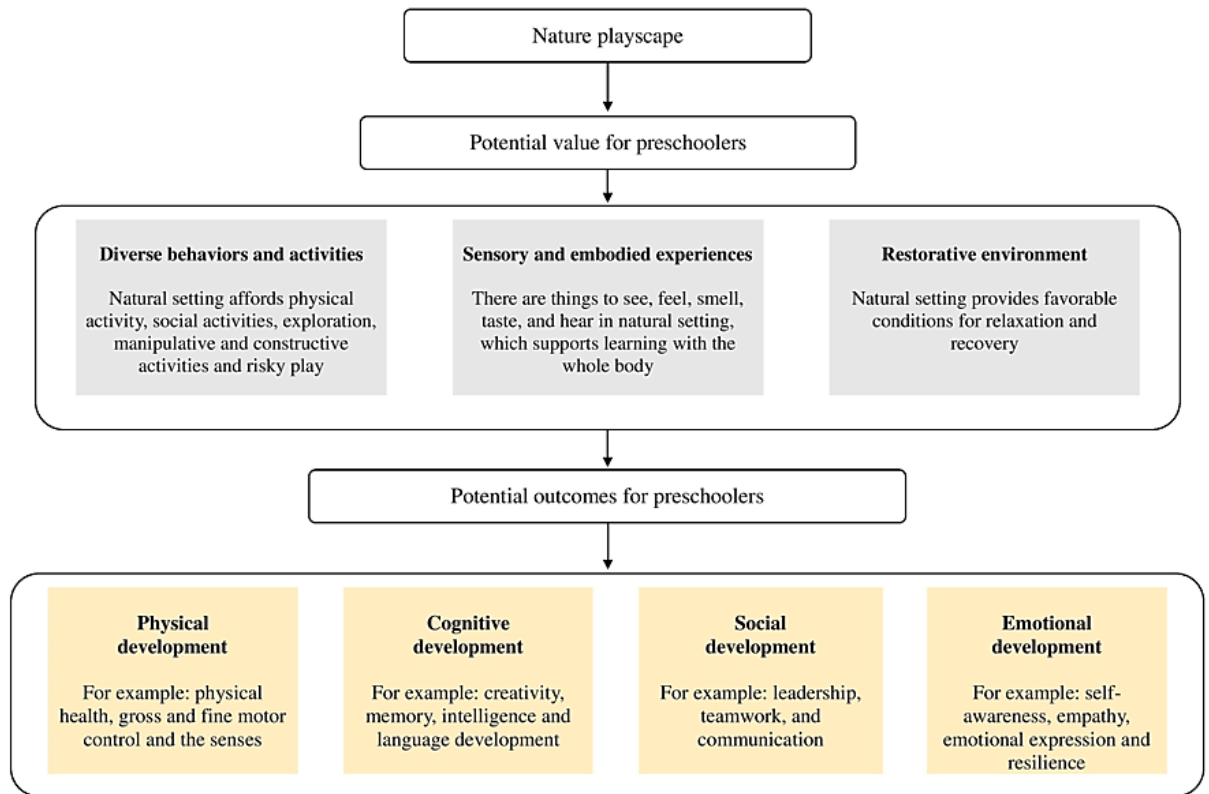
According to Ernst (2021), during early childhood, the most critical period is not only about development but also critical in the context of sustainability. Values, attitudes, and foundational skills learned in early childhood extend throughout life. Access to outdoor spaces is essential for preschoolers' development and physical well-being. Thus, to attract children to outdoor spaces, we must create safer, child-friendly environments that cater to their needs and preferences. Agarwal, Sehgal and Ogra (2021) suggested that natural features and vegetation types are important for outdoor play and physical activity among preschoolers.

A nature playscape is an outdoor recreation space where preschoolers can enjoy nature, play, and explore the world. According to Cengiz and Boz (2019), a nature playscape is an environment that offers various physical activity opportunities that can enhance the play development and experience of preschoolers. Nature play spaces incorporate natural elements to encourage unstructured play in a park-like setting.

Encouraging preschoolers to connect with nature can significantly impact various aspects such as education, community development, urban planning, and health disciplines. This is due to the multiple benefits associated with the health and development of children. As stated by Miller et al. (2022), outdoor play and exploration of natural elements can promote education in its broadest sense. Ernst and Burcak (2019) also mention that outdoor play and exploration can foster a positive emotional and experiential relationship between preschoolers and

nature, laying the foundation for future examination of environmental issues and appropriate action. Natural surroundings provide a diverse and challenging environment for preschoolers to explore, experience new things, take risks, and engage in play. Ernst and Burcak (2019) suggest that natural playscapes, with their variability, diversity, and open-mindedness, can enhance the opportunity for learning and development through play.

The theoretical framework in Figure 1, adapted from Van Den Bogerd et al. (2023), explains how a nature playscape can contribute to preschoolers' development. The framework centralises preschoolers as the main focus and recognises that healthy development relies on a balance between diverse behaviours and activities, sensory and embodied experiences, and restorative environmental values. The framework provides insight into the potential outcomes of nature playscape related to preschoolers' physical, cognitive, social, and emotional development and the pathways through which they may occur. The scientific work assembled by Van Den Bogerd et al. (2023) suggests that nature playscape can support healthy development and help solve several social dilemmas. Therefore, parents' perspectives are crucial for this study as they offer valuable insights into their children's play behaviour as well as the benefits and barriers associated with natural playgrounds. The idea is supported by Bento and Dias (2017), whose previous research has shown that parents' attitudes and beliefs can significantly impact their children's engagement in nature play.



METHODOLOGY

Sampling and data collection

From April 2, 2023, to June 30, 2023, a convenient sampling method was applied to gather responses from parents of children aged 3 to 6 years living in the Petaling District. Petaling District was selected as the study site because of its high population density, developed status, and abundant natural areas and parks suitable for preschoolers. This enabled a more focused understanding of parents' perspectives on nature play for preschoolers in urban areas.

A convenience sample contains sampling units chosen because they are easily accessible (Cochran, 1977). To determine the sample size for the study, Cochran's sample formula was used, which indicated that 384 participants were needed at a confidence level of 95%. Cochran's

formula is considered especially appropriate in situations with large populations. However, a subset of 192 participants was used for this preliminary study, representing half of the total sample size. This approach was deemed reasonable by Doody and Doody (2015) for small-scale versions of the main study, which involve recruiting a limited number of participants who share similar characteristics with those in the full-scale study. The researcher used this sample size to examine parents' perspectives on preschoolers' play behaviour in nature playscapes and evaluate how nature playscape features can enhance children's development. While this sample may not fully represent the larger population of parents with preschoolers, it can provide

valuable insights and information that can be used to refine research questions and methods for future studies.

Instrumentation and statistical analysis

The questionnaire used in the survey was composed of five sections, comprising demographic information, frequency of parent-child play, playtime at the playscape setting, nature play benefits, and nature playscape constraints for preschoolers. These sections were adapted from Ernst (2018), Gallagher (2015), and Loebach and Cox (2020) to ensure appropriateness and effectiveness in exploring the research area. This study utilised a five-point Likert scale ranging from "strongly disagree" to "strongly agree". This scale is a common practice in survey research due to its effectiveness in capturing nuanced responses while remaining easy to understand and complete (Tanujaya et al., 2022). The questionnaire was constructed in Malay Language and English version. The instruments were reviewed and validated by panels of experts in the research field. A reliability test was done to assess the questions' clarity, appropriateness, and consistency (Table 1).

Descriptive analyses were conducted following the research objectives. Statistical analysis was conducted using SPSS version 20.

Table 1 shows the reliability results from the pilot test. Cronbach's alpha values for each survey section ranged from 0.576 to 0.947. The section with the highest alpha value is constraints of nature playscape for preschoolers, indicating that the items in this section are highly related and measure the same underlying construct with a high degree of consistency. On the other hand, the section with the lowest alpha value is the frequency of parent-child play, indicating that the items in this section are less related and may not measure the same underlying construct as well as the other sections. In short, Cronbach's alpha test results provide information about the internal consistency and reliability of the survey sections.

Table 1: Survey structure and Cronbach's alpha test results

Survey Sections	Number of items	Cronbach's Alpha (α)
Frequency of parent-child play	3	0.576
Parent-child outdoor playtime	3	0.781
Benefits of nature playscape for preschoolers	10	0.906
Constraints of nature playscape for preschoolers	10	0.947

RESULTS AND DISCUSSION

The preliminary study's results showed that the 192 respondents reported having children aged 3 to 6 years old, as indicated in Table 2, which displays the demographic characteristics of the parent respondents. The findings revealed that 88.5% of the respondents were mothers, while 11.5% were fathers. The majority of the respondents were housewives (37%), and they have extended periods throughout the

day to engage in play with their children at home. Most respondents had received professional education, with 50.5% having a bachelor's degree, 27.6% having a diploma, 10.9% having a master's degree, and 3.1% having a PhD. The majority of the children were three years old (31.3%), male (58.3%), first-born (42.2%), and received early childhood care and education (ECCE) at preschools or kindergartens (44.3%).

Table 2: Demographic characteristics of the respondents (n = 192)

Parents Demographics			Child Demographics		
Characteristics	Frequency	Percentage (%)	Characteristics	Frequency	Percentage (%)
Relation with the child			Age		
Father	22	11.50	3 Year	60	31.30
Mother	170	88.50	4 Year	48	25.00
Profession			5 Year	45	23.40
Government sector employee	40	20.80	6 Year	39	20.30
Private sector employee	46	24.00	Gender		
Self-employed	33	17.20	Male	112	58.30
Housewife	71	37.00	Female	80	41.70
Unemployed or retired	2	1.00	Birth order		
Highest education			The only child	46	24.00
Secondary school	1	0.50	First-born	81	42.20
High school	14	7.30	Second-born	34	17.70
Diploma	53	27.60	Third-born and above	31	16.10
Degree	97	50.50	ECCE		
Master	21	10.90	Preschools or Kindergartens	85	44.30
PhD	6	3.10	Childcare Centres or Nurseries	21	10.90

In the survey, respondents were asked about the frequency of parent-child play. As shown in Table 3, 49% of respondents reported always playing indoors, which refers to playing within a building. In comparison, 34.9% of respondents reported often playing outdoors, which involves playing in an outdoor space with natural features. Notably, 30.7% of respondents

reported rarely playing with technological devices such as computers, tablets, and smartphones.

Parent-child play in different settings, including indoor, outdoor, and with technological devices, offers a range of benefits. According to Sandseter et al. (2022), indoor play encourages creativity, imagination, and fine motor skill

development. Outdoor play promotes physical activity, exploration, and connection with nature. Incorporating technology enhances learning, problem-solving, and digital literacy. By finding a balance and incorporating all three settings, parents provide a well-rounded play experience. This supports children's holistic development, fosters curiosity and creativity, and contributes to their well-being. However, uncontrolled and excessive use of digital devices is a risk to the development of children (Mansor & Wahab, 2021). Parents need to know about the effects of digital technology on children so that preventive measures can be taken.

According to the Centers for Disease Control and Prevention (2021), preschoolers should become more independent and focused between ages 3 and 6, making access to nature playscapes critical for their development and physical well-being. Physical environment limitations can negatively impact children's behaviour. However, more information on the environment's structure, play opportunities, interactions between children and educators, and parental involvement is needed to understand the impact fully.

Table 3: Frequency of parent-child play (n=192)

Statement	Percentage (%)				
	Never	Rarely	Sometimes	Often	Always
Playing indoor (carried out inside a building)	-	4.70	18.80	27.60	49.00
Playing outdoor (carried out in an outdoor space, contact with nature)	-	9.40	31.80	34.90	24.00
Playing using technology devices (computer, tablet, smart phone, etc.)	13.50	30.70	24.50	15.60	15.60

Table 4 presents the results of the survey sections about parent-child outdoor playtime in different settings. Most respondents in this preliminary study reported spending an hour at outdoor playgrounds (41.1%), which have play structures, as opposed to green spaces (35.4%), which lack play structures and may include public parks or open fields. Over 30.7% of respondents reported spending two hours at natural water recreation areas like beaches, oceans, rivers, or lakes.

The benefits of being in natural environments depend on how long and when the person is exposed to them (Shanahan et al., 2016). Chavaly and Naachimuthu (2020) discovered that spending time in nature allows preschoolers to connect with their imagination,

experience freedom, and interact with other children, the world, and other living beings. This experience promotes learning, growth, understanding, and the development of their humanity. Time feels amplified in all these aspects. However, in recent times, the chances for preschoolers to engage in outdoor play have decreased due to several factors, including inadequate space, traffic hazards, concerns for children's safety, the rise of screen-based entertainment, and a greater emphasis on early academic skills acquisition (Kalpogianni, 2019). According to Hyunshik et al. (2021), reducing preschoolers' outdoor playtime may significantly impact their physical activity, as the way parents regulate and encourage outdoor physical activity can impact the preferences of preschoolers when it comes to being physically active. Preschoolers

whose parents allow them to play outside and do not have many rules about physical activity are more likely to enjoy playing and being active. On the other hand, preschoolers whose parents have many rules and do not encourage outdoor play may prefer to do things that involve sitting still (Wiseman et al., 2019).

Hence, parents must grant preschoolers sufficient time, freedom, and choice to play. The goal of parent-child play is to foster enjoyment, strengthen the bond, and offer enriching opportunities for their growth. When adults control the how, what, and when of their child's play, it can hinder their ability to relish their play experiences fully.

Table 4: Parent-child outdoor playtime at different setting (n=192)

Setting	Percentage (%)				
	Less than half an hour	1 hour	2 hours	3 hours	More than 4 hours
At an outdoor playground (facilities that are designed for children to play)	19.30	41.10	20.80	6.30	12.50
In green spaces area (no playground facilities, public park or open field)	24.00	35.40	22.90	7.80	9.90
Natural water recreation area (beach, sea, river, lake)	22.40	17.20	30.70	12.50	17.20

Parents were asked about the benefits of nature playscapes for preschoolers, and Table 5 displays the results. Over 55% of parents strongly agreed that connecting preschoolers with nature playscapes reduces anxiety and depression symptoms (60.4%), promotes physical development (59.9%), enhances resilience development (57.3%), and creates opportunities for discovery (55.2%).

According to Chavaly and Naachimuthu (2020), spending time in natural environments can significantly benefit health and well-being. Specifically, living

in areas with abundant green spaces or diverse landscapes has been linked to lower mortality rates and improved mental health. On the other hand, the absence of exposure to nature during early life, such as limited time spent in natural or green spaces in urbanised environments, has been linked to various emotional, cognitive, and physical challenges in children. This phenomenon, coined by Louv (2005) as 'Nature Deficit Disorder,' describes the negative consequences that can arise from a lack of interaction with nature.

Table 5: Parent's perspectives on benefits of nature playscape for preschoolers (n=192)

Benefits of nature playscape	Percentage (%)				
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Opportunities for discovery	3.10	2.10	9.40	30.20	55.20
Resilience development	4.70	4.20	9.90	24.00	57.30
Physical development	3.10	0.50	7.30	29.20	59.90
Anxiety and depressive symptoms reduction	3.10	-	5.20	31.30	60.40
Freedom	8.90	6.80	15.60	25.50	43.20

Parents were also asked if they believed preschoolers should be allowed to choose their favourite activities during nature play. Interestingly, the results showed that 8.9% of parents strongly disagreed, and 6.8% disagreed with allowing preschoolers to play freely in nature. Mansor and Wahab (2021) stated that various factors in the environment of preschool children could influence their development, which is currently in the process of "learning," affecting their growth process, daily life, and future.

Play is crucial for preschoolers' personality growth. Through play, children learn self-satisfaction, self-development, self-esteem, acceptance of rules, self-control, patience, a sense of adventure, creativity, awareness, freedom, power, defence of rights, the ability to control aggression, accuracy, stamina, emotional equilibrium, cognitive and social skills (Agarwal et al., 2021). Moreover, play and exploring natural elements can promote education in its broadest sense (Bento & Dias, 2017).

Therefore, well-planned nature playscapes are necessary. The outdoor setting, which can be described as an open and constantly changing environment, should be designed

as a creative and accessible environment that enhances preschoolers' understanding and physical exploration (Bento & Dias, 2017; Ristianti & Widjajanti, 2020). Providing a safe playscape is essential for preschoolers to test their physical, behavioural, and emotional limits. Salih and Ismail (2017) also found that playscapes provide opportunities for growth, creativity, and social interaction and can be summarised in five components: physical, mental, spiritual, social, and environmental. Whether preschoolers should be free to choose their preferred activities during nature play is still debated.

Although some parents have a positive perception, Table 6 shows that 49.5% of parents strongly agreed that the primary constraint to nature play for preschoolers was the need for supervision. Additionally, 39.6% of parents agreed that lack of space and extreme weather hindered preschoolers from engaging in nature play. According to Riazi et al. (2021), most parents did not allow their children to play outside without supervision, which limited their independent mobility. This was due to various reasons, such as concerns about

traffic hazards and the need to follow physical distancing guidelines. Kalpogianni (2019) also discovered that other than the absence of appropriate space, health and

safety concerns were identified as the primary factors impeding children's nature play.

Table 6: Parent's perspectives on constraints of nature playscape for preschoolers (n=192)

Factors	Percentage (%)				
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Lack of space at/near home location	2.10	4.20	15.60	39.60	38.50
Unfavourable weather	-	2.10	24.50	33.90	39.60
Need for supervision	0.50	0.50	12.50	37.00	49.50

CONCLUSION

Learning from nature benefits human beings, especially preschoolers' development. It is essential to clearly understand the issues surrounding preschoolers' play opportunities and the requirements of nature playscapes. This preliminary study showed that most parents recognise the importance of nature play for healthy growth and believe that connecting preschoolers with natural settings can offer various benefits. Most parents strongly agree that connecting preschoolers with nature playscapes reduces anxiety and depression symptoms, promotes physical development and resilience, and creates discovery opportunities. According to the study, parents perceive supervision, lack of nearby space, and unfavourable weather conditions as the main obstacles to preschoolers engaging in nature play. It is necessary to create play areas that cater to

the safety and well-being of children. These spaces should be designed to be child-friendly. It is necessary to create play areas that cater to the safety and well-being of children. These spaces should be designed to be child-friendly. Parents should prioritise the exploration of play areas. At the same time, educators and park managers must take action to create appropriate play spaces that allow preschoolers to reconnect with nature both now and in the future. It is recommended that additional research be conducted to explore how outdoor recreational spaces can enhance young children's cognitive and physical development in their formative years. By implementing this plan, a wider variety of excellent outdoor recreational areas will be available for preschoolers to utilise, promoting their overall healthy growth and development.

ACKNOWLEDGMENT

The authors thank all respondents for their valuable contribution during the survey. Our gratitude is also extended to the UPM Grant Scheme GP-IPS/2023/ 9744400 for the financial support.

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MALAYSIAN JOURNAL OF HUMAN ECOLOGY

Journal Homepage:

https://eco1.upm.edu.my/malaysian_journal_of_human_ecology_mjhe-3740

GENDER AND ITS INFLUENCE ON CURBING CORRUPTION: A CASE STUDY OF CHINA

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ABSTRACT

Corruption has become a major social and political issue in China since the opening-up reform in 1978 began to be implemented. It is one of the most destructive factors that threatens economic development and growth in developing countries. Since Xi Jinping was appointed president in 2012, the Chinese government has launched an aggressive anti-corruption campaign. Amid this anti-corruption campaign, many corruption cases involved women, such as female cadres, mistresses, and family members of male officials. In this paper, five typical cases of women's corruption have been collected from famous/popular or prominent social media sites in China. A causal analysis of women's corruption is then carried out using relevant theories. As a result of women remaining in corruption gangs, relying on family support, or needing promotion or social mobility, they engage in corruption. The cause of these situations can be attributed to gender inequality within traditional cultures and institutions. As a result, gender inequality may contribute to women's corruption. Moreover, females will be more likely to commit corruption if they are unhappy at home.

Keywords: *Corruption, gender inequality, gender, sexuality, Confucian, women corruption*

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BACKGROUND

Corruption is often found in every society and every period of history. It has, without doubt, severe adverse effects on economic growth and social development (Gyimah-Brempong, 2002). Especially in underdeveloped and developing countries, corruption is one of the most destructive factors that threaten economic development and growth. Simultaneously, corruption is also a severe problem in many emerging and transitional economies, such as China, where a lack of governmental control and supervision leads to widespread corruption (Liu et al., 2017). It has been a major social and political issue and has existed in Chinese history for thousands of years, throughout Chinese slave societies, feudal societies, the Republic period, and the People's Republic of China (PRC) (Liu, 2016).

In 2012, Xi Jinping was appointed China's new president and led an aggressive anti-corruption campaign, the largest scale of the anti-corruption movement. Throughout Xi's campaign, until 2017, a total of 440 party members and cadres at the military level and above were examined, including 43 members of the Central Committee and the alternate Central Committee, and nine members of the Central Commission for Discipline Inspection, more than 8,900 bureaucrat-level cadres in the Disciplinary Division, and more than 63,000 cadres at the county level have been punished (China News, 2018). Around the masses, 278,000 corrupt cadres at the grassroots level were disposed of. 3,453 people have been arrested from abroad during this period (China News, 2018). The campaign has achieved great success, and it is found that

Chinese corruption has the following features.

Corrupt officials formed political gangs and economic interest communities, which shows prominent group characters. Judging from the corruption cases that have been investigated, in the process of promotion, many officials believed in the circle culture of the gangs, used all the way to pull the relationship, analysed who is someone, he is promoted by whom, then engaged in the networks of the relationship (Ting, 1997). Some leading cadres liked to be paternalistic characters, hoping that others were obedient, and thought they were good cadres who were obedient to themselves, regardless of others and the masses. The prevalence of circle culture has seriously deteriorated the political ecology. The high-ranking officials of the gangs colluded with each other, politically supporting each other and economically forming a mutual interest, which caused regional corruption and domain corruption.

It is found that many corruption cases have involved women, such as female officials, who exchange higher status, more power, and more wealth with male higher officials by sexual capital. They become mistresses of male officials or do sexual bribery. In the Chinese government, although the proportion of women in National People's Congress deputies and Chinese People's Political Consultative Conference members has been slowly increasing, the proportion of women at all levels of leadership, especially at the top, is still low (China Statistics, 2018). For example, the Standing Committee of the Central Political Bureau of the Communist Party of

China, which conducts policy discussions and makes decisions on major national issues, has almost no women members participate and is always dominated by males from New China today. From the macro perspective, female cadres are primarily concentrated in those traditional areas and positions considered suitable for women but cannot enter the mainstream of decision-making. Most middle- and high-level female leaders are responsible for education and social work such as health, the environment, and protection of the rights of women, children, and disabled people, while male leaders are in charge of national security departments with relatively large resources and powers such as finance, construction, energy, diplomacy and so on, which affects women's evaluation. Therefore, to achieve higher status and wealth, some female cadres do sexual or capital bribery with male high cadres.

The involvement of family members in corruption, such as sons or daughters and wives, has been prominent (Wang & Min, 2014). The corruption trends to family orientation. The officials in the government abuse their power to seek profits for their sons or daughters, wives, or relatives in

PROBLEM STATEMENT

In recent years, various national governments and international communities have tried to increase the proportion of women in public life because gender equality is a sign of strengthening democracy worldwide. Meanwhile, some scholars think that once the proportion of women in the public sector reaches a specific number, they may change the political culture, practices, and results.

business projects or real estate. In China, the most famous scandal in 2012 was when Bo Xilai, the former party chief of Chongqing, was arrested due to corruption, bribery, and abuse of power (BBC News, 2013). A month later, his wife, Gu Kailai, was given a suspended death sentence for the murder of an English businessman, Neil Heywood. Another case is from Ling Jihua, formerly the vice chairman of the National Committee of the Chinese People's Political Consultative Conference. His second brother, Ling Zhengce, was the vice chairman of the Political Consultative Conference in Shanxi province. Both of them were investigated for severe violations of the law. After that, Ling Jihua's wife and his young brother were arrested due to bribery and corruption. Their family members depended on Ling Jihua's power to expand themselves power and collect fortune for themselves. In China, it underlines that the individual attach to the whole family and are responsible to their whole family. Thus, in Chinese society, thought utilitarianism is prevalent in that one person is an official, and all family is profitable, which means that the official could rely on his power to maximise group profits for his whole family.

Famous is the view of the scholar Anand Swamy (2011) that women are more honest or risk-averse than men, which may decrease corruption. Therefore, increased female participation may reduce the level of government bureaucracy, hence restraining corruption. Many feminists also think that women should have equality with males to participate in political areas. They also believe that women have many strengths, such as kindness, high morality,

risk aversion, and less tolerance for some violations. In contrast, men have aggression, competition, dominance, and more tolerance and risk-taking, so in most cases of corruption, males play essential roles. Many socialists also think that if more women are willing to participate in the public environment, corruption may be controlled (Goetz, 2007).

However, some researchers argue that it is a myth that increasing women's participation in the public sector will reduce corruption because some unobserved factors cannot be considered, such as culture and historical reasons. (Debski et al., 2018), as well as institutional context also associated with corruption levels. Furthermore, women's attitudes and behaviours in corruption differ because of different institutional and cultural contexts. Taking into account institutional, economic, and cultural factors, whether it is possible that there appears to be a

LITERATURE REVIEW

Corruption is a widespread social phenomenon and also a very serious problem in the world. Many researches have shown that corruption is among the most destructive factors threatening human societies. Based on the research of Lambsdorff (2005), corruption further affects a country's governance quality, government expenditure, poverty, international flows of capital, social welfare, goods, and aid. Causes of corruption concentrate on the absence of competition, policy distortions, public system, public salaries, examination of colonialism, as well as gender and cultural dimensions. Besides these, some researchers investigated microeconomic

significantly negative relationship between women and corruption in China and whether increasing women's participation in the public sector could decrease the possibility of corruption. If women's inclination towards corruption depends on local contexts, what are the attitudes and behaviours of women towards corruption in China? to explore what effects of social culture, economic and political institutions have on women in China, so that they engage in corruption. In the research, the method of content analysis for news is applied. The cases involving women's corruption are from new media such as Sina, Sohu, Feng Huang, and People News. These cases are divided into three aspects, including women as officials, family members, and mistresses. In association with relevant theories, the attitudes and behaviours of women in dealing with corruption are elaborated in the following texts.

determinants of individual attitudes toward corruption and corrupt behaviour, such as gender effects, which pointed out that different genders may lead to different experiences of corruption, resulting in different attitudes toward corruption (Alatas et al., 2009).

In recent years, the research on the relationship between gender and corruption, there is a consensus, and a large of evidence from many regions, that there is a positive link between higher representation of women in public institutions and lower levels of corruption. For example, Swamy and colleagues (2011) suggested that women may be brought up to be more honest or more risk-averse than

men, which may prevent them from engaging in criminal acts (Swamy et al., 2001). Therefore, increased female participation may reduce the level of the government bureaucracy. Dollar, Fisman, and Gatti's study (2001) also showed that women might have higher standards of ethical behaviour and are more concerned with the common good, which can effectively promote honest government. These corresponding studies demonstrate three different mechanisms to explain this gender difference: differences in treatment and opportunities between men and women, women exhibiting higher overall integrity for biological or cultural reasons, and gender differences in levels of risk aversion (Hietikko, 2016). Meanwhile, it is proved that the derived relationship between women and corruption is usually based on cross-country variation rather than within-country variation, which has been severely limited because some unobserved factors are not to be considered, such as culture (Debski et al., 2018) and historical reasons (Alesina et al., 2013), as well as institutional context and social value of women (Branisa & Ziegler, 2011) that are strongly associated with corruption levels.

In China, after the launch of economic reforms in 1978, there was a rise in corruption. It has spread into government administration and every part of society, involving politics, economy, and social life (Wang, 2014). Up to today, corruption has generated much literature in sociology, political science, and economics (Dong, Torgler, 2012; He, 2000; Wang, 2014). These researchers have identified possible causes of corruption, including economic and social heterogeneity, income, education, fiscal decentralisation, and trade openness, as well as regulation and gender.

(Dong, Torgler, 2012). However, few studies explore the causal relationship between gender and corruption in China. Instead, the majority of extant studies on the link between gender and corruption are cross-country investigations; few studies employ within country data set. Qi Wang (2014), in his research, displayed that women do participate in corruption by seeking private interests and personal gains by manipulating the power in China. Additionally, women in the vicinity of power look for the maximisation of their economic and career-wise benefits either through familial relations or by sex-power exchange (Wang Qi, 2014). Thus, it is an illusion that increasing women's participation can restrain corruption.

Previous Western literature can be divided into two camps: one is the "favourable" group, and the other one is the "denial" group. The favoured group considers females to be more ethical than men, further suggesting that both gender equality and liberal democracy lead to lower corruption (Sung H., 2012). In Swamy's research (2011), using the World Value Surveys (WVS), they find that women are less tolerant towards dishonest or illegal activities than men. Thus, girls may follow laws to a greater extent than boys. Furthermore, it is shown that corruption has a lower level where women hold a larger share of parliamentary seats and senior positions in the government bureaucracy. (Swamy et al., 2001). In addition, Paweenawat's finding (2018), based on data from a panel of Asian countries, is also consistent with Swamy's research (Paweenawat, 2018). Meanwhile, Rivas (2013) states the same finding that women are indeed less corrupt than men. In this research, the author conducted a

laboratory experiment to observe whether women and men facing the same situation behave differently or the same way. In this experiment, field data was used. Research by Alatas, Camero, Chaudlhri, Erka, and Gangadharan (2009) examines the gender differences in behaviours when confronted with the same bribery problem. They experimented in Australia, India, Indonesia, and Singapore. This experiment presents that women in Australia are less tolerant of corruption than men, while there are no significant gender differences in India, Indonesia, and Singapore. They also find a more significant variation in women's behaviour toward corruption in all four countries, which is that the behaviour of the males towards corruption is quite similar (Alatas, 2009). On the other hand, the denial group that the behaviours of women and men have no differences under the effects of some factors, such as culture, history, institution, and economy. The scholar Goetz (2007) thinks that "women tend to be less corrupt than men" is a myth (Goetz, 2007). This research implies that the causal relationship between women and corruption is associated with gendered opportunity structures. Women will not passively conform to the essential notion of their higher moral nature when they have families forced to feed and if there is much money to be made from public office. If women prefer less corrupt behaviour, that may be because they have been excluded from opportunities for such behaviour. The author also finds more women in public office and a workforce of liberal democracies; therefore, these states show less corruption than poor, fewer liberal regimes (Goetz, 2007). Another study by Esarey (2013) finds that the link between gender and corruption differs by

institutional context. Only in countries with liberal democratic institutions, the females' disapproval of corruption is more significant than men's disapproval of corruption. The author thinks this result may be because female attitudes depend on society's political norms: the more society disapproves of corruption, the more women refuse corruption actions. In Hietikko's research (2016), he demonstrates that the likely reason that women are less likely to engage in bribery is a difference in the way public officials treat women and men. Higher gender-based discrimination may be linked with the lower propensity of women to engage in bribery. In Sung's study (2012), he also shows that the observed link between females' participation in government and declines in corruption is caused by the context of liberal democracy, which, as a political system, encourages gender equality. In this study, the results of multivariate regression analysis imply that the relationship between female participation in government and lower levels of corruption is not causal; a more liberal institution can impact the trend of corruption. Esarey and Schwindt-bayer (2015) reexamine the positive relationship between female participation and low levels of corruption. The authors conclude that the relationship between more women's representation and low levels of corruption has a more robust connection as electoral accountability gets higher, that is, where voters can identify corrupt officials and punish them at the ballot box. However, this result is different across countries. The author finds little reason to suspect that changing the proportion of women in government will change perceived corruption levels in countries with low electoral accountability.

Another study by Stensöta, Wängnerud, and Svensson (2015) also examines the positive effect of women representatives on low levels of corruption, which is more significant in the electoral than in the bureaucratic arena. The authors point out the gendered experience on a group-level, but not essential features between gender, the impact on the relationship between gender and corruption. Although the differences in these experiences are likely to be similar within one country, the relationship between the group of women and levels of corruption depends on whether the institutional arena examined is legislative or bureaucratic (Stensöta, 2015).

In addition, different from Swamy's research (2001), Debski, Jetter, Möhle, and Stadelmann (2018) produced a new finding that there is a negative relationship between more women and lower levels of corruption, both in terms of statistical significance and magnitude, taking into account the specific heterogeneity. This means female participation rates in politics and the labour market are not directly related to lower corruption. Therefore, culture is an important dimension to explain the connection between gender and corruption.

Debski and Michael's (2017) article points out that if neglecting differences across countries, there is a positive connection between the involvement of women in society and the absence of corruption. However, once country-fixed effects are acknowledged, the link between the share of women in the labour force and the absence of corruption becomes negative.

METHODOLOGY

This is because there are differences between countries in terms of culture, history, and geography. However, in African states, the share of female employers remains a positive predictor of the consumer price index, indicating less corruption. (Debski, 2017). In addition, some scholars make corruption experiments to look for gender differences in behaviours. Fiscar, Kubak, Spalek, and Tremwan (2016) elicit action and beliefs in a framed corruption experiment, enabling them to find that women are less likely to engage in costly punishment of corruption and believe corruption to be more prevalent within women. Firstly, the authors observe that belief and action are core-relational. Beliefs could be significant in impacting behaviour in a corrupt environment. There is a tendency to "consistency" between beliefs and actions. People who believe that corruption is often taken or that corruption is often reported to do likewise to act in line with the perceived social norm. Another is that belief about people's behaviours in other roles will affect one's actions. The authors find that for men, the inclination to offer corruption is positively related to their beliefs that corruption would be accepted, and the inclination not to be corrupt is negatively related to their beliefs that their actions would be reported. However, these relationships are absent for women. This is identified as men experience a more significant psychological cost of rejection and social sanctions in this environment. Therefore, in sensitivity to beliefs, males are more likely to offer bribes, while females are less likely to conform to the norm of bribe-giving.

In the research, the author will explore whether it is possible that there appears to be a significantly negative relationship between women and corruption in China and whether increasing women's participation in the public sector could decrease the possibility of corruption, if women's inclination towards corruption depends on local contexts, how the attitudes and behaviours of women towards corruption is, through some cases from new media, such as Sina, Sohu, Feng Huang, and People News. For this research, the method of case study analysis is applied, as it can effectively reflect how female attitudes and behaviours are in dealing with

corruption and what factors affect women's behaviours. Meanwhile, case study analysis can also explore the causal relationship between gender and corruption and what forms of corruption there are for women, as well as how female psychology is constructed. From media reports, women-related corruption mainly involves three aspects: firstly, the subject of corruption is female cadres; secondly, the derivative body of power includes mistresses, spouses, and daughters involved in corruption. Women's corruption may involve some possible factors, such as Chinese culture, historical stereotypes, and economic and political institutions.

- ***Collection and Selection of cases***

For a long time, the main body of power was dominated by men, and power was considered a male game. With the development of the economy and society, more women are engaging in politics. According to current reports, most cases of women's corruption concentrate on money, power, and sexuality. The behaviours of corruption involving women mainly include bribes, embezzlement, power-sexuality trades, and family corruption. For the research method, five cases of women's corruption are collected from 2013 to now, respectively: 1. The female official Tao Shuju from Baotou was punished for her husband's business; 2. The vice chairman of the National Committee of the Chinese People's Political Consultative Conference's wife, Gu Liping, was a corrupt officer for illegal transactions; 3. Due to unhappy families, Chong Qing's female cadre, Guo Baoyun is more willing

to take risks to commit crimes for their son and daughter's benefit; 4. A deputy director of the Environmental Protection Bureau of Yucheng County used luxurious goods for corruption; 5. Female cadres Ji Jianye from the Yangzhou government made sexual transactions for the advancement of their career. In this period, Xi Jinping launched the most significant anti-corruption movement, and many high-ranking officials were punished. At the same time, among them, there are some female cadres, which caused widespread concern among the people in comparison to the Mao era and Deng Xiaoping era. These cases are from four major Chinese media, namely Sina, Sohu, Feng Huang, and People News. Sina, Feng Huang, and Sohu are important news media that report various news from the world, and they are also significant channels that transport information to Chinese people. People News is a Chinese

official website that reports Chinese news. The method of data analysis uses content

- **Description of cases**

The following six typical cases are described here:

Case 1: The female official was punished for her husband's business.

Tao Shuju is a promising minority female cadre. She was born in 1962. She was only 27 years old when she became the deputy secretary of the Baotou Municipal Committee in 1989. She has held leadership positions in Inner Mongolia and other important towns such as Baotou, Chifeng, and Erlianhaote. After five years of Wu Lan Cha Bu, she became a leader in the department. In April 2016, Tao Shuju was dismissed. After investigation, it is found that she and her husband together commit corruption. She used her power to help others undertake projects and seek benefits, and together with her husband, she illegally accepted other people's property, equivalent to more than 25 million yuan. One of the highlights of Tao's case is that she allows and condones her husband's business activities that may conflict with the public interest and seeks private gains in the area of her jurisdiction. The illegal possession of the property of her work unit is for personal use. At the same time, she illegally possesses public resources.

Case 2: An official's wife corrupted:

Ling Jihua was formerly the vice chairman of the National Committee of the Chinese People's Political Consultative Conference. In November 2003, his wife, Gu Liping,

analysis. The five cases will be analysed in detail.

founded the public welfare organisation YBC. She served as the Director General. She used YBC as the leading platform to expand her business friends. According to the YBC official website, many well-known companies cooperate with YBC. Through such a platform, Gu Liping has established close ties with several officials and business people, gaining excellent benefits. In the official business group, some businessmen sponsored Gu Liping, and there were more illegal transactions to close. This organisation was also considered a platform on which they could receive funds from various channels, helping businessmen to evade taxes and cover power-money transactions. On the other hand, they engaged in real estate for public welfare—the scale of the organisation involved over 3 billion yuan in Shanghai. After a year, Gu Liping has benefited from real estate investment in Beijing, Wuhan, Shanghai, and Anshan. Gu Liping and her son bought two villas worth 380 million U.S. dollars in Kyoto, Japan.

Case 3: Due to unhappy families, female cadre are more willing to take risks to commit crimes for their son and daughter's benefits:

Guo Baoyun, former deputy chief procurator of the Chongqing Municipal Procuratorate, used to be a woman with a glorious career. She walked step by step from the ordinary technician to a leader at the department level. Her husband also had

a successful career and was the Director of the Chongqing Iron and Steel Company's Northeast Office. Then, the couple began a life of separation between the two places. Her husband was in the Northeast all year round, and their relationship was increasingly alienated. Her daughter went to university and returned home once a year. After her son went to Thailand, she always had no information about her son. Hence, she always kept worried. Later, having an opportunity for promotion, Guo Baoyun had to divorce her husband to advance his career. Due to the broken family, she was very depressive and thought that her son was her mental support. Guo Baoyun began to create conditions for her son consciously. To her son's economic interest, she took risks to help her son bribe and embezzle more than 930,000 yuan, violating the law and discipline for the children account to benefit nearly 30 million yuan. For the so-called "mother love", she became a prisoner at the age of 60 years.

Case 4: Corruption of luxurious goods:

From 2012 to 2015, Zhu Fangyun, serving as a deputy director of the Environmental Protection Bureau of Yucheng County, Hunan Province, used her power in charge of finance and equipment procurement to seek illegitimate interests for suppliers. Then, she would receive the benefit fee of 320,000 yuan provided by the supplier. Most illegal money was used to buy fur fashions, high-end cosmetics, luxurious watches, and bags. Another case is that Liu Lingling was a deputy director of the Commercial Bureau of a particular district of Yantai City, Shandong Province. She liked to buy imported products and luxury goods. However, her salary is low. High

consumption made her joyful and painful. Thus, she began to borrow money to buy luxurious items. Due to the number of debts, Liu Lingling finally wanted to embezzle public funds. To collect money, she often found friends to collect some invoices and falsified the name of the Director of the Department of Commerce. In the end, Liu Lingling embezzled more than 383,000 yuan of public funds and misappropriated public funds of 177,000 yuan, most of which have been used for high consumption.

Case 5: Female cadres make sexual transactions for the advancement of their career.

Some women are willing to be male officials' mistresses for social status: The former deputy secretary of the Nanjing Municipal Committee and the mayor of Nanjing, Ji Jianye, once disclosed several mistresses. A typist, originally a municipal government officer, under the promotion of Ji Jianye, served as deputy director of the Economic Development Bureau of the Yangzhou Chemical Industry Park Management Committee and deputy director of the Yangzhou Chemical Industry Park Management Committee. Later, she was promoted to the Yangzhou Development and Reform Commission, charging fixed assets investment and competitive bidding. Another mistress was the waiter of the guest house, who was later promoted to the local Xi Lake Scenic Area Management Committee. The third mistress was a female official, Jin Qiufen, initially the head of the Shuangqiao Township in the suburbs of Yangzhou, the secretary, and then was promoted by Ji Jianye to the environmental protection director of Yangzhou City. In 2014, she was dismissed as the Director of the

Yangzhou Environmental Protection Bureau. In 2015, Jin Qiufen corrupted about 1027,000 yuan and was arrested.

- ***Analysis from the case perspectives and linking with the theoretical framework***

For case 1, the female cadre was punished for her husband's business. This case shows no essential difference between women's and men's greed. Female cadres also use their power to benefit their partners, like male cadres. As the economy increasingly reforms and opens up, the Chinese economic system changes from public ownership to private ownership of the means of production and the operation of profits. It is called capitalism, the characteristics of which include private property, capital accumulation, voluntary exchange, and competitive markets. The freedom of the market brought by the socialist market economy gave the persons in authority some opportunities to exploit their power and to take advantage of the commodities economy (Wu, 1997). People in business suffer the pressures of increasing profits, market share, and competition with other enterprises, and they need to seek cheaper inputs and avoid tax for maximum profits. If businessmen's relatives are officials, they will seek officials' help to gain enterprises and themselves benefits. In China, this relationship was described as *guanxi* (people network), which was an exchange between people with money and people with power for their mutual interests. This relationship was founded based on trust and reciprocation between public officials and the users of their service. If potential bribers were trustful in the reciprocation of public officials, they would expect

cooperation with these cadres (Abbink, 1999). In this case, female officials are likely to take risks to abuse their offices for personal gain because they have a fluky psychology. Meanwhile, her service partner is her husband, who is very trustful for him, so it shows that she can bravely commit corruption under her husband's support and motivation. Therefore, when the privatisation of property is introduced into the family, no matter whether male cadres or female cadres in the same position would show the same behaviours of corruption due to peer or family support and motivations. In Chinese traditional culture, traced back to Confucianism, the relationship, kinship and clan system emphasised that each individual was attached to a whole family; thereupon, the personal relationships and social order in China remained by blood ties and emotion (Chi & Seock-Jin, 2017). Accordingly, cadres in the government and their family members have engaged in businesses by using cadres' monopolistic power.

In case 2, the official's wife committed corruption. In comparison with case 1, their familiar characters are family corruption, while the different characters are the roles of women: one is an official, and the other is an official's wife. In case 2, the wife draws support from their husband as an official to take business activities for their gains and social status. In the labour market, there is still gender inequality, and various obstacles limit females from gaining a satisfactory income and a good social status. Women cannot achieve equal opportunities through standard economic mechanisms and fairly competitive mechanisms. Therefore, women would adapt other strategies in exchange for the economic benefits they should have acquired in the labour market. As officials'

wives, they need not be supervised by the government; they could make power-money transactions with other officials and businessmen via informal platforms with the help of their husbands. In the official business group, some businessmen have sponsored Gu Liping, while Gu Liping gives them considerable benefits. Their forming gang was also considered as a platform on which they could receive funds from various channels, helping businessmen to evade taxes and cover power-money transactions, in which there is the Chinese cultural philosophy - reciprocity in practice. The reciprocal relationship is embedded in the Chinese culture and thoughts (Steidlmeier, 1999). It is valued and considered the dynamic form of "social contracting" (Steidlmeier, 1999). From the macro perspective, such a way may break the fair competition of the social market.

For case 3, due to an unhappy family, the female cadre is more willing to take risks to commit crimes for her son and daughter's benefit. In this case, the family of the female cadre was broken, inducing her to fall into depression. When divorced from their husbands, they lack emotional support, so they have no sense of insurance and then divert their love to their sons. Thus, they think that the happiness of their sons is the greatest happiness of their own lives. Due to traditional stereotype, female is thought to depend on male in psychological terms despite the independent economy. On the other hand, in Chinese society, once with men, women will receive sympathy from others who think that a woman without a man is incapable of living a social life. At the same time, for a woman, a happy marriage and family still are signs of a woman's happiness, but not a successful

career. Because of the unsuccessful marriage, the female cadre can give her all emotion and dependency on her son; her children's happiness is her happiness; thus, she is more willing to take risks to engage in corruption for her children's happiness. Such legislation is rooted in patriarchal and hierarchical Confucian principles that determine a woman's first task as the perpetuation of the family or producing and wisely raising descendants (Woo, 1993). The roles of Chinese women are still inferior to men due to deep women stereotypes. Once women are married, they have to look after their husbands and children, as well as depend on their husbands and sons. Therefore, the consciousness of Chinese women who fight for their rights is still weak.

For case 4, females are willing to commit corruption for high consumption. This is because women become vanity. Conversely, luxurious goods could present their high social status and gain other people's admiration. On the other hand, women concentrate more on the appearance of beauty because, in a patriarchal society, women seek male approval, focus on their beauty, and act passively (Johnson, 2010). So, women's desire for consumption is in beauty, jewellery, clothing, and other luxury goods. Female officials are more likely to be promoted by psychological comparison vanity, which makes them indulge in comparison with other women. They think that glamorous looks, expensive clothes, and extravagant jewellery can match their social status, thus showing their high quality of life.

Case 5: Male power over women often revolves around female sexuality (Wood & Eagly, 2002). Female cadres use sexual

attractiveness as a sexual capital exchange with male high cadres for the advancement of their career. Some women are willing to be male officials' mistresses for social status. One aspect is gender inequality in society. As capitalism was introduced into China, money was the sole standard for measuring social status. In Chinese people's ideology, a man with power holds money. Power is a way that people gain wealth. Confronting various disadvantages for women, they would adapt other ways to gain economic interests and social status. Sexuality is like capital that could quickly be exchanged with other interests in the market. This is also one of the fastest ways to gain interest. Therefore, no matter whether female cadres or average women are forced to use sexual capital in exchange for male cadres that hold power and money. In addition, in the Chinese political areas, there is no advantageous women's promotional institution. The higher-level positions in the government belong to males; women have few opportunities, and opportunities for promotion are limited to a certain percentage. For women officials, the higher the position, the less likely it is to gain through fair competition (Guo, 2013). Even if they have more ability than men, women are also less likely to be promoted by superiors because gender discrimination still exists in Chinese political culture. Therefore, they are forced to sacrifice themselves to gain advancement in careers.

FINDINGS

From these cases, it is found that women's corruption belongs to family corruption. Women's corruption is associated with their husbands and their children. This suggests that in modern Chinese society,

women cannot escape traditional roles. To this extent, women play a role in serving their husbands and sons. Although they have economic independence, they still attach to their husbands and sons in spirit. Confucian stresses that women are to serve their husbands (Wang & Min, 2015). At the same time, due to the conception of kin, everyone is loyal to their family. Women are loyal to their family and their husbands. For their husbands' benefit, they are willing to take risks to commit some crimes. The males in Chinese households take up a dominant position and have more control over their wives, and women should stand behind their husbands. This is also the expectation of society for the roles of women. Suppose female cadres have higher social status than their husbands. In that case, this will deviate from the expectations of society, which may hurt their marriages and even be likely to make them become the target of their husbands' aggression (Wang, 2014). Due to their psychology of contradiction of work-family, female cadres will have to help their husbands increase wealth and interest through their power to reach an equal status with their husbands to avoid divorce. In comparison with other women from other Asian countries, Chinese women have their careers and more liberation, but they still are dependent on the males in psychological terms (Wang, 2014).

In addition, women still confront discrimination in the employment and workplace. Especially in the government, women's promotion is limited to a certain percentage. Women have fewer opportunities to gain advancement. From former cases, we find that most female cadres are deputies of departments in the

government, and it is tough for them to advance to upper levels. Superiors are willing to promote male cadres because they think men are less emotional and make decisions faster than females. Due to various obstacles for women, they cannot fairly compete with males, leading them to gain less payment and lower social status than males. For high income and social status, they will be forced to use sexual interaction in exchange for the interests they want.

On the other hand, with the development of the economy, economic resources become rich. Some female cadres start to consume luxurious items despite low income. From psychological views, women have more vanity and are more willing to look for admiration of others than men, thus focusing on more appearance of beauty. Luxurious goods are unique and represent high social status and quality of life. Therefore, to satisfy their vanity, they even corrupt to compensate for their high consumption.

Therefore, the three theories are found to explain the behaviours of women's corruption. The first one is a shared economy that is to achieve a public value based on collaboration (David et al., 2016). The sharing economy is built on the sharing of resources among peers. People form their social networks with expected profits based on trust and reputation. In China, women, as one of the corruption gangs, think that they not only are safe but also achieve profits. The members of corruption gangs are trustful from family members. The second one is the gender equality theory. Because of gender discrimination, females cannot be treated for promotion. Women own fewer resources, so they may take significant risks in corruption, which

gives them more stress. The third one is social role theory. Men's and women's social roles originate from humans' physical sex differences, especially men's size and strength and women's reproductive activities. These traits interact with a society's environment and culture to make men and women develop different personalities and skills, influencing behaviours (Eagly, 2012). Due to society's stereotypes, women's social roles have effects on their corrupt behaviours. Therefore, these theories provide a convincing explanation for women's corruption.

CONCLUSION

As a kind of improper behaviour, the public seriously dislikes corruption. Because of historical gender discrimination, women have had a relatively low level of political participation for a long time. For the movement for gender equality and the establishment of a good government image, many countries have called for increasing women's political participation and achieved substantial progress. In democracies, many scholars have suggested that increasing the proportion of women in politics can improve the quality of government governance. However, developing countries with serious corruption problems have found insignificant differences in gender corruption. From the analysis of biological and psychological factors, gender has apparent differences in social preferences, and women are more willing to be risk-averse than men. Women are rarely aggressive and dominant in an organisation. Their level of competition is lower than that of men. These

characteristics suggest that they have fewer opportunities to engage in corruption. The differences in women's social preferences depend on specific contexts. Under the influence of a specific culture, in a period of economic transition and imperfect institutions and punishment, the lower moral costs of corruption lead women to commit crimes.

In the research, women-related corruption mainly involves both aspects: firstly, the subject of corruption is female cadres; secondly, the derivative body of power includes mistresses, spouses, and daughters involved in corruption. Women's corruption mainly concentrated on family corruption, gender inequality, and power-sexuality transactions. Due to the pressures of society and family, women have a high tolerance for corruption. In the political areas, there are fewer women. Most women officials stay in middle and low-level positions. Therefore, women are generally discriminated against in a male-dominated political culture; women have little access to essential resources, putting them in a disadvantageous position. In addition, male corruption spreads around them. In such a political culture, women are quickly assimilated and give up their self-worth in the organisation of a male culture. Therefore, when women have been educated in such male-dominated cultural organisations, their attitudes and behaviours toward corruption are not much different from men, and they have a high tolerance for corruption.

On the other hand, in China, women's corruption is related to power-sexuality transactions. It is also considered sexual bribery, which refers to the fact that national officials use the economic benefits of power and authority to sexually interact

with other women to satisfy their physiological desires and emotional needs. At the same time, the females directly sell their sexuality for illegitimate interests. It is also the product of transforming China's planned economy into a market economy and a consumerist culture. Because of women's weak position in society, most economic interests and power flow towards wealthy businessmen and powerful officials. They are forced to sell their sexuality to powerful men in order to gain high income and social status. For a long time, sexuality has been materialised and commercialised under the influence of the market economy. It is also one of the fastest ways to achieve one's goals. Under the influence of the market economy, the noble moral values of people are replaced by economic interests and power. Therefore, the economic transition affects female moral values, inducing them to use illegal ways to exchange for high interests and social status. In political institutions, a lack of social control will likely reduce public pressure on women. The costs of corruption are reduced for women. In democratic countries, female cadres take on the pressure of national and social accountability. On the other hand, the intrinsic characteristics of women are risk-averse behaviour and high morality. Therefore, in a democracy, increasing the proportion of women in government may effectively control corruption. However, in non-democratic countries such as China, only the People's Congress monitors the government's behaviour. This is not enough. Horizontal and vertical supervision can effectively curb corruption. Horizontal supervision, like horizontal accountability in democracy, refers to checks and balances within the state structure, that is, the procedures for

government institutions to hold each other accountable and to ensure that no agency stands above the rule of law or intrudes on the rights and privileges of another (Jelmin, 2011). Vertical supervision refers to the point that the population and the media expose the illegal behaviours of cadres.

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MALAYSIAN JOURNAL OF HUMAN ECOLOGY

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TECHNOLOGY ADOPTION AMONG FARMERS IN AGRICULTURAL DEVELOPMENT PROJECT IN SRI LANKA

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ABSTRACT

Promoting various agricultural technologies aimed to improve food and nutritional security, enhance yields and incomes, save time, and empower farmers. The current study was conducted to determine the level of technology adoption among farmers participating in agricultural development projects in Sri Lanka. The study collected data from 40 respondents using a quantitative research methodology. SPSS version 26 statistical methods were used to analyse the data. According to the findings, the farmers in Sri Lanka who were involved in the agriculture sector modernisation project had a high level of technology adoption for their farming activities toward empowerment. Technology adoption has been crucial in promoting community empowerment in agriculture projects. Therefore, it is concluded that the Technology Adoption (TA) level in such projects impacts the farming communities in Sri Lanka. It is critical to meet the sustainable development goals (SDG), mainly responsible poverty alleviation (SDG 1), hunger elimination (SDG 2) and consumption and production (SDG 12).

Keywords: *Technology Adoption, Agriculture Project, Farmers, Empowerment*

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INTRODUCTION

Agriculture is a key sector for accelerating the development of developing countries (Kabir et al., 2013). Growth in agricultural productivity is crucial for economic development, but it is constrained by the slow adoption of technology that increases production. Agricultural technology spread is limited by the need for more knowledge about technology (Shikuku, 2019). It is hard for many farmers in developing countries to utilise their capabilities in the many agricultural value chains they are involved in since they have yet to develop their skills fully. Agricultural development projects are crucial in helping farmers access timely and pertinent information that can increase their performance and productivity (Bruce & Costa, 2019). The vital component of the agriculture project is the influence on the livelihood strategies for overall food security, offering an additional source of income, improving nutritional requirements, or protecting those unable to access the food supply (Nazuri & Nobaya, 2019). Therefore, agricultural projects are becoming an essential element among farming communities nationwide. The agricultural lands give rural communities a place to produce cash crops for income generation and interact with the local food system to improve their food security and community engagement. They intend to participate in the agricultural development project for business purposes rather than personal consumption. Thus, the empowerment of agricultural communities has been facilitated by adopting technologies that boost agricultural productivity in developing nations (Herath et al. et al., 2021).

In actuality, adopting new technologies is a participatory process involving formal and informal interactions among many players who communicate through social connections (Hunecke et al., 2021; Lee et al., 2013). Meanwhile, Nshimiyimana et al. (2017) discussed that farmers adopting agricultural technology is a reliable way out of the poverty cycle. However, there is a big question about the level of technological adoption in the nation; generally, that is slower than anticipated. Therefore, Walisinghe et al. (2017) argued that adopting technology created through research & development is a key factor in increasing productivity. Thus, economic growth studies have largely explored technology adoption. It has been consistently demonstrated in the literature on technology adoption that a technology's perceived ability to improve productivity is a reliable indicator of its likelihood of being adopted (Adnan et al., 2017; Aubert et al., 2012; Nakano & Magezi, 2020; Ousmane & Nafiou, 2019).

People undergo complicated mental processes before adopting new ideas (Islam & Grönlund, 2011). Technology is the tools and processes for generating products and services, including organisational and physical techniques. Meanwhile, Mwangi & Kariuki (2015) define new technology as the creative use of technology that is currently conventional in specific regions or groups of farmers or technology that is alien to those locales or groups of farmers. Mendola (2007) reveals a solid and favourable impact of agricultural technology adoption on farmers' well-

being, indicating that there are many opportunities to build the role of agricultural technology in directly reducing poverty. Thus, there are opportunities to participate in an agricultural project that promotes the adoption of agricultural technology. However, there is little proof of how the level of technology adoption

impacts agricultural productivity in Sri Lanka. Therefore, the main goal of this article is to determine the level to which Sri Lankan farmers already involved in projects to modernise the agriculture sector have adopted sufficiently new agricultural technologies.

MATERIALS AND METHODS

This research followed a quantitative approach to collect data from 40 farmers as responders as part of the agriculture sector modernisation project in Sri Lanka. This is a pilot study to test data-gathering instruments and sample recruitment strategies. The data was collected from the selected respondents using a structured questionnaire in this study. The technology adoption in this study is separated into four subsections in the questionnaire: Perceived Usefulness (PU) items, Perceived Ease of Use (PEU) items, Behavioral Intention to Use (BIU) items and Actual Usage (AU) items. All Technology Adoption (TA)

items were adopted and modified from previously established questionnaires by Aubert et al. (2012). The five-point Likert Scale (1=strongly disagree, 5=strongly agree) has been used to assess technology adoption instruments. Each domain includes 3 items for Perceived Usefulness items, 6 items for Perceived Ease of Use items, 3 items for Behavioral Intention to Use items and 3 for Actual Usage items. The SPSS version 26 software was used to analyse the data. Descriptive statistics such as frequency, percentage, mean, and standard deviation were utilised to accomplish the study's objective.

RESULTS AND DISCUSSION

Descriptive Analysis

The reliability of the questionnaire was also assessed; the Cronbach alpha value for the technology adoption scale used in this study is 0.929; all the dimensions of technology adoption were examined, and each one was found to be reliable on its own (Salam, M.A, 2017), the finding of the current study shown in Table 1.

Table 1: Assumption of reliability test

Variable	Number of Items	Cronbach's Alpha
Technology Adoption	15	0.929

Source: Field survey, Pilot Study 2022

To determine whether a parametric or non-parametric test should be performed, it is important to verify the normality assumption. In the literature, many techniques for determining normalcy are recommended. One of them is skewness and kurtosis values (Orcan, 2020), which may be pretty accurate in small and large samples (Kim, 2013). A measure of the asymmetry in a

variable's distribution is called skewness. A normal distribution has a skew value of zero, which often indicates symmetry.

Meanwhile, the skewness and kurtosis values in a normal distribution are equal to zero, skewness and kurtosis values between -2 and +2 are acceptable for psychometric applications (Bushra Muzaffar, 2016). It is evident from Table 2 that all of the data used in this study are typically distributed

Table 2: Assumption of parametric test

Variable	Skewness		Kurtosis	
	Statics	Std. Errors	Statics	Std. Errors
Technology Adoption	0.614	0.374	-0.823	0.733

Source: Field survey, Pilot Study 2022

Principal component analysis (PCA) was performed on the 15 Technology Adoption (TA) items using SPSS. The adequacy of the data for factor analysis was evaluated before PCA. The sampling is sufficient if the KMO test result is more than 0.5 (Hadi et al., 2016). The Kaiser Meyer-Olkin value of the current study is 0.790, as shown in Table 03, which is greater than the suggested minimum value of 0.5

Table 3: KMO and Bartlett's Test of Technology Adoption

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.790
Bartlett's Test of Sphericity	Approx. Chi-Square	433.689
	df	105
	Sig.	.000

Source: Field survey, Pilot Study 2022

Socio-demography background of respondents

The socio-demography of the respondents in Sri Lanka is revealed in Table 4; this corresponds to five demographic categories, namely age, gender, marital status and background. The result reveals that the age of the respondents ranges from 41-50 years old (50.0%), followed by ages 31-40 and 51-60 (22.5%), and followed by ages 20-30 (5.0%). According to the data, male respondents account for 87.5 %, while female respondents account for 12.5%. As a result, the majority of participants in this program are men. Male responders play a significant role in this project since they have considerably more time to be involved in agricultural activities. The findings from this study are similar to those from Filippini et al. (2020), which suggest that Male participants comprise the majority of the group. Most responders (92.5%) are married and have completed GCE O/L (57.5 %).

Table 4: Socio-Demographic background of respondents (n= 40)

Variables	Frequency	Percentage (%)
Age		
20-30	2	5.0
31-40	9	22.5
41-50	20	50.0
51-60	9	22.5
≥ 60	0	0
Gender		
Male	35	87.5
Female	5	12.5
Marital status		
Single	2	5.0
Married	37	92.5
Divorced	1	2.5
Educational background		
Primary level	9	22.5
GEC O/L	23	57.5
GEC A/L	8	20.0

Source: Field survey, Pilot Study 2022

Moreover, the level of Technology Adoption (TA) and its impact on agricultural productivity are explored in the paper section below. This discussion is relevant to Sri Lanka's farming community, which is actively engaged in efforts to develop the agriculture sector in the country.

Perceived of Usefulness (PU) items among farmers who participate in agricultural development project.

Table 5 displays the Perceived Usefulness Items (PU) of Technology Adoption (TA). The indicator "Using precision agriculture technologies fits my work style" is the highest mean based on the result, which is 4.38. The second highest is 4.30 mean, which is "Using precision agriculture technologies fits well with how I like to work". The lowest mean was 4.23, "Using precision agriculture technologies is compatible with most aspects of my work (Use technology, equipment and machinery, etc.)".

Table 5: Mean value for Perceived of Usefulness (PU) items among farmers who participated in agricultural development project

No	Statement	Mean	Standard Deviation
Perceived of Usefulness (PU) items			
1.	Using precision agriculture technologies is compatible with most aspects of my work. (Use technology, equipment and machinery, etc.)	4.23	.577
2.	Using precision agriculture technologies fits my work style	4.38	.540
3.	Using precision agriculture technologies fits well with the way I like to work	4.30	.564

Source: Field survey, Pilot Study 2022

Perceived Ease of Use (PEU) items among farmers who participate in agricultural development project.

Table 6 shows the knowledge about Perceived Ease of Use items (PEU). Based on the resulting outcome, the highest mean is 4.67, where the indicator “* (R) It is not easy for me to become skilful in using precision agriculture technologies”. The lowest mean is 4.23, and the indicator is "Learning to operate precision agriculture technologies systems is easy for me".

Table 6: Mean value for Perceived Ease of Use (PEU) items among farmers who participated in agricultural development project

No	Statement	Mean	Standard Deviation
Perceived ease of use items			
1.	I clearly understand how to use precision agriculture technologies	4.45	.552
2.	Learning to operate precision agriculture technology systems is easy for me	4.23	.480
	* (R) I find precision agriculture technologies inflexible to interact with (dropped)	4.60	.545
4.	It is easy to perform work using precision agriculture technologies	4.38	.490
5.	* (R) It is not easy for me to become skilful in using precision agriculture technologies	4.67	.474

6.	I find precision agriculture technologies easy to use	4.50	.506
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* Denotes items for which the response options are “reverse coded”.

Source: Field survey, Pilot Study 2022

Behavioral Intention to Use (BIU) items among farmers who participate in agricultural development project

Table 7 displays **Behavioral Intention to Use (BIU)** of Technology Adoption. The indicator “Precision agriculture technologies provide information in a useful format” is the highest mean based on the result, which is 4.18. The lowest mean was 4.03, and the indicator is “Precision agriculture technologies always provide relevant information”.

Table 7: Mean value for Behavioral Intention to Use (BIU) items among farmers who are participating in agricultural development project

No	Statement	Mean	Standard Deviation
Behavioral Intention to Use (BIU) items			
1.	Precision agriculture technologies provide information in a useful format	4.18	.501
2.	Precision agriculture technologies provide all the information I need	4.10	.496
3.	Precision agriculture technologies provide relevant information always	4.03	.768

Source: Field survey, Pilot Study 2022

Actual Usage (AU) items among farmers who participate in agricultural development project

Table 8 displays Actual usage (AU) items of Technology Adoption. The indicator “There is at least one member of my family who is an expert in precision agriculture technologies” is the highest mean based on the result, which is 4.40.

Table 8 : Mean value for Actual usage (AU) items among farmers who are participating in agricultural development project

No	Statement	Mean	Standard Deviation
Actual Usage (AU) items			
1.	My family members are all well-trained to use precision agriculture technologies	4.10	.441

2.	There is at least one member of my family who is an expert in precision agriculture technologies	4.40	.496
3.	I would rate my family members' understanding of precision agriculture technologies as very good compared with other farmers in the agriculture sector	4.23	.480

The lowest mean was 4.10, and the indicator is "My family members are all well trained to use precision agriculture technologies".

Source: Field survey, Pilot Study 2022

The overall level of Technology Adoption (TA) among farmers who participate in agricultural development project.

Table 9 indicated a level of technology adoption on Perceived Usefulness items (PU), Perceived Ease of Use items (PEU), Behavioral Intention to Use (BIU) and Actual Usage (AU) among respondents on agriculture sector modernisation farmers in Sri Lanka. The mean score for TA on PU, PEU, BIU and AU aspects are recorded as 12.90, 20.27, 12.30 and 12.72, respectively, while the overall score of TA is 64.75. Thus, the results showed that the respondents had a high level of PU, BIU, and AU items. Meanwhile, respondents revealed a medium level of PEU items in relation to the farmers participating in agricultural development projects in Sri Lanka. Meanwhile, the result revealed a high level of overall TA among the respondents.

Table 9: Level of technology adoption

Level of technology adoption	Frequency	%	Mean	SD
Perceived of Usefulness(PU) items				
Low (3-7)	0	0.0		
Moderate (7-11)	4	10.0	12.90	1.49
High (11-15)	36	90.0		
Perceived Ease of Use (PEU) items				
Low (6-14)	0	0.0		
Moderate (14-22)	25	62.5	20.27	1.54
High (22-30)	15	37.5		
Behavioral Intention to Use (BIU) items				
Low (3-7)	0	0.0		
Moderate (7-11)	8	20.0	12.30	1.47
High (11-15)	32	80.0		
Actual Usage (AU) items				
Low (3-7)	0	0.0		
Moderate (7-11)	2	5.0	12.72	1.22

High	(11-15)	38	95.0		
Overall Technology Adoption (TA)					
Low	(15-35)	0	0.0		
Moderate	(35-55)	0	0.0	64.75	5.66
High	(55-75)	40	100		

Source: Field survey, Pilot Study 2022

DISCUSSION

While there are exciting research implications of the study's conclusions in the context of the Sri Lankan setting, some of which are supported by prior research. The agriculture sector modernisation project is a government-launched project to enhance farmers' income. Adopting technology is a crucial intervention in agricultural development projects to increase participants' revenue towards empowerment. The current study determined the level of Technology Adoption (TA) using four variables of TA:

Perceived Usefulness (PU), Perceived Ease of Use (PEU), Behavioral Intention to Use (BIU), and Actual Usage (AU). The overall findings of the study revealed a high level of TA among farmers as a result of their involvement in the project to achieve their empowerment through engaging in agricultural activities. Dissanayake et al. (2022) highlight that the continuous application of the adopted technology is crucial to the growth of the agricultural industry and the livelihood of those engaged in it. As a result, it is beneficial to include the circumstances following adoption.

The findings shown in the tables indicated that the farmers decided to use applicable technology in the project in order to improve their capabilities, competencies,

skills, and knowledge related to farming productivity. Herath, Ahmad, Hassan, et al. (2021) highlighted that technological advancements have primarily driven increased agricultural productivity and production among Sri Lanka's farming community. Today, the commercialisation of agriculture is an unavoidable global reality. Numerous factors have an impact on how agriculture is commercialised. One of its key elements, which has accelerated the economic growth of developing and developed countries, is introducing new technology.

Thus, transforming agricultural productivity in rural areas largely depends on technology adoption via agricultural technology transfer, particularly in the current context where food demand exceeds production capacity (Mgendi et al., 2019).

Abdullah & Samah (2013) argued that farmers are being pushed to embrace technology that is appropriate for their farms in order to overcome issues in the agriculture sector. Farmers' attitudes and levels of education, as well as the knowledge of extension workers, the management of the extension program, and the physical characteristics of the area, all influence technology adoption.

Meanwhile, Walisinghe et al. (2017) discussed that an increase in agricultural

technology adoption may enhance the productivity of the agriculture sector. Furthermore, researchers revealed that access to public extension services, such as agriculture development projects, will likely encourage technological adoption, which may increase agricultural production. The findings of Ousmane & Nafiou (2019) demonstrated that the age and education level of the respondents had an impact on farmers' decisions about the use of agricultural technology. Kassie et al. (2020) highlighted and evaluated the moderating impact of women's empowerment on the link between the adoption of agricultural technology and women's dietary diversification using new survey data from rural Kenya. Zaidi & Munir (2014) discussed that rapid agricultural technology development offers a unique chance to enhance farmers' financial gains. According to the study, young and middle-aged people are actively engaged in the adoption of farm technology. Meanwhile, Hailu et al. (2014) conclusion of the regression analysis also discovered that adopting agricultural technology increases farm revenue in a way that makes adopters better off than non-adopters. Thus, research findings revealed that they have confidence that by adopting new technology, they could succeed in particular circumstances in the Sri Lankan context.

The main forces behind adopting technology are its potential to enhance productivity, reduce the need for raw materials, increase both the quantity and quality of production, improve farm management practices, and create jobs (Obaideen et al., 2022). Al-Emran & Griffy-Brown (2023) reveal that the implementation of new technologies leads

to a reduction in the amount of labour, electricity, time, and other resources required for business operations, workflow management, and output. Meanwhile, Herath, Ahmad, Hassan, et al. (2021) discuss that technological developments also have significant positive social effects, such as increased livelihood opportunities, decreased poverty, and reduced vulnerability due to improved technologies replacing inadequate resources and procedures.

Al-Emran & Griffy-Brown (2023) highlight that the importance of creating and implementing innovative technologies for economic growth and sustainable development is widely recognised. As a result, technological adoption is vital for achieving the SDGs in the agricultural sector. The findings of this study will assist the many stakeholders in the agriculture sector in formulating strategies that would optimise the contribution of technology adoption to achieve the SDGs, especially achieving SDG1, SDG 2 and SDG12.

The goal of the SDGs is to deal with the underlying causes of poverty (Chatterjee et al., 2020). Farmers can adopt new technologies through technology transfer initiatives, which will help them address the issue of food production towards poverty alleviation. SDG 1 and SDG 2 mainly focus on eliminating hunger and poverty and guaranteeing that everyone has year-round access to sufficient, nutritious foods, with a focus on people experiencing poverty and those in vulnerable circumstances (Morton et al., 2017).

Meanwhile, the goals of sustainable production and consumption include universal well-being and a decrease in the environmental damage caused by various

socioeconomic activities (Halkos & Gkampoura, 2021). In addition, SDG 12 seeks to minimise food waste in general, support ecologically responsible management of chemicals and garbage, and encourage enterprises to adopt sustainable

practices. As a result, TA in the agricultural context can assist in achieving the SDG goals. Thus, agriculture is the most critical unique employer in the World according to the Sustainable Development Goals (SDGs) (World Bank, 2020).

CONCLUSION

According to the findings of the study, following their participation in the agriculture sector modernisation project initiated by the Sri Lankan Ministry of Agriculture (MOA- SL), the farmers in the research area have a high level of TA based on four dimensions of TA such as PU, PEU, BIU and AU aspects. According to the overall mean score of TA, the farmer communities in Sri Lanka engaged in agricultural projects were revealed to be significantly impacted by technology. Therefore, the life of the Sri Lankan community is strongly influenced by

agriculture, which sets the backbone of the economic growth of the country.

In order to successfully plan and carry out technology-related initiatives to address food production issues towards their empowerment in developing nations, it is crucial to understand the level of agricultural technology. Policymakers and new technology developers need to understand farmers' needs and adoption capabilities to build technology that will work for them and increase the rate at which farmers embrace new technologies.

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MALAYSIAN JOURNAL OF HUMAN ECOLOGY

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ASSESSING THE IMPACT OF THE BELT AND ROAD INITIATIVE (BRI) ON CHINA-MALAYSIAN ECONOMIC AND TRADE RELATIONS

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ABSTRACT

This article briefly assesses the effects of the 'Belt and Road Initiative' (BRI) on the economic and trade relations between China and Malaysia. This study utilized the qualitative method by reviewing selected literature and employing content analysis. The literature review examines various documents and articles on the economic and trade cooperation between Malaysia and China, specifically focusing on the 'BRI.' Using a SWOT-PEST analysis, this paper offers an understanding of the impact of the relations through the strengths and weaknesses from the political, economic, social, and technological dimensions. It is hoped to make a scholarly contribution towards the sustained expansion of economic and trade ties between China and Malaysia within the BRI framework. The analysis shows that, within the context of the "BRI," China and Malaysia exhibit robust political trust, stable economic relations, extensive societal exchanges, and substantial technological collaboration, creating an environment conducive to cooperation. However, challenges like trade imbalances, non-tariff barriers, domestic political shifts, international competitive interference, ecological repercussions, and data security threats require coordinated responses. However, with some comprehensive strategy and constructive measures, China and Malaysia can work well together for a better and more progressive achievement of the BRI in the future.

Keywords: *China, Malaysia, The Belt and Road Initiative, China and Malaysia relations, Economic and Trade Relations*

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INTRODUCTION

Since its establishment in 2013, the Belt and Road Initiative (BRI) has undergone substantial progress and attained noteworthy outcomes. Among the participating nations, Malaysia has obtained advantageous results from the collaborative development of the BRI. The endeavour, which encompasses the Silk Road Economic Belt and the 21st Century Maritime Silk Road, is designed to advance China's economic progress while considering the developmental requirements of Silk Road nations. This strategy aims to foster reciprocal advantages and shared progress among China and the countries along the Silk Road (Ku Boon Dar, 2021). Utilizing personnel exchanges, infrastructure development, and trade facilitation, BRI has generated fresh prospects for enhancing economic and trade collaboration between Malaysia and China (Tuan Yuen K, 2017). Despite active development, economic and trade cooperation between China and Malaysia faces obstacles within the BRI framework that must be resolved. The challenges mentioned above are resolving economic conflicts that emerge due to divergent policies, market rivalries, and the potential attrition of economic professionals or talents (Ku Boon Dar, 2021; Huda, 2022). Comprehending and efficiently confronting these obstacles is vital in formulating a

successful strategy. By utilizing a literature review and content analysis, this study seeks an assessment of the economic and trade cooperation between China and Malaysia. Undoubtedly, much literature focusing on the economic relations between China and Malaysia has been published within the framework of the BRI. However, this article aims to briefly evaluate the impact of the BRI implementation experienced by both countries using the SWOT-PEST analysis.

The study has focused on prior research and pertinent literature concerning economic and trade cooperation between China and Malaysia within the BRI framework. It is hoped to make a scholarly contribution towards the sustained expansion of economic and trade ties between China and Malaysia within the BRI framework. Despite notable advancements, it is imperative to confront the obstacles to foresee the continued growth of collaboration in a mutually advantageous and sustainable manner. This article will focus on the analysis based on the SWOT-PEST framework by examining the strengths, weaknesses, challenges and threats before providing some recommendations and resolutions to facilitate enhanced collaboration between Malaysia and China.

METHODOLOGY

This research aims to briefly evaluate the BRI on economic and trade collaboration between Malaysia and China. In order to accomplish this aim, the study utilizes qualitative research approaches,

predominantly literature review and content analysis. Literature analysis entails the extraction of valuable insights and information through the evaluation of pertinent literature. The analysis covers

documents, academic literature, and research reports about economic and trade cooperation between Malaysia and China, the BRI. Besides expanding upon the conclusions drawn from the literature review, the content analysis provides meaning to the gathered data, thus corroborating the findings and showcasing the researcher's perspectives. The materials utilized as data sources for this research are diverse and pertain to the "Belt and Road Initiative".

Professor Heinz Weihrich developed the SWOT analysis approach in the 1980s, allowing for a methodical assessment of competing internal conditions and external environmental elements aligned with the business's goals (Houben et al., 1999). The method can be applied in politics to make it easier to assess political forces, entities, and policies and the effects of internal and external variables that may impact political acts, forces, or policies (Zhu. PEST analysis is a strategy tool that evaluates how an organization is affected by the Political, Economic, Social, and Technological (PEST) elements, which are the four main external influences. The macroeconomic environment is one aspect of the political component, government policies and regulations are part of the economic element, population and cultural trends are part of the social factor, and technology

innovation is part of the technological factor. Organizations can better comprehend the external environment and develop competitive strategies using this study. It is usually used in conjunction with SWOT analysis to assess the impact of both internal and external forces fully.

Through the process of selecting, reading, summarizing, and applying the SWOT-PEST model analysis method to the chosen articles, the following issues and focal points were employed, "within the framework of the "Belt and Road Initiative", what challenges does economic and trade cooperation between China and Malaysia face?. Difficulties and issues encountered in the political, economic, social, and technological spheres are assessed using the SWOT-PEST model, and recommendations and countermeasures are constructed accordingly. However, when considering the matter holistically, the SWOT-PEST model systematically analyses the current strengths, weaknesses, opportunities, and threats within politics, economics, society, and technology. Therefore, it can facilitate the identification of crucial aspects that strategically contribute to decision-making. For the framework of analysis, this study used Zhu et al. 's (2014) SWOT-PEST analysis matrix, as shown in Table 1, as the guide.

SWOT-PEST Model	Internal factor		External factor	
	Strength (S)	Weakness (W)	Opportunity (O)	Threat (T)
<i>Politics (P)</i>	SP	WP	OP	TP
<i>Economic (E)</i>	SE	WE	OE	TE
<i>Society (S)</i>	SS	WS	OS	TS
<i>Technology (T)</i>	ST	WT	OT	TT

Table 1. SWOT-PEST model

(Source: Zhu et al. 2014, pp 554)

ANALYSIS AND DISCUSSION

This part will provide the analysis result based on the SWOT-PEST framework. It consists of two main divisions, internal

strengths and weaknesses, based on four dimensions: political, economic, social and technological.

Internal Strengths

Strengths are intrinsic attributes and resources that benefit an organization, initiative, or individual. These traits can be utilized strategically to attain a competitive edge and may involve distinct skills, expertise, resources, market dominance,

innovation capacities, and other relevant factors. The explicit identification of these qualities enables businesses to effectively leverage their innate potential to tackle obstacles and seize opportunities.

Political

Malaysia's economic policy towards China underwent a transformative period under the tenure of the fourth Prime Minister of Malaysia, Mahathir Mohamed, as such a leader underscored the importance of economic relations within the context of bilateral relations (Nambiar, 2021). Early diplomatic relations between the two countries resulted in limited economic cooperation, primarily attributable to policies implemented by the Malaysian government that were instrumental in fostering economic growth for both countries (Nambiar, 2021; Zhao, 2011; Chohan, 2021; Berridge, 2012). Malaysia implemented a more proactive approach to bolster its economic relations with China between 1986 and 2018. A new era of close economic cooperation and frequent interaction between the two nations began. Malaysia surpassed Singapore in 2002 to become China's most important trading partner in ASEAN, thereby bolstering the

economic relations between the two countries (Shee, 2004; Zheng, 2009). Bilateral trade expanded substantially.

The BRI agreements and initiatives between Malaysia and China encompass various sectors, including railways, ports, energy, technology, and finance. The collaborations between Malaysia and the mentioned nation have resulted in several advantages for Malaysia, such as investment, technology transfer, and employment prospects. Additionally, these collaborations have played a significant role in enhancing political trust and bilateral relations between the two countries (Abd Rahman, 2022). Based on the perspectives expressed by the authors, it becomes apparent that leadership changes often involve alterations in policy and priorities. Moreover, the shift in Malaysia's economic strategy towards China signifies

a deliberate intention to strengthen economic ties with the Chinese nation. In the larger framework of bilateral relations, political leaders have increasingly recognized the importance of economic diplomacy to enhance the bond between the

two countries. The bilateral cooperation between China and Malaysia has been strengthened through the BRI, contributing to the healthy political connection between the two countries.

Economic

Economic stability has prevailed in the relationship between Malaysia and China, with Malaysia placing considerable emphasis on preserving and expanding economic relations with China. The visit of Malaysian Prime Minister Abdul Razak to Beijing in 1974 signified the formalization of diplomatic ties between the two nations. Malaysia is presently China's third-largest trading partner in the Southeast Asian region, whereas China has emerged as Malaysia's preeminent economic and trading partner. The volume of bilateral trade between China and Malaysia has increased substantially (Huda, 2022). To stimulate bilateral trade growth, the Malaysian government and three key Chinese state-owned enterprises entered into agreements on palm oil for 2019-2023, the East Coast Railway Line (ECRL), and the revitalization of Malaysia City. This development shows that the Malaysia-China relationship has consistent economic stability and has witnessed substantial growth in bilateral trade volume. The economic stability and collaboration between these two nations have noteworthy significance as they contribute to advancing their economic growth and regional influence within the context of the BRI.

Furthermore, China and Malaysia signed a Memorandum of Understanding (MoU) in

November 2015 regarding seaport alliances involving ten Chinese and six Malaysian ports. The purpose of the alliances was to improve trade relations and the exchange of information. Prior to the execution of this memorandum of understanding, Port Klang of Malaysia had already forged sister port alliances with the majority of the ten Chinese ports to promote the logistics, commerce, and tourism sectors. This progression reflects a pronounced inclination towards collaboration between China and Malaysia in the domains of marine and trade, with a specific emphasis on fostering cooperative efforts. The primary objective of the BRI is to enhance commerce and promote infrastructural connections between the regions of Asia and Europe, thereby establishing a significant platform for collaboration between China and Malaysia. This collaboration aims at attaining reciprocal advantages to foster the economic development of both parties involved. In addition, a memorandum of understanding (MoU) was signed between the Malaysian city of Malacca and the province of Guangdong in China regarding the exchange of urban infrastructure construction projects between the two countries. The proposed development involves establishing the Guangdong Malacca Electrical Manufacturing

Industrial Estate and constructing a deep-water harbour in the region of Malacca. The Memorandum of Understanding (MoU) signifies the participation of the relevant countries and regions, wherein the signatories possess the power to make decisions and pledges on behalf of their respective governments and regions. During the implementation phase of the projects, various obstacles may be encountered. Hence, the achievement of the projects and their mutually advantageous execution hinges upon the combined endeavours of the signatories to effectively tackle any problems that may arise throughout the implementation process. The ultimate achievement of success in this context will rely on the signatories' ability to effectively collaborate, resolve issues, and implement constructive measures throughout the implementation phase.

Moreover, the Guangdong government conveyed considerable enthusiasm for constructing an artificial island in Malacca

Social

As the BRI approaches its tenth anniversary in 2023, China and Malaysia emphasize enhancing collaboration via the BRI (Abd Rahman, 2022). This initiative allows Malaysian students to acquire a superior education from renowned Chinese universities within their country of residence. Academic and cultural exchanges are encouraged, in addition to strengthening educational cooperation between the two nations through the establishment of the Xiamen University Malaysia Campus. In this context, the Malaysian-Chinese community plays a

to foster the growth of the maritime and tourism sectors. Meanwhile, in Penang (Malaysia), Chinese construction firms are additionally engaged in endeavours, including bridge construction and land reclamation (Yuen, 2016). This development proves that Malaysia and China have established a significant and stable economic relationship and are committed to preserving and expanding these ties. Both nations have recognized their mutual economic interests, resulting in the continuous growth of bilateral trade. The formalization of diplomatic relations between Malaysia and China, marked by diplomatic visits and signing various agreements and Memoranda of Understanding (MoUs), demonstrates the political stability and commitment underpinning their diplomatic and economic cooperation. These relationships not only receive backing in terms of economic collaboration but also play a crucial role in guaranteeing ongoing economic cooperation and diplomatic ties.

significant role in enhancing this kind of bilateral relations. The education sector presents ample scope and opportunity for Malaysia and China to enhance their collaboration, particularly in Islamic education (Hassan et al., 2020).

Moreover, the Belt and Road Initiative is poised to stimulate cultural interchange and reciprocal knowledge-sharing among the populations of the involved nations, nurturing a more profound comprehension, acceptance, and amalgamation among them. This endeavour is crucial in

mitigating the prevalence of estrangement and misconceptions among diverse ethnic and religious groups (Huda, 2022). The cultural exchange activities between China and Malaysia encompass various disciplines, including education, culture, and healthcare. These activities involve sharing development chances and successes with other nations (Ku Boon Dar, 2021). The BRI clearly illustrates social cooperation, providing distinctive prospects for educational, cultural, and interpersonal exchanges.

Technological

Malaysia has capitalized on the prospects offered by the BRI to enhance its international market presence and stimulate economic expansion via enhanced railway infrastructure. Chinese corporations have invested in numerous Malaysian industries, including telecommunications, solar, steel, glass, locomotives, automobiles, and solar energy, facilitating the transfer of technology and knowledge and generating substantial employment opportunities (Chuin, 2019). Malaysia has gained access to additional trade prospects due to the One Belt and One Road Initiative (OBOR) (Woan-Lin, 2018). Sector-spanning China-Malaysia collaborative ventures are established as part of the BRI. The projects undertaken by China Nuclear obtained the free electric generator (IPP) of 1 Malaysia Development Berhad (1MDB), Geeley acquired 49.9% of the shares in Malaysian automaker Proton, and Malacca, Malacca, and East Coast Rail Link (ECRL), in addition to the proposed deep-sea port in Malacca, large-scale property development in Iskandar, and the sale of Chinese military equipment to Malaysia (Latiff & Shirouz, 2017). Under the auspices of the BRI, there has been a notable advancement in

Moreover, it facilitates the development of shared cultural bonds, cultivating a strengthened rapport between China and Malaysia. This initiative fosters a deeper level of mutual comprehension and integration among the nations involved. It offers significant backing for the maintenance of political and economic stability as well as fostering growth.

economic integration between the two nations through the implementation of cross-sectoral joint endeavours. These qualities play a crucial role in facilitating the beneficial advancement of the BRI and achieving its anticipated results. Malaysia additionally gains advantages from the technology transfer that China facilitates via the BRI.

As an illustration, a Memorandum of Understanding (MoU) was established between University Technology Malaysia and China regarding the transmission of the "Moving Bed Bio Reactor" technology, which aims to produce treated water of superior quality while minimizing sludge and odour. Chinese corporations have also invested in a production-based centre in the Malaysia-China Kuantan Industrial Park, aiming to foster collaborative development of renewable energy technology. Although infrastructure development is the primary focus of economic relations between China and Malaysia, China also engages in various sectors of Malaysia's economy, such as tourism, education, and logistics. Private sector involvement is permissible,

specifically in collaboration between private and state-owned enterprises (Latiff & Shirouz, 2017). In brief, the BRI (BRI) has provided diverse opportunities and impetus for China and Malaysia to collaborate technologically. This collaboration includes the international transmission of technology and knowledge,

the emergence of new employment opportunities, and the launch of interdisciplinary collaborative projects. China and Malaysia's bilateral cooperation has been strengthened by technological collaboration, which has also contributed to Malaysia's economic growth.

Internal Weakness

Weaknesses are internal factors, referring to the unfavourable qualities, limitations, and problems within an organization, initiative, or individual. Identifying

weaknesses facilitates the identification of enhancement areas and the implementation of corrective measures.

Political

At the regional level, BRI may trigger competition and confrontation between China and other major powers, particularly India and the United States, which could impact regional stability and security. At the same time, countries like India may seek collaborations with other major powers to counterbalance China's influence in South Asia and the Indian Ocean (Papatheologou, 2019). On the other hand, the political systems of certain Southeast Asian nations remain plagued by corruption, nepotism, and power abuse, which present obstacles to the effectiveness of their domestic regulatory frameworks (Pieterse, 2015). For example, the BRI projects have been affected by domestic political changes in Malaysia, particularly after the 2018 general election, when the Mahathir government reviewed and renegotiated some large-scale projects involving Chinese funds and technology, resulting in the delay or cancellation of some projects. In addition, China and Malaysia confront interference and competition from Western nations like the

United States in the Belt and Road cooperation. Through some factors, such as trade conflicts, security alliances, and freedom of navigation, the United States attempts to contain China's influence in the Asia-Pacific region by opposing the BRI. A trade and investment imbalance exists between China and Malaysia in the BRI. Since 2013, however, the trade deficit between China and Malaysia has continued to grow. China's investment in Malaysia has surpassed Malaysia's investment in China, causing concerns about Chinese investment penetration and control in Malaysia (Abd Rahman, 2022).

In China-Malaysia relations, the BRI has raised several political issues and challenges. These include national security concerns, domestic political complexities, the impact of political transitions, international competition and interference, and imbalances in trade and investment. These political factors and obstacles can influence the political dynamics between

China and BRI partner nations, such as Malaysia. In addition, they influence the results and efficacy of BRI projects,

exerting tangible effects on the success and dynamics of BRI initiatives.

Economic

The data presented in Table 2, obtained from the National Bureau of Statistics of the People's Republic of China, indicates a consistent upward trajectory in the aggregate import-export value between China and Malaysia, spanning from 2015 to 2021. Nevertheless, a trade imbalance is evident, as imports substantially surpass exports value. From 2015 to 2021, China's exports to Malaysia rose from USD 439.80 billion to USD 786.54 billion, representing a moderate increase in export value. A considerable increase in import value was observed in China's Malaysian imports, which rose from USD 532.77 billion in 2015 to USD 983.05 billion in 2021. The trade deficit underscores the trade imbalance between China and Malaysia, as China's import requirements from Malaysia exceed its export requirements.

The trade imbalance between the two nations could be attributed to Malaysia's robust export competitiveness in specific sectors and China's substantial demand for Malaysian resources. However, trade imbalances persist or become excessive. In that case, they can lead to discontent and responses from other nations, resulting in trade frictions and disputes that affect bilateral or multilateral economic cooperation and political relationships. When trade imbalances are concentrated in particular goods or services, they can lead to an overreliance on suppliers, reducing a country's autonomy and security while increasing its risks and costs (Papatheologou, 2019).

Year	Total Import-Export (USD, billions)	Year-on-Year Growth Rate	Total Export (USD, billions)	Export Growth Rate	Total Import (USD, billions)	Import Growth Rate
2015	972.57	N/A	439.80	N/A	532.77	N/A
2016	869.41	-10.6%	376.71	-14.3%	492.69	-7.5%
2017	961.38	10.6%	417.12	10.7%	544.26	10.5%
2018	1085.81	13.0%	453.75	8.8%	632.05	16.2%
2019	1240.51	14.3%	521.41	14.9%	719.09	13.8%
2020	1314.75	6.0%	563.01	7.9%	751.74	4.5%
2021	1769.59	34.5%	786.54	39.6%	983.05	30.9%

Table 2: Bilateral trade statistics between China and Malaysia from 2015 to 2021
(Data Source: National Bureau of Statistics, 2021)

Social

Some Chinese projects could spark social opposition and protests in Malaysia, such as the Forest City project, which is being questioned by environmental groups and locals (Liu & Lim, 2018). In the meantime, the construction of large-scale infrastructure may harm Malaysia's natural ecology, including its forests, fauna, and river systems. Chinese investors may import labour, technology, and materials from China instead of utilizing Malaysian resources, hurting Malaysia's employment and industrial development (Tat et al., 2018). Moreover, the BRI may exacerbate the social inequality phenomenon in Malaysia, such as Chinese investors purchasing high-end properties and strategic assets in Malaysia, resulting in

rising house prices and land loss, and Chinese workers engaging in infrastructure construction in Malaysia, displacing local employment opportunities and resources (Ku Boon Dar, 2021).

In summary, the deficiencies in the social aspects of the BRI's implementation in Malaysia potentially exacerbate ethnic division, environmental impact, resource consumption, and social inequality. These obstacles can affect the efficacy and social acceptability of BRI projects in the country and the China-Malaysia relationship as a whole. It is crucial for the success of BRI in Malaysia to address these vulnerabilities and find ways to mitigate their effects.

Technological

China's technological initiatives and equipment provisions frequently involve patent rights and intellectual property, making technology transfer more difficult and expensive. The compatibility of Chinese technological products and services with Malaysia's market requirements and environmental conditions may take time, compromising their efficacy and dependability. More reliance on China's technological support within the BRI may lead to a decline in Malaysia's technological innovation capabilities and competitiveness and an increase in Malaysia's political and economic sway over China (Rabeya, 2022). In addition, Malaysia faces political, environmental, and social difficulties, making it challenging to ensure the smooth implementation and sustainable development of technological projects.

Malaysia's digital economic development needs to be improved by lagging infrastructure development, talent constraints, and digital divides, which make it challenging to align with China's digital transformation and innovation initiatives. Malaysia's investments in China in energy, metals, and transportation sectors are primarily motivated by resource-seeking and market-seeking and need more technology-seeking and strategic-seeking investments, making technological cooperation and upgrading hard to achieve (Yeoh et al., 2018).

Briefly, the technical deficiencies encountered by both China and Malaysia in the context of the BRI have significant implications for their relationship. These technical deficiencies include intellectual property and technology transfer

challenges, the mismatch between Chinese technological products and Malaysian market demands and environmental conditions, and an excessive reliance on Chinese technological assistance. These obstacles pose multiple obstacles to the technological cooperation and innovation between the two countries. These technical

Opportunities

Opportunities are external environmental factors that may benefit an organization or endeavour. Opportunities can include market expansion, emerging technologies,

Political

Malaysia was the first ASEAN country to establish diplomatic relations with China after the Second World War, and it continues to be one of China's most important ASEAN trading partners. The two nations have a long history of cooperation in many areas, including trade, investment, and infrastructure, and they share similar interests and goals. By leveraging its geographical location and infrastructural advantages, Malaysia can serve as a gateway for China's entry into the ASEAN Economic Community (AEC), ASEAN Plus and Organization of Islamic Cooperation (OIC) member states. Together, they can foster peace and prosperity by promoting regional connectivity and trade facilitation. Both countries can play more active roles in international affairs by upholding multilateralism and free trade, addressing challenges such as climate change and pandemics, and amplifying developing nations' voices and influences (Nee, 2020).

obstacles significantly impact collaborative efforts within the framework of the BRI, limiting technological advancements. For the advancement of bilateral technological collaboration and innovation and maximizing the potential of the BRI, it is essential to address these issues and obstacles.

regulatory changes, and other factors. Organizations can expand operations, increase profits, and obtain market share by seizing opportunities.

Both countries need to cultivate cooperation growth areas such as the digital economy, green development, and new energy to enhance the high-quality development of the BRI and advance critical projects. Initiating collaborations in these fields would be beneficial for both nations. Moreover, fostering people-centred cooperation will ensure that the China-Malaysia relationship benefits the citizens of both nations. In order to reduce China's reliance on the Malacca Strait, the East Coast Rail Link provides a new trade route between Kuantan Port and Port Klang. Simultaneously, it helps Malaysia attract more indirect trade and reduces transportation costs and time, threatening Singapore's leadership position in Southeast Asia (Liu & Lim, 2018). Therefore, these political opportunities create favourable conditions for China and Malaysia to deepen their political ties, strengthen their positions in regional and global affairs, and resolve common challenges through collaborative efforts within the context of the BRI. These possibilities could strengthen the BRI and

China-Malaysia relations, resulting in mutual gains.

Economic

China and Malaysia have signed an agreement to establish sister port relationships between Qinzhou Port and Kuantan Port, thereby reviving the ancient Silk Road maritime trade routes. This initiative seeks to facilitate cooperation in various areas, including services, logistics, information exchange, and workforce development. China has recently become Malaysia's most significant trading partner, with bilateral trade exceeding USD 100 billion. Chinese investments in Malaysia encompass multiple industries, including rail transport equipment, steel production, textiles, photovoltaic equipment, information communication, rubber cultivation, and real estate. (Yeoh, Chang, & Zhang, 2018) The China-Malaysia Kuantan Industrial Park is a crucial collaborative initiative between the two governments and provides special investment incentives and tax relief policies.

Moreover, the China-Malaysia Free Trade Zone has established a legal framework and cooperative mechanisms that can further expand the scope of service trade, lower investment barriers, and achieve mutual benefits. This objective can be achieved by adhering to pre-establishment national treatment and a negative list approach, among other principles. For example, Malaysia could improve its infrastructure in transportation, energy, and communication;

China can provide technological, financial, and human resource assistance. This effort can be seen in China's participation in constructing the China-Malaysia Qinzhou Industrial Park and the Kuantan Industrial Park (Lu, 2016).

In addition, on October 4, 2013, President Xi Jinping arrived in Malaysia to attend the Malaysia-China Economic Conference Summit at the Kuala Lumpur Convention Centre. During his speech, Xi Jinping emphasized the significance of a win-win collaboration to expand and strengthen the amicable and mutually beneficial relations between China and Malaysia (RCEP, 2021). This has confirmed that China-Malaysia cooperation presents significant economic opportunities within the context of the BRI. These prospects can strengthen economic collaboration, commerce, and infrastructure development, contributing to the BRI's goals and enhancing China-Malaysia relations. To support this, Malaysia needs to improve its infrastructure, particularly in transportation, energy, and communication, to fully capitalize on these opportunities. The amicable cooperation and win-win partnership between China and Malaysia, emphasized and supported by the Chinese President, strengthen the foundation for economic cooperation and expansion between the two countries.

Social

China and Malaysia's relations on education started long ago, yet through the BRI, the educational ties have been strengthened. An accord entered into in 2011 to foster educational connections has substantially amplified the movement of students between the two nations. The Malaysia-China Mutual Recognition Agreement has increased the number of tertiary institutions recognized by China from "five or six" before the agreement to 71. In 2015, Xiamen University established its inaugural overseas campus in Malaysia, fostering academic relations between China and Malaysia (Tat, 2018). In addition, The BRI has stimulated grassroots cooperation between China and Malaysia, particularly in the tourism and real estate sectors. The Forest City initiative, for instance, is a joint effort between China's Country Garden Group and the Sultan of Johor in Malaysia to establish an eco-friendly international community.

The BRI has promoted cultural exchanges between China and Malaysia and strengthened mutual trust (Liu & Lim, 2018). The BRI has afforded China and

Malaysia opportunities for talent development and technology transfer, enhancing innovation capabilities and competitiveness. For example, China's investment in industrial parks, high-speed rail projects, and automotive manufacturing, as well as collaborations between the two countries in areas such as Islamic finance and the digital economy. These initiatives have created opportunities for social development and quality of life enhancements, fostering economic growth and regional integration for both countries. It also highlights China and Malaysia's cooperation in infrastructure development, energy resource exploitation, trade, and investment and their involvement in ASEAN coordination (Ku Boon Dar, 2021). In conclusion, the BRI has strengthened China and Malaysia's cooperation and exchanges, which resulted in favourable effects on their education, society, and economy. It has increased mutual understanding and trust, provided opportunities for social development and enhanced quality of life, fostered economic growth and regional integration, and contributed to the growth and development of both parties.

Technological

After Mahathir's tenure as the fourth Prime Minister, his successors, Abdullah and Najib, maintained a constructive stance towards China and broadened collaboration across multiple domains. Najib, specifically, expressed unwavering endorsement of the BRI, initiating endeavours to foster collaboration between China and Malaysia under the framework of BRI. The BRI has substantially impacted the economic relations between China and

Malaysia by facilitating investments and technology transfers and bolstering Malaysia's infrastructure development, employment prospects, and income growth (Yu, 2017; Yean, 2018; Zhang et al., 2020). Moreover, these two countries have established strong economic relations since 2009; China has been Malaysia's leading trading partner. Numerous initiatives have been the subject of collaboration between the two nations, such as the China-Malaysia

Qinzhou Industrial Park and the Malaysia-China Kuantan Industrial Park. The sistering of the Kuantan and Qinzhou ports has resulted from their collaborative efforts in talent development, logistics, services, and information exchange.

For numerous years, Chinese corporations have maintained a presence in the infrastructure market in Malaysia, where they have executed substantial undertakings. An illustration of this can be seen in the Bakun hydropower plant, which China Hydropower Construction Group constructed; China Harbour Engineering built the second Penang Bridge; and the 1,000 MW coal-fired power plant in

Manjung was contracted to China National Machinery Import and Export Corporation. Prominent in Malaysia's communications market have been Chinese corporations such as ZTE and Huawei, which are renowned for their technological prowess, exemplary construction, and operational effectiveness (Yeoh et al., 2018). As a result, the BRI has significantly impacted technological opportunities in the China-Malaysia relationship, fostering collaborations across multiple sectors, promoting technology transfers, and supporting Malaysia's infrastructure development, economic growth, and employment prospects. It has strengthened the economic and technological connections between the two countries.

Threats

Threats are external environmental factors that have the potential to negatively affect an organization, an initiative, or an individual. Threats include heightened competition, market contraction, regulatory changes, economic downturns, and the

emergence of new competitors, among others. By comprehending these hazards, steps can be taken to mitigate potential negative effects and develop more competitive strategies.

Political

Although China and Malaysia are actively developing economic and trade cooperation, there are still obstacles to be resolved within the framework of the BRI. Comprehending and confronting these obstacles is imperative for a successful approach (Ku Boon Dar, 2021). Divergent economic policies, market competition, and the potential attrition of economic specialists or talents are all factors that can give rise to these conflicts (Huda, 2022). China's prioritization of exports over imports directly opposes the tenets of win-win cooperation. China's exclusive emphasis on product exports could only

deter their engagement in the initiative if they extend market access to ASEAN nations. As an illustration, Malaysia, which boasts a resilient infrastructure, aims to penetrate the Chinese market using its competitive service sectors: finance, telecommunications, and foreign trade. Malaysian investments made by China as part of the BRI should be regarded favourably. Malaysia must maintain a delicate equilibrium, refraining from an overabundance of protectionism that may impede its trajectory towards attaining developed status. Strategic management of prospective adverse factors and the ability

to convert threats into opportunities are paramount. China and Malaysia's newly formed government ought to work closely to cultivate pragmatic and mutually advantageous relations founded on equality, trust, and the joint pursuit of success (Ku Boon Dar, 2021). The BRI has significantly elevated cooperation and solidarity between China and Malaysia.

However, a few obstacles could hinder economic cooperation within the BRI. These obstacles are examples of political and economic instability in Malaysia and China's economic decline. Geopolitical factors, including the geopolitics of the South China Sea, will partially impede the progress of economic cooperation between China and Malaysia and the need to maintain balance in relations with the United States and other ASEAN nations. Malaysian leaders must resolve these challenges while preserving a delicate equilibrium in their interactions with

Economic

As a result of the China-ASEAN Free Trade Area coming into effect, tariff barriers between Malaysia and China have been substantially diminished. Nevertheless, non-tariff barriers have surfaced as a significant concern, presenting obstacles to advancing bilateral trade cooperation. The difficulty of surmounting these obstacles—which manifest in diverse ways—impedes the advancement of trade relations between China and Malaysia to a significant degree. An illustrative instance pertains to the import limitations imposed by China on specific varieties of fresh fruits. In contrast to Malaysia, Thailand is authorized to export an almost threefold greater variety of fresh fruits. However, this disparity has

various stakeholders (Huda, 2022). Even though China and Malaysia are actively advancing economic and trade cooperation within the framework of the BRI, challenges remain. Divergent economic policies, market competition, and the potential loss of economic experts and talents are among these obstacles. These elements can contribute to conflict and impede cooperation. Establishing efficient mechanisms for cooperation, mitigating instability, enhancing political dialogue, and ensuring the sustained stability of economic and trade relations are crucial to addressing these political concerns. In the meantime, Malaysia might need to carefully balance its policies to avoid excessive protectionism while remaining adaptable to challenges and transforming them into opportunities. The political leadership shall collaborate to ensure that cooperation is founded on equality and mutual trust principles, with the common goal of achieving success.

rendered it impossible for Malaysian tropical fruits to penetrate the Chinese market. Non-tariff barriers impede the progress of bilateral trade relations and obstruct their expansion (Li & Qin, 2022). In addition, since 2013, Malaysia's exports and income have been negatively impacted by a trade deficit favouring China (Abd Rahman, 2022). Chinese investments in Malaysia could lead to discontent and demonstrations from the general public and opposition groups, resulting in political unrest and social divisions that could impact economic stability and growth. Malaysia may encounter difficulties repaying China's high-value loans, which could result in losing control over vital

projects and strategic assets (Nambiar, 2021). As a result, these economic concerns highlight the complications and difficulty of China-Malaysia relations within the context of the BRI. Both parties must address non-tariff barriers, trade imbalances, and socio-political issues

Social

An analysis of the potential adverse effects of the BRI on biodiversity in Southeast Asia was conducted by Ng et al. (2020). According to the article, BRI transportation infrastructure projects will traverse several of the region's most valuable and imperilled ecosystems, including protected areas, critical biodiversity areas, forests, coral reefs, mangroves, and seagrass beds. The article evaluates the impact range of BRI routes on these ecosystems by employing various buffer distances. It reveals that numerous endangered species, ecological zones, and undeveloped natural landscapes intersect with BRI routes. According to the article, BRI may have adverse effects on Southeast Asian biodiversity through the facilitation of habitat degradation, fragmentation, and loss, as well as the proliferation of illicit activities and invasive species.

Technological

Malaysia may have concerns regarding preserving and using sensitive data and information in infrastructure projects involving Chinese companies and potential cyber threats and espionage activities. In addition, they may need help communicating and coordinating with Chinese companies in the context of technology collaborations and disparities

threatening economic stability and long-term development to ensure successful cooperation. Both countries should also provide proactive measures to correct trade imbalances and ensure that investments generate long-term returns to facilitate mutual development.

In Malaysia, there are some instances of inequality and injustice in society, such as racial discrimination, wealth disparities, and corruption, which can lead to social discontent and protests, potentially hurting China-Malaysia cooperation (Rabeya, 2022). In addition, some opposition parties and media outlets attempt to stir anti-China sentiments, questioning the impact of Chinese investments on Malaysia's sovereignty and interests and even demanding the cancellation of some infrastructure contracts with China (Hassan et al., 2020). In short, the BRI holds significant importance for both China and Malaysia. However, these social threats may challenge the stability and continued cooperation of the BRI and the China-Malaysia relationship. It is essential to address these threats, ensuring that the collaboration between both parties can achieve political and economic sustainability.

and incompatibilities in technical standards and regulations (Russel & Berger, 2019). In addition, China's digital projects in Malaysia, such as smart cities and industrial internet initiatives, could increase Malaysia's exposure to cyberattacks and data breach risks, thereby influencing Malaysia's cyber sovereignty and privacy protection (Kuik, 2021). China's

construction projects in Malaysia may have led to ineffective technology transfer and knowledge diffusion. They have instead increased the competitive pressure on local construction firms (Chin et al., 2023). These technological concerns may negatively affect both the political and economic spheres. On the political front, they could provoke disputes, exacerbate tensions, and even harm the political relations between the two countries. On the

economic front, these issues may result in economic instability, impede sustainable cooperation, or impact domestic industries. Addressing these technological threats is of the utmost importance to ensure the successful implementation of the BRI and attain political and economic sustainability. This effort may necessitate close cooperation and concerted efforts from both parties to overcome these obstacles.

RECOMMENDATIONS

Based on the SWOT-PEST analysis, the following recommendations are made regarding the economic and trade bilateral relations between China and Malaysia. The recommendations in this study distinguish themselves by providing tailored strategies to address specific challenges and

opportunities within the 'BRI,' to foster continued growth and enhance the quality and sustainability of Malaysia-China economic and trade relations, as informed by a comprehensive SWOT-PEST analysis of political, economic, social, and technological dimensions.

Political

China and Malaysia should foster constructive political dialogue and mutual respect for sovereignty and interests, deftly address sensitive issues, engage in international cooperation, and uphold multilateralism and free trade to build mutual trust and stability, thereby fostering the harmonious development of both societies. It is necessary to increase the transparency and fairness of bilateral cooperation, thereby preventing any imbalances or unfairness in the BRI projects to safeguard Malaysia's sovereignty and interests. The disputes over the South China Sea should be managed appropriately through dialogue and negotiation while respecting the legitimate

rights of all parties and preserving regional peace and stability (Abd Rahman, 2021). Malaysia should pursue an equilibrium between China and the United States, avoiding geopolitical rivalries between great powers and pursuing multilateral cooperation partners. In order to preserve regional stability, Malaysia should also maintain an open and cordial dialogue with China (Huda, 2022). China must establish mutual trust with its neighbours, particularly in sensitive matters, and partake in the governance and oversight of the BRI via multilateral mechanisms and international regulations, thereby increasing transparency and accountability (Ku Boon Dar, 2021).

Economic

China and Malaysia should actively promote trade and investment liberalization, eliminate non-tariff barriers, ensure transparent and equitable investment oversight, strengthen financial and debt cooperation for mutual benefit, stabilize the financial system, and mitigate potential social unrest, political risks, and debt crises. China and Malaysia should continue advancing bilateral free trade agreement negotiations, lowering tariff barriers, expanding market access, protecting intellectual property rights, and boosting both parties' competitiveness and efficiency. Moreover, China and Malaysia should exercise restraint and dialogue on South China Sea issues, avoiding conflicts and tensions and pursuing solutions for shared development and balanced interests to preserve regional peace and stability (Yeoh et al., 2018). The Malaysian government must increase communication and coordination with China to ensure project transparency, sustainability, fairness, and the preservation of Malaysia's sovereignty and security (Liu & Lim, 2018). In the meantime, strengthen

financial regulation to mitigate debt risks and security concerns related to Chinese investments, thereby preventing a "debt trap" scenario. Optimize financial cooperation mechanisms by establishing additional bilateral or multilateral financial agreements and platforms with China, fostering regional financial integration and connectivity (Nambiar, 2021).

In short, China-Malaysian economic and trade relations have undergone complex transformations in the context of the BRI. These include promoting trade and investment liberalization, strengthening financial cooperation, resolving disputes in the South China Sea, ensuring the transparency and sustainability of projects, and bolstering financial regulation and risk management. In pursuit of their respective interests, both parties actively engage with these challenges to foster mutually beneficial cooperation, preserve regional peace and stability, and ensure economic collaboration's sustainability.

Social

China-Malaysia relations should strengthen social responsibility, environmental protection, human resource development, social welfare, people's skills, quality of life, diversity promotion, and inequality elimination to achieve social sustainability and harmony. It is crucial to improve the social impact assessment of the BRI projects, considering their effects on the environment, culture, human rights, and social justice and implementing the necessary mitigation measures. Increasing the social inclusivity of the BRI projects is

essential for ensuring that the projects benefit a variety of groups, particularly vulnerable populations such as indigenous people, women, and low-income individuals, without aggravating social inequality and conflicts. Promoting social collaboration in the BRI projects encourages project stakeholders to establish cooperative relationships with, among others, local governments, civil society organizations, academic institutions, and the media in order to collectively advance

the projects' sustainable development (Hassan et al., 2020).

Technological

China and Malaysia should strengthen technological cooperation, cybersecurity, and coordination of technological standards to promote technological innovation, data protection, and technological interoperability and to ensure mutual trust in the technological field. Malaysia can leverage Chinese technological standards to improve its capabilities and levels in infrastructure development, digital economy, and other areas by enhancing its technological cooperation with China.

CONCLUSION

This study has shown multifaced strengths, weaknesses, opportunities, and threats in the political, economic, social, and technological dimensions of economic and trade relations between China and Malaysia under the BRI. Overall, China and Malaysia have established mutual political trust, stable economic relations, diverse social interactions, and extensive technological collaboration, providing favourable conditions and a solid foundation for cooperation. However, the study also identifies several obstacles and issues that both countries face in their "Belt and Road" cooperation, such as trade imbalances, non-tariff barriers, domestic political changes, disruptions in international competition, environmental impacts, and data security risks. These obstacles necessitate collaborative efforts and solutions from shifts, international competitive interference, ecological repercussions, and data security threats require coordinated responses. This study proposes targeted

Increasing cooperation with China in network data security protection and technology development and implementation facilitates the opening and sharing of public data resources, thereby enhancing the efficacy and quality of data governance. Promoting technological and cultural exchanges with China increases mutual understanding and friendship between the two nations (Abd Rahman, 2021).

both parties. The study provides specific recommendations and strategies, such as improving strategic alignment, establishing effective cooperation mechanisms, promoting investment facilitation, expanding cooperation areas, and assuring the sustainability of collaboration. These measures are intended to elevate China-Malaysia economic and trade cooperation within the "Belt and Road" framework. This study also indicates that, within the context of the "BRI," China and Malaysia exhibit robust political trust, stable economic relations, extensive societal exchanges, and substantial technological collaboration, creating an environment conducive to cooperation. However, challenges like trade imbalances, non-tariff barriers, domestic political

recommendations and strategies, such as strengthening strategic alignment, establishing efficient cooperation mechanisms, facilitating investment,

expanding the scope of collaboration, and ensuring its sustainability, which is required in order to enhance the economic

and trade cooperation between China and Malaysia within the "Belt and Road" framework.

ACKNOWLEDGEMENT

An appreciation goes to the Department of Government and Civilization Studies, Faculty of Human Ecology, Universiti Putra Malaysia, for the support provided during the research process.

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MALAYSIAN JOURNAL OF HUMAN ECOLOGY

Journal Homepage:

https://eco1.upm.edu.my/malaysian_journal_of_human_ecology_mjhe-3740

IS CHINA A WINNER OF THE RUSSIA-UKRAINE WAR?

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ABSTRACT

China's action towards the Russia-Ukraine war was perceived as an ally rather than in a neutral position. However, what could China gain from the war? This paper discusses the argument by answering the following questions: What goals and foreign policy values China showed through its actions during the Russia-Ukraine war? Whether China's foreign policy values demonstrated during the war help China to achieve its goals? Based on the document review, the paper seeks to identify the goals and foreign policy values adopted by China through her actions during the war. The paper finds that the actions of China during the war mainly aimed to challenge the Western-dominated international order and enhance the CPC's domestic rule. China's behaviours during the war showed several conflicting values. This paper suggested that this will negatively and significantly impact China's foreign policy. As a result, China's attempt to challenge the Western-dominated international order might be failed. Also, China's value portrayed in this war can only temporarily solidify the CPC's regime.

Keywords: *China's foreign policy, Sino-Russia relations; Russia-Ukraine war, power competition, China's foreign policy values*

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INTRODUCTION

So far, most of the debate regarding the Russia-Ukraine war mainly concentrates on geopolitics. However, some scholars contend that the issue is more than regional conflict and involves the interplay of the relations between China, Russia and the US (Bachulska & Leonard, 2023). China's actions and reactions towards the war were seen as an ally rather than a neutral position. This situation created more tension between China and the United States (US), which is 'protecting' Ukraine. This history of Sino-Russia and Sino-US relations in the past provides a backdrop view that the Ukraine-Russia war poses a challenge and an opportunity for China (Garcia & Modlin, 2022). What could China gain from the ongoing Russia-Ukraine war? This is an important question among scholars interested in the discourse about the balance

of power between superpowers like China, Russia and the United States (US).

This paper aims to answer two questions: What goals and values China showed through its actions during the Russia-Ukraine war? Whether China's foreign policy values shown during the war help China to achieve its goals? This paper uses the document review to answer these questions. The review covers Chinese media's reactions to the war, scholars' studies, the government's statement, and other news reports to explore China's goals and values during the war. The paper will begin with an overview of the position of China in the Russia-Ukraine war. Then, the paper will discuss the values China demonstrated during the war and provide some observations on whether China's values can help China achieve its goals.

The debate over China's gains and losses in the war

Some scholars (Huang, 2022; Gabuev, 2022; Pantucci, 2022; Elmenshawy, 2023; Kusa, 2022; Blumenthal, 2022) argued that supporting Russia can help China challenge the current international order dominated by the US. First, it is because Russia is suffering enormous costs of war and all-around international sanctions that China can force Russia to pay a high price for China's economic and technological support. As Gabuev (2022) argued, Russia may allow China to purchase Russian natural resources at knockdown prices, expand the market for Chinese technology, promote Chinese technological standards, and make the Chinese Yuan the default regional currency of northern Eurasia. Also, Beijing may be able to have access to the

most sophisticated Russian weapons and their designs, preferential access to the Russian Arctic, the accommodation of Chinese security interests in Central Asia, and Russia's support—as a permanent member of the UN Security Council—for China's positions in all regional and global issues, most notably in territorial disputes between China and its neighbours moreover. However, the Russian army suffered heavy losses in Ukraine (Pifer, 2022). Its nuclear submarines, strategic and tactical nuclear arsenal, and cyber and electronic warfare capabilities are still very threatening (Shullman & Kendall-Taylor, 2022). As a result, Russia, which is more dependent on China, will become China's weapon to deter the West. Second, the

Russian invasion drew America's attention back to Europe from the Indo-Pacific region, which decreased the pressure faced by China (Elmenschawy, 2023). Also, before the war, some scholars (Kupchan, 2021) suggested that the US should split China and Russia to limit the former's international influence. However, the US support of Ukraine against the Russian invasion made this goal hard to achieve. Last, some analysts, like Zheng (2022), argued that the Russia-Ukraine war proves that the US's dominance of the international order is shaken because great powers like Russia have begun to use force to challenge the current international order and seek to establish their regional order. In contrast, scholars such as Pei (2023) and Rozman (2023) argued that the war brought more troubles than gains for China's international strategy. From an economic perspective, it is also hard to say that China is a winner of the Russia-Ukraine war. China can gain a cheap and stable energy supply from Russia by supporting Russia's war (Xu & Chow, 2022). However, the war destabilized global stability, the foundation of China's economic growth in the past 40 years (Olson, 2022), and damaged China's investment in Ukraine (Yan, 2022).

China's Goals in Russia-Ukraine War

First and foremost, this paper argues that China wants to achieve two primary goals. First, China wants to challenge the US's leading position in the current international order. Second, she wants to use the war to enhance the Communist Party of China's (CPC) domestic rule. These arguments are drawn from analyzing China's behaviours during the Russia-Ukraine war.

Unlike the mainstream discussion, this paper pays much attention to values' influence during the war. According to constructivist international relations theory, ideas play an important role in building states' interests, which are the goal of states' international behaviour (Wendt, 2014). As a critical part of human ideas, values usually refer to individual beliefs that motivate people to act (McCombs School of Business, 2018). As a human creation, the state, which can act independently in the international system, its actions, just like individuals, are guided by values. For example, most states agreed that invading other countries is wrong, not just because they may fail but also because they believe it is unjust. Therefore, a state's value will affect other states' expectations of its future behaviours. Furthermore, the change in other states' expectations will cause their reactions, affecting a state's international status. Therefore, analyzing China's values, which are demonstrated by China's behaviours during the Russia-Ukraine war, provides an important angle to evaluate China's gains and losses during the Russia-Ukraine war so far.

China's most significant activity during the war was its propaganda about the war. Propaganda means the report is highly biased and selectively presents facts to encourage a particular synthesis or perception (Smith, 2023). China's reform and opening did not change the fact that most Chinese people can only access limited sources of information. The Chinese government strictly controls the source of information, and only the selected

information can be released (Xu & Albert, 2017). The Chinese government built The Great Firewall from 1998 to 2008, a tool to prevent Chinese citizens from obtaining sensitive information that the government does not want them to know from foreign media (Clayton et al., 2006). As a result, Google, the world's most popular search engine, is blocked in China (Waddell, 2016), and so are many other popular Internet tools and social media platforms. Therefore, the Chinese government's strict control of the source of information keeps China's media system a propaganda system, and the government can easily manipulate the media to serve its purposes.

After the reform and opening, the Chinese government also used the market system for propaganda. Those who follow the government's opinions and values can gain substantial market shares. Hence, it encourages people to create stories and short videos which obey official propaganda. A great example is the patriotic action movie *Wolf Warriors 2*, released in 2017 and earned 5.681 billion RMB at the box office (Yang, 2017). It once maintained the record of the box office champion in Chinese film history until 2021 and was surpassed by another patriotic action movie, *Changjin Lake*, with 5.695 billion RMB (Rao, 2021). As a result, compared with the Mao era, which was premised on suppression and administrative orders, China's propaganda system is now not easily perceived since it is usually executed by ordinary people and covered by people's pursuit of economic gains. In general, Chinese media's propaganda about the Russia-Ukraine war has three stages. From the 2022 Winter Olympics to the start of the invasion, the first period, the Battle

of Kyiv, is the second. The rest of the time is the third period.

Before the war, Chinese mainstream media treated Western media's reports about a potential Russian invasion as a Western conspiracy to uglify Russia's international image and heighten tension between Russia and Ukraine (Ye, 2022). It is still unknown whether China knew Russia would invade Ukraine. The New York Times claimed that Beijing knew Russia's war plan and warned Putin not to start the war during the Winter Olympics (Wong & Barnes, 2022). However, China's Foreign Ministry denied the accusation (Ministry of Foreign Affairs of the People's Republic of China, 2022). If China knows about Russia's attack, its propaganda before the war may be an attempt to cover Russia's invasion and increase its suddenness since Russia's bold invasion highly depends on suddenness.

When the invasion started, China's officials refused to regard Russia as an aggressor. Instead, it argued that the conflict between Russia and Ukraine is complicated, so the world should not simply define Russia as an invader. Also, China implied that the US should take primary responsibility for causing the war (Foreign Ministry spokesman, 2022). Meanwhile, the Chinese government called Russia and Ukraine to stop fighting and return to negotiation, claiming that America and its allies sending weapons to Ukraine intensified the conflict (Foreign Ministry spokesman, 2022). On the other hand, China's national television broadcast that the West abandoned Ukraine (Xie & Yu, 2022) and Ukrainian President Zelensky had fled Kyiv (CCTV, 2022).

The Chinese government clearly expressed its opinions about the Russia-Ukraine war through these actions. First, Russia is not an invader, and it has just cause to attack Ukraine. Second, the war is caused by America and its Western allies. Third, Ukraine is a soft, weak, and corrupted country and a puppet betrayed by its Western master. These opinions were understood and accepted by Chinese mainstream media quickly.

Furthermore, they began to create their propaganda following the government's opinions. One of China's most influential news websites, *Sina*, posted a paper that said that the Russian force only took two hours to destroy the Ukrainian Air Force and Navy (Sina, 2022). A well-known story in China claimed that the Russian troops had taken Kyiv in one hour and 22 minutes (Laolongkanshehui, 2022). At the same time, Chinese media highlighted the Ukrainian far-right military organization Azov Battalion to imply that the Ukrainian regime is Nazi (Yuan, 2022a). The researchers also follow the official guidelines. *World Affairs*, which is a long-history famous bimonthly political magazine in China, published a paper named "How the United States and the West pressed Russia step by step after the Cold War," arguing that because of NATO's pressure, Russia is forced to fight back (Wang, 2022). As a result, in the early days of the war, Chinese media raised a pro-Russia frenzy (Yuan, 2022a). This trend was enhanced by the Chinese government's suppression of pro-Ukraine opinions on the internet. Chinese famous transgender dancer Jin Xing's Weibo was blocked for speaking against Putin's war (Lianhe Zaobao, 2022), and an open letter against Russian aggression signed by five prominent university professors was also

quickly removed from the internet (Si, 2022).

Russia failed to capture Kyiv, and the war began to reach a stalemate, significantly hitting China's pro-Russian propaganda. Many Chinese people felt disappointed about the Russian troops' poor behaviour (Kelter, 2022). With the war situation developed in a direction unfavourable to Russia and many atrocities committed by the Russian army exposed, the Chinese government eased the suppression of pro-Ukraine voices. As a result, on WeChat and other Chinese social media platforms, Chinese citizens have coalesced into opposing camps, one for Russia and the other against (Yan, 2022). However, China's mainstream media maintained a supportive attitude towards the Russian invasion and paid more attention to accusing America and its Western allies of their role in this war. Chinese Foreign Ministry Spokesperson Zhao Lijian constantly criticized America. At a regular press conference on April 6, 2022 (Foreign Ministry spokesman, 2022), he said that America's sanction on Russia is useless in stopping the war and would damage the Russian and global economy. America can gain substantial economic benefits through the war. On April 11, 2022, he claimed that NATO had messed up Europe (Ministry of Foreign Affairs of the People's Republic of China, 2022). Zhao also raised the conspiracy story, which accused America of building a biology laboratory in Ukraine to study severe infectious diseases (Cheng & Ma, 2022). Mainstream media in China also regarded the Bucha massacre as a drama created by NATO and Ukraine (Andre, 2022).

China's education system also used the war as a theme for propaganda. In many Chinese schools' ideology and political classes, teachers taught their students that Ukraine was a corrupted Nazi country and that NATO forced Russia to fight back (Qiao, 2022). They also connected the war with China's national rejuvenation (Sinchew, 2022). According to these facts, this paper argued that Chinese mainstream media became Russia's Cheerleader during the Russia-Ukraine war. It belittled Ukraine and praised the Russian army. Also, it justified the Russian invasion and blamed the US and NATO for causing the war. Chinese media frequently quotes Russian media's description and explanation of the war (Yuan, 2022a).

On the other hand, Chinese media successfully led an anti-Western tide in China by portraying the West as the evil side in the war and encouraging people to support Russia's anti-western war. As Xu (2012) argued, Anti-Western sentiments have become one of the pillars of China's nationalism since the 1990s. As a result, the CPC used the war to inspire its Chinese people's nationalist narrative to enhance its domestic rule.

China also supported Russia in the diplomatic field. It kept calling for peace (Wang, 2022) and criticized America and its allies for sending weapons to Ukraine and sanctioning Russia. China also abstained from the UN Security Council's draft resolution on ending the Ukraine crisis (UN, 2022) and the UN resolution condemning Russia's illegal attempt to annex Ukrainian territory (UN, 2022). China's most notable diplomatic actions are President Xi's twice meetings with Russian

President Putin, especially the latest meeting (Hao & Shi, 2023), after the ICC ordered Pu'in's arrest, accusing him of war crimes. Therefore, although China tried to act as a mediator in the diplomatic field, it still provided solid diplomatic support to Russia.

China supported Russia in the military and economic fields, too. After the invasion, China and Russia conducted several joint military exercises (Li and Sun, 2022). Some reports also showed that China sent some small weapons to Russia (Banco & Arup, 2023). When Europe and America started to decrease their reliance on Russian energy, China increased its import of Russian energy. In July 2022, Russia will firmly hold the position of China's largest oil supplier for the third consecutive month. China's oil imports from Russia reached 7.15 million tons that month, an increase of 7.6% over the same period last year. Meanwhile, China's coal imports from Russia have risen to a 5-year high (Deutsche Welle, 2022). Since Russia's 40% federal budget relies on petroleum exports to Europe (Ozawa, 2022), China's increasing import of petroleum is a critical help for Russia's invasion.

In sum, China supported Russia in many aspects during the war but did not want to fight with Russia as Germany did for the Austro-Hungarian empire in World War I. This paper argued that China's goal is mainly reflected in its propaganda because, unlike physical support, such as military and economic support, China's propaganda shows how the CPC understands the war. China's propaganda about the war has two main focuses: The first is defining the role of the West in the war, and the second is

how China should react to that. As the paper mentioned above, Chinese media's propaganda regarded the West as the origin of the war. It shared the same idea with Russia that the NATO expansion caused the war (Foreign Ministry spokesman, 2022). It kept criticizing that America and its allies' support of Ukraine intensified the conflict. Chinese media praised the Russian invasion as a reaction to the West, regarded it as a

strike back against the West, and encouraged Chinese people to support Russia. Therefore, through its propaganda, China's first goal is to overthrow the Western-dominated international order and damage America's global leading position. The second aim is to promote anti-western nationalism in China to consolidate the CPC regime.

China's Foreign Policy Value During the Russia-Ukraine War

China needs values and support to overthrow the current international order dominated by the West. As Bull (2014) argued, the international order is "a pattern of activity that sustains the elementary or primary goals of the society of states, or international society." In other words, the international order should serve the common goals of the world. Setting a common goal requires a values guide. The Soviet Union and the Nazis could not replace the Western-dominant international order, not just because they had less physical power than their opponents. It is also because they could not provide widely accepted values to lead the world. Nazi ideology is never popular in the German-occupied region, and in the Soviet Union, the communist idea is more like an ornament than a true belief.

In 1991, only 9.6% of elites in Moscow supported communism (Kotz & Weir, 2007). Some (Liang, 2015) may argue that Gorbachev's reform damaged people's communist beliefs. However, Gorbachev itself never abandoned socialism (Shorten, 2022). Suppose a few years of Gorbachev's loosening control over public opinion can destroy the result of half-century Soviet

communist ideological indoctrination. In that case, it only proves that the Soviet Union people never truly accepted communism. A long-time Soviet government official's answer in July 1991 when he was asked whether he was a member of the Communist party, "...of course, I am a member of the Communist party, but I am not a communist!" (Kotz & Weir, 2007, p. 364).

On the other hand, states' values provide expectations to other states. If a state can provide widely accepted values to draw followers, its military and economic burden for maintaining the international order will significantly decrease. Otherwise, it has to spend much more physical resources to suppress the resistance against the order. The Soviet Union and Nazi Germany are good examples. Because most people do not accept their values, they must create a vast system of repression to maintain order in their sphere of influence. Also, with the guidance of a solid value, a state can effectively use its physical power. As Kotz and Weir (2007) argued, compared to the Great Depression's influence on America, the economic pressure faced by the Soviet Union during the late 1980s was much

smaller. However, the Great Depression did not let America collapse. The capitalist value and its order have deep roots in American society, giving the US a chance to reform its system and restore its physical power. In contrast, when facing the crisis, the Soviet Union quickly abandoned its communist values and collapsed. As a result, its remaining physical power became useless.

The first value China demonstrated during the war was *the respect of every state's sovereignty*. Permanent Representative of China to the United Nations Zhang Jun argued that respect for sovereignty and territorial integrity is the "golden rule" of state-to-state relations (Wang, 2022). However, if China is serious about this value, why did China not condemn Russian aggression, which violates Ukraine's sovereignty and territorial integrity? China explains that it also respects Russia's security concerns. China's Foreign Ministry Spokesman Wang Wenbin cites George Kennan's 1997 statement arguing that NATO's eastward expansion caused the war and is a mistake (Foreign Ministry spokesman, 2022). However, China should know that Kennan believes in Realpolitik. Kennan admitted the Soviet Union's influence in Eastern Europe (Zhou, 1993), but he argued that the United States should control other "industrialized zones" to contain the Soviet Union's expansion (Hixson, 1989). Therefore, Kennan's critique of NATO's expansion was based on his view of Eastern Europe and Ukraine as Russian spheres of influence (Costigliola, 2023). As a result, it is clear that China also showed sympathy for Realpolitik value. However, China cannot support the Realpolitik value and defend the

sovereignty principle simultaneously. If China agrees with Kennan's view, it will sacrifice Ukraine and other Eastern European countries' sovereignty since they must follow Moscow's command.

Nevertheless, if China supports the sovereignty principle, it should know that as sovereign countries, Ukraine and other East European countries have the right to join NATO. Due to their long and tragic history of being controlled by the USSR and the Russian Empire, Eastern European states also have proper reasons to join NATO. In any case, there is a big contradiction in China's foreign policy values: respect the sovereignty or Realpolitik?

The value of *building a community with a shared future for mankind* (构建人类命运共同体) is another guided value of China's foreign policy. It was written into the Party Constitution of the CPC in October 2017 (Li, 2018). As President Xi argued through the concept of a community with a shared future for mankind, China sees all ethnic groups and countries as members of a close-knit family (CCDI, 2018). Specifically, it requires states to respect each other, negotiate on an equal footing, resolutely abandon the Cold War mentality and power politics, and take a new path of state-to-state relations of dialogue rather than confrontation and partnership rather than alliance. Regarding security, states must persist in resolving disputes through dialogue and resolving differences through consultation (CCDI, 2018).

However, China's behaviours should have followed this value during the Russia-Ukraine war. President Xi met Putin twice.

In contrast, he only had a phone call with Ukrainian President Zelensky after Chinese Ambassador Lu Shaye's inappropriate remarks caused a huge public backlash on April 26, 2023 (McCarthy, 2023). China's close relationship with Russia and its indifference to Ukraine is inconsistent with the value of a community with a shared future for mankind, which regards all countries as members of the world family and should be treated equally. The vilification of Ukraine in China's domestic propaganda further illustrates this point. Unlike Japan, which had conflicts with China in history, there are no critical conflicts between China and Ukraine. However, Ukraine is important for China's military modernization. For example, China's first aircraft carrier was brought from Ukraine. The economic relationship between China and Ukraine is also tight. In 2019, China has overtaken Russia to become Ukraine's largest trading partner. China is also Ukraine's largest source of imports and its fourth-largest export destination (Ministry of Commerce of the People's Republic of China, 2019). However, these deep connections did not stop China from supporting the Russian invasion. The main reason is Ukraine's pro-west attitudes (Ren, 2022). Nevertheless, Ukraine has the right to decide its foreign policy as a sovereign state, and its cooperation with the West did not cause any harm to China.

From 2015 to 2022, Ukrainians' support for joining the European Union rose from 66.4% (Interfax, 2015) to 91%. (Reuters, 2022). Therefore, if China thinks states should respect each other as a family, why did China not respect Ukraine's choice? Also, even if states like Russia do not like

Ukraine's decision, in China's eyes, should they not insist on resolving differences through negotiation rather than invasion, as the concept of a community with a shared future for mankind requires? Moreover, if building a community with a shared future for mankind is about establishing a safe and better home for mankind, China should not support the Russian invasion since the Russian army is killing people and destroying their homes. At least 8,000 non-combatants have been confirmed killed – with nearly 13,300 injured – since the Russian invasion on February 24 last year (UN, 2023). Therefore, this paper argued that although China regarded *Building a community with a shared future for mankind* (构建人类命运共同体) as one of the guided values of China's foreign policy, it did not treat it very seriously during the Russia-Ukraine war.

During the war, China kept claiming that the Russia-Ukraine war was complicated by historical factors (Foreign Ministry spokesman, 2022; Foreign Ministry spokesman, 2022). As a result, China shifted the focus from whether Ukrainian sovereignty should be upheld and Russian aggression should be stopped based on international law to discussing historical issues. Also, its emphasis on NATO expansion (Wang, 2022) implicitly expresses the view that the current international order, led by the US, represents a historically accumulated injustice, and Russia is a victim of this order. Russia uses history to defend its invasion, too. Putin argued, "Ukraine is not just a neighbouring country for us. It is an inalienable part of our history, culture and spiritual space," and "modern Ukraine was entirely created by Russia or, to be more

precise, by Bolshevik, Communist Russia,” (President of Russia, 2022, p.1). By doing that, Putin denied the authenticity and legitimacy of Ukrainian sovereignty from a historical and cultural perspective. China showed its support for Putin’s speech. At a press conference on February 24th2022, when asked why China does not admit that Ukraine's sovereignty and territorial integrity have been violated by Russia? China's foreign ministry spokeswoman, Hua Chunying, asked the journalists to read Putin's speech carefully and view it objectively and rationally. (Foreign Ministry spokesman, 2022).

China and Russia’s obsession with history showed a historical hegemony value in which they believe that historical connections are more important than the current order. This means a great power can violate other states' sovereignty to restore the historical connection. In practice, China tried to support historical hegemony and defend the sovereignty principle simultaneously. This paper calls this value the pragmatic historical hegemony. It shows that, unlike Putin’s Russia, China did not want to forcefully restore the historical Chinese empire, which would deny the sovereignty principle. However, China wants to use the historical perspective to challenge the international order dominated by the West, especially in East Asia, where China had a long-time significant status and cultural influence over the region in history. As this paper mentioned above, Chinese media raised an ant-western nationalism tide. It demonstrated a value that regarded the West, especially the US, as the source of world chaos. This anti-western value also sparked ridicule in the Chinese media about Ukraine's democracy and its leaders. For

example, in Chinese social media, people make fun of Ukraine’s President Volodymyr Zelensky because he used to be an actor (Cheung, 2022). In contrast, people on the Chinese Internet called Russian President Putin “Putin the Great,” “the best legacy of the former Soviet Union,” and “the greatest strategist of this century” (Yuan, 2022, p.1 b). As a result, it is clear that China’s anti-western propaganda also contained the dislike of democracy and praise of dictatorship.

In general, except for the anti-western and the anti-democratic values. It is hard to say that China ultimately insisted on other values during the Russia-Ukraine war. China emphasized the importance of respecting states’ sovereignty, but it also showed sympathy for Realpolitik by supporting Russia in building its sphere of influence using force. It called on building a shared human future but did not demonstrate sympathy for Ukraine. It supports Russia’s historical hegemony view but still defends the sovereignty principle. Scholars like June Teufel Dreyer regarded China’s attitude as hypocritical (BBC, 2022). However, this paper regarded these contradictions as China’s pragmatism. This means that China's adherence to values depends on whether those values serve its purposes. As former CPC leader Deng Xiaoping said, "It does not matter whether a cat is black or white, as long as it catches mice." (Buckle, 2018, p.1). This kind of pragmatistic attitude helped China unload the ideological burden of communism and achieve rapid economic development. In the Russia-Ukraine war, aiming to damage the US leadership of the current international order, China supports Russia, which is fighting the West.

Therefore, China supports Realpolitik and historical hegemony. However, defending the sovereignty principle is still helpful for China to maintain stable relations with its

neighbours. As a result, China relaxes its defence of sovereignty principle but does not entirely abandon it.

Will China's values help it achieve its goals?

China used to have relatively consistent values to guide its foreign policy. During Mao's time, China's foreign policy opposed the annexation of small countries by great powers because it was a significant violation of Communist ideology. After Mao's death, China abandoned communism but still put the "Five Principles of Peaceful Coexistence" (和平共处五项原则), which was raised in 1953, as the basic guidelines of its foreign policy. It includes mutual respect for sovereignty and territorial integrity, non-aggression, non-interference in each other's internal affairs, equality and mutual benefit, and peaceful coexistence (Ministry of Justice of the People's Republic of China, 2021). After the Cold War, China used the sovereignty principle to criticize U.S.-led democracy promotion and opposed the claims of human rights over sovereignty (Stokes, 2019). By defending the sovereignty principle, China relieved surrounding countries' worries about China's export revolution and reclaim of the disputed territory.

However, as Cox (2022) argued, what Russia was now doing in Ukraine—encouraging secession, using force to settle disputes, and intervening in the internal affairs of another state with which China had a significant relationship—contradicted every single principle upon which Chinese statecraft had hitherto been based. In addition to anti-Western values,

China's behaviour during the Russia-Ukraine war displayed conflicting values. This behaviour will cause four significant adverse effects on China's attempt to challenge the West-led international order. First, it makes it hard for other countries to predict China's future behaviour. States act aiming to achieve their interests. States' interests come from their identity. As Wendt (1992) argued, identity is "relatively stable, role-specific understandings and expectations about self". Through identity, states know their role in the international system. This role provides interest to them. The value is an important part of the state's identity. By telling other countries what this state thinks is right, the value generates the state's role in the international system. China used to be a revolutionary or a sovereignty principle defender because of its insistence on related values.

In contrast, supporting conflicting values simultaneously during the Russia-Ukraine war made it hard for China to generate a clear identity. As a stable self-definition, a clear identity of China guides other states to understand China's interests. For example, although there may be adjustments in the scale, because of its insistence on communist values, Mao's China would never stop supporting the world revolution. Without clear value guidance, China's interests have greater arbitrariness, increasing the hardness for other states to predict China's future international behaviour. As a result, it will make it hard for other states to build long-term stable

relations with China. Therefore, China can hardly draw followers to help it compete in global leadership with the West.

Second, China's pragmatic attitude towards the sovereignty principle will cause backfire. If China accused Russia of invasion, the other countries would know that China treated the sovereignty principle seriously since Russia, as China's close friend, cannot be exempted. As a result, they will feel safer when communicating with China because they do not need to worry about China's threat to their sovereignty. Also, it is a powerful rebuttal to China's threat. Instead, China refuses to admit Russia's invasion, and its domestic propaganda feverishly praised Russian military operations will raise other countries' suspicion of China because China's respect for sovereignty is flexible. The degree to which China defends other countries' sovereignty depends on their close relations with China. In response, countries that do not have close relations with China may have to find another protector to defend their sovereignty, especially China's neighbouring countries. Since the United States is the only one which can counter China's power, these states will turn to America for security guarantees. As a result, the US can increase its influence in China's periphery, which is certainly not good news for China's attempt to challenge the America-led international order. Many of China's neighbouring states, such as Japan, the Republic of Korea, and the Philippines, enhanced their security connection with the US during the Russia-Ukraine war. However, few countries chose to stand with China and Russia.

Third, China's pragmatic historical hegemony will do more harm than benefit. The emphasis on cultural and historical ties may help China in Taiwan since it has the most profound cultural and historical connection with China in East Asia. Also, because Taiwan is not a sovereign country, China's cultural and historical claims to Taiwan will not be hindered by the principle of sovereignty. Therefore, China may use cultural and historical connections to keep Taiwan away from the US. A great example is former Taiwan and Kuomintang leader Ma Ying-jeou, who visited mainland China in April to pay respects to ancestors and demonstrate a desire to support cross-strait reunification (BBC, 2023). However, the shared historical and cultural origins of Russia and Ukraine emphasized by Putin did not allow the Russian army to occupy Ukraine easily. The reason is that the new culture created by the young generation will decrease the influences of the traditional culture, and the new explanation of history can change the shared memory. After separating from mainland China for over 70 years, Taiwanese people generated their unique culture. Kuomintang's anti-communism policy and the democratization reform established a very different political culture in Taiwan. As a result, it is tough to persuade Taiwanese people, especially young people, to accept the CPC's rule (Xia, 2019). Therefore, there is no guarantee that historical hegemony can help China solve the Taiwan issue. China's pragmatic history hegemony may also push away many East Asia countries from China. After the collapse of the Qing dynasty and its tributary system, independent countries around China are trying to reduce the influence of China inside their countries. In Korea and Vietnam, Chinese characters, the dominant words for hundreds of years, are

replaced by new national characters. As a country with the Chinese as the main ethnic group, Singapore also wants to keep its independence from China's influence. Lee Kuan Yew, the founder of Singapore, was afraid that Singapore would become the "Third China", so he used English as the dominant language and let Singapore become the last Southeast Asian country to establish a diplomatic relationship with China (Chen & Xue, 2016). As a result, China's sympathy for Russia's historical hegemony may cause surrounding countries to worry that China will use its historical or cultural influence to threaten their independence. China has done that before. During the 1960s, China encouraged local Chinese people to promote revolution in Southeast Asia. In the sovereignty disputes in the South China Sea, China also kept using history to defend its claim (Chuan, 2015).

Lastly, China's values during the Russia-Ukraine war were not attractive enough to build a new international order. As the paper mentioned above, China showed apparent anti-western values during the war. It kept saying that the NATO expansion caused the war but ignored that Ukraine is not a NATO country. It also kept accusing America and its allies of sending weapons to Ukraine but ignored that they are used to defend Ukraine's sovereignty. This anti-western value provides little help in solving the current war between Russia and Ukraine. China's pragmatic attitude, which tried to hold several conflicting values, is reflected in "China's Position on the Political Settlement of the Ukraine Crisis" (关于政治解决乌克兰危机的中国

立场) (Ministry of Foreign Affairs of the People's Republic of China, 2023).

On the one hand, it said that Ukraine's sovereignty should be respected. On the other hand, it said that Russia's security concerns should be addressed. This attempt to defend both sovereignty rules and Realpolitik can hardly be successful. In fact, both Russia and Ukraine showed little interest in China's peace plan. Moscow highly appreciated the "sincere desire" of China to contribute to settling the conflict but required Ukraine to admit "new territorial realities" (Gan & McCarthy, 2023, p.1). Russia's response showed it wanted to avoid following the sovereignty principle. President Zelensky commented: "As far as I know, China respects territorial integrity, historically, has respected it and therefore must do whatever they can for the Russian Federation to leave our territory because that would mean respect for sovereignty and territorial integrity." (Gan and McCarthy, 2023). However, China's peace plan has not mentioned the Ukrainian President's request. Therefore, China's pragmatic attitude towards different values prevented it from providing an effective plan to solve the conflict.

Also, during the Russia-Ukraine war, America and its allies are helping the weak to defend themselves. In contrast, China supported its strong friend to invade. In comparison, the small states would prefer the former's value over the latter because they want great powers to protect them. Moreover, China's anti-democracy value means that the new international order led by China could mean the all-around suppression of the free development of human society. Therefore, it is hard to

attract people to follow. The repressive political climate in China is forcing more and more Chinese to risk their lives to leave China for the United States (Chen, 2023).

In contrast, the CPC successfully used anti-western nationalism values to enhance its domestic rule during the Russia-Ukraine war. After 2000, the CPC created a national narrative claiming that China was a great country in ancient times, but its greatness was interrupted by Western invaders in the 1840s. After a hundred years of struggle, the new China, which the CPC leads, is growing strong again (Xu, 2012). However, according to the Chinese government, the West, especially the US, is trying to stop China's rejuvenation (Foreign Minister, 2022). The US-China power competition in the past ten years enhanced this narrative. Therefore, the Chinese media's praise of Russia's war against the West is praising the Chinese government because the latter is also engaged in a struggle against the West.

CONCLUSION

During the Russia-Ukraine war, China supported Russia's invasion in many aspects. The paper contends that China's primary purpose is to challenge the Western dominant international order and enhance the CPC's domestic rule. As many analyses said, China may gain some benefits through supporting Russia, such as buying cheap resources from Russia, having more significant influence over Russia, and drawing US attention back to Europe. However, China's behaviours during the war showed that she tried to hold several different values simultaneously. It respects

At the beginning of the Russia-Ukraine war, 75% of Chinese netizens supported the Chinese government's position of supporting Russia under the one-sided propaganda of the media (US-China Perception Monitor, 2022). It is clear evidence of Chinese people's support for the CPC. However, two issues will affect the durability of this support. First, since the Chinese government refuses to join Russia's invasion, people who support Russia are more concerned about the progress of the Russian army on the battlefield. As a result, if Ukraine defeats Russia or the latter has to end the war dishonourably, disappointed supporters may feel fooled by the government and disappointed about the future of struggling against the West. Therefore, they may reduce their support for Beijing. Second, supporting Russia did not bring Chinese people any substantial gains. In reality, the Chinese people still need to face enormous economic pressure, such as the high unemployment rate and real estate bubble (Rosen & Lu, 2023). Therefore, when the war is deadlocked, most Chinese people will pay less and less attention to it.

the sovereignty principle but still supports Russia's Realpolitik and historical hegemony view. It calls for building a common home for mankind but values Russia, despises Ukraine and refuses to stop the Russian invasion, which has caused severe casualties. This situation reflects China's pragmatic attitude towards these values. In other words, China wants to maintain its international image as a sovereignty defender without losing its close friend Russia. The paper argued that by doing so, China could not provide a clear identity in the international system, so the

other countries can hardly predict its future behaviours. As a result, they cannot build long-term stable relations with China. Also, China's sympathy for Realpolitik and historical hegemony will push its neighbouring countries away from China. The only solid value China insists on during the war is the anti-western and anti-democratic values. Spreading this value inside China may temporarily help the CPC enhance its rule. However, it provides little help in solving the war between Russia and Ukraine and building a better new international order. As a result, it can hardly

help China draw followers to challenge the West-led international order. In general, China's support of Russia during the Russia-Ukraine war came at the cost of significant losses in its diplomatic values. It will severely damage China's attempt to challenge the US's leading position in the current international system. Therefore, it is hard to say that China became a winner of the Russia-Ukraine war. Nevertheless, China may consistently pose a global competitor and international order dominated by the US.

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MALAYSIAN JOURNAL OF HUMAN ECOLOGY

Journal Homepage:

https://eco1.upm.edu.my/malaysian_journal_of_human_ecology_mjhe-3740

THE INFLUENCES OF PARENTS' EMOTION REGULATION AND PARENTING STYLE ON THE EMOTION REGULATION OF PRESCHOOL CHILDREN IN CHINESE FAMILIES

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ABSTRACT

This study examined the associations between parents' emotion regulation strategies and parenting styles and how they contributed to the preschoolers' emotion regulation competence in a socio-cultural context where fathering increased. 668 parents (438 mothers; 230 fathers) from Huhehaote of China participated. Results from structural equation modelling revealed that higher cognitive reappraisal predicted higher authoritative and lower authoritarian parenting in both mothers and fathers and higher emotion regulation competence in children. Both parents' authoritative parenting styles predicted children's emotion regulation competence, while authoritarian parenting styles predicted negatively. The effect of cognitive reappraisal on emotion regulation competence was significant, with fathers and mothers primarily influenced by the mediation of parenting style, although maternal cognitive reappraisal could also significantly and directly influence emotion regulation competence. Father's expressive suppression did not significantly affect emotion regulation competence, and maternal expressive suppression could directly and negatively influence emotion regulation competence, which was not moderated by parenting style. Our findings underscore the importance of parents employing cognitive reappraisal in emotion regulation and adopting more authoritative and less authoritarian parenting behaviours in their daily interaction with children on the development of more robust emotion regulation competence in preschoolers.

Keywords: *Emotion regulation; Parenting styles, Cognitive reappraisal, Expressive suppression*

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INTRODUCTION

In China, the Learning and Development Guide for Children aged 3-6 issued by the Ministry of Education in 2012 emphasizes the importance of emotion development and independent emotion regulation (Ministry of Education of the People's Republic of China Website, 2012). For preschoolers, family is the main base for developing their emotional regulation. Parents act as the main socializers of their children's ER (Morris et al., 2007), and young children learn how to react in social situations from their caregivers (Morris et al., 2011). Parental emotion regulation is one of the parenting skills that features prominently in several parenting and child development models (e.g., Leerkes & Augustine, 2019; Shaffer & Obradovic, 2017). The significance of parental effects on children's emotional development has been recognized for years. However, the relationships between parenting styles and their emotion regulation and children remain not that unclear.

In China, two research studied both parents (Li, 2021; Xu, Y., 2020), and another study on the influence of father involvement on preschool children's emotion regulation strategies (Liang, 2021) since 2018. The importance of fathers in children's emotional development needs to be

addressed, and only three studies have involved fathers' meta-emotion philosophy or father involvement (Li, 2021; Liang, 2020; Xu, Y., 2021). Very few studies have examined the unique contributions of parenting styles and parents' emotion regulation to children's emotional development, and even fewer studies have examined this in non-Western populations (Qiu & Shum, 2022; Tu & Chou, 2013).

Emotion regulation and parenting styles have changed in China in recent decades alongside rapid societal and economic developments (Chen & Zhou, 2019; Li, 2020). An increasing amount of evidence has suggested that fathers assume a pivotal and unique role in activating children's emotional development (Li et al., 2019; Shewark & Blandon, 2015). Today's Chinese fathers are more involved with their children than their predecessors (Li, 2020), which makes it impossible to ignore fathers' effects on children. This study examined the associations between parents' emotion regulation, parenting styles, and preschool children's emotion regulation competence in Chinese families. We aimed to explore the effects of both parents' parenting on children's emotional development in China.

Relations between parents' emotion-regulation strategies, their parenting styles, and children's emotion-regulation competence

According to Gross (2015), emotion regulation (ER) is the employment of internal and external mechanisms to modulate the magnitude and expression of emotions. Based on the process-oriented

model (Gross, 1998), cognitive reappraisal (CR) and expressive suppression (ES) have often been operationalized in previous research. Cognitive reappraisal means reinterpreting an emotionally provoking

situation to modify its affective impact. It is associated with more positive and fewer negative emotions, better interpersonal functioning, and greater well-being in adults (e.g., Gross, 1998; Gross & John, 2003). Suppression involves inhibiting affective expression (Gross, 1998; Gross & John, 2003).

During preschool, children gradually organize and control their behaviour in favour of altering the emotional process to regulate negative emotions (Eisenberg et al., 2003). This allows them to transit from extrinsic regulation, mediated by their parents, to intrinsic regulation (Blankson et al., 2017; Cole et al., 2009; Feldman, 2015).

Children's ER skills develop rapidly during their preschool years, and most children can express and regulate their feelings when they enter elementary school (Denham, 1998). During the preschool period, parents play an important role in the emotional socialization of their children. Morris et al. (2007) tripartite model of family influence proposes that the family context influences children's ER through children's observation of parents' emotion regulation, emotion-related parenting practices, and the family's emotional climate. These 3 constructs are, in turn, influenced by parental traits such as parents' own beliefs about emotions, their family history, and their mental health status. Importantly, this model suggests that parents' meta-emotion and emotional regulation can directly affect children's ER via modelling and indirect effects via parent-child interactions and parent relationships.

The meta-emotion philosophy (Gottman et al., 1996) posits that parents' thoughts and feelings about their own emotions provide

an underlying basis for expressing and regulating emotions and their responses to their children's emotions (Katz et al., 2012). For example, parents who believe that expressing anger reflects a loss of self-control may be more likely to demonstrate greater suppression of angry emotions and be less tolerant of negative emotions their children display in emotionally charged situations. Therefore, parents' meta-emotion philosophy strongly influences how they deal with children's negative emotions and parenting practices.

In Gross (1998), using a process model of emotion, a distinction between antecedent-focused (reappraisal, a form of antecedent-focused emotion regulation) and response-focused (suppression, a form of response-focused emotion regulation) emotion regulation is proposed. Emotion regulation processes have primarily been described in terms of strategies (Gross). Gross and John (2003) describe five studies that examine individual differences in using two common emotion regulation strategies—cognitive reappraisal and expressive suppression. Using cognitive reappraisal, which involves changing the way one thinks about an emotionally triggering situation to change its emotional valence, is seen as more adaptive. It has been found that reappraisers experience and express more positive and fewer negative emotions and demonstrate better interpersonal functioning and psychological well-being (Cutuli, 2014; Denson et al., 2012; Gross, 1998). In contrast, expressive suppression is a response-oriented strategy involving conscious inhibition of emotional expression during an emotionally eliciting event. This generally leads to less adaptive consequences related to affect,

relationships, and well-being (Butler et al., 2003).

Healthy emotion regulation in the parents serves as a model for children learning to regulate their own emotions (Are & Shaffer, 2016; Milojevich et al., 2020; Morelen et al., 2016; Morris et al., 2007; Tan & Smith, 2019; Yan et al., 2021). Children may emulate their parents' emotional regulation and/or dysregulation behaviours (Bariola et al., 2012). The question is: how can parents use different ER strategies to affect children's ER?

Compared to expressive suppression, parents' use of cognitive reappraisal is associated with more adaptive emotion regulation in their children, likely due to better parental emotional adjustment related to the former (Gross & John, 2003). Expressive suppression is higher in males than females (Cai et al., 2016), and mothers' suppression skills were uniquely predictive of children's emotion regulation skills (Rogers et al., 2016). In Western culture, there is much research verifying mothers' ER influences children's ER (Crespo et al., 2017; Morelen et al., 2016), and even maternal ER strategies related to their children's ER strategies, whereas paternal strategies did not (Bariola et al., 2012). Given the cultural differences in emotional socialization (Friedlmeier et al., 2011; Raval & Walker, 2019), fewer studies about how parents use different ER strategies may affect children's ER skills in China (except Qiu & Shum, 2022). So, we hypothesized that higher CR contributed to children's ERC (H1), and mothers' CR would have a more significant influence on children's ERC than fathers did (H2).

Besides parents' ER strategies, their parenting style is posited to affect children's emotional regulation development directly (Morris et al., 2007, 2017). Evidence from both Western and Eastern cultures have shown that authoritative parenting styles—i.e., displaying high warmth and responsiveness, along with autonomy granting and the use of inductive reasoning—predict higher ER competence in children (Tu & Chou, 2013), whereas authoritarian parenting leads to poor ER in children (Chang et al., 2003; Roth & Assor, 2012).

Gender effects on parenting styles have consistently been observed (Conrade & Ho, 2001; Liu et al., 2018; McKinney & Renk, 2008); mothers reported higher warmth, inductive reasoning, and autonomy granting than the fathers (Cohodes et al., 2022). With the rapid economic development and the socio-cultural changes in urban China, cultural values on parenting are shifting (Chen et al., 2002; Way et al., 2013). For example, mothers are likelier to set a high standard of conduct, showing strict behavioural control, direct command, and physical punishment than fathers (Guo, 2013; Way et al., 2013). Chang et al. (2003) pointed out that mothers' harsh parenting affected children's emotional regulation more than fathers.

Chuang and Su (2009) found that Chinese mothers of toddlers displayed a less authoritative parenting style than Chinese fathers. So, we hypothesized that an authoritative parenting style contributed to ERC. In contrast, an authoritarian parenting style will contribute to children's emotion dysregulation (H3), there were differences between fathers' and mothers' parenting styles (H4), and mothers' parenting styles

had more significant influences on children's ER competence than fathers (H5).

How can parents use cognitive reappraisal and expressive suppression to influence parenting practices?

A comprehensive literature review showed that higher levels of emotional and cognitive control were associated with higher levels of positive parenting (i.e., warmth, sensitivity, involvement, consistency) and lower levels of harsh, punitive, and inconsistent parenting (Crandall et al., 2015). Barros, Goes, & Pereira (2015) described deficits in parents' self-regulation and emotion regulation skills as root causes of parenting problems. Qiu & Shum (2022) showed that higher cognitive reappraisal predicted higher authoritative and lower authoritarian parenting. Xiao (2016) postulated that cognitive reappraisal predicts parental inductive discipline while expressive suppression does not. We hypothesize that parents with high CR prefer to adopt an authoritative parenting style (H6).

Morris et al. (2007) tripartite model hypothesizes that parents' ER may affect

children's ER development via parenting practices. Research on parenting-specific emotion regulation is necessary, given emerging evidence for unique aspects of emotion regulation within the parenting context (e.g., neurobiology supporting emotion regulation changes at the onset of parenthood; Rutherford et al., 2015). Indeed, some studies have reported the mediating role of parenting practices on the link between parents and children's ER (Morelen et al., 2016; Qiu & Shum, 2022). Morelen et al. (2016) have reported the mediating role of parenting practices on the link between parents and children's ER. Unsupportive maternal parenting was a significant mediator between maternal' emotion dysregulation and a child's emotion dysregulation (Morelen et al., 2016). Higher cognitive reappraisal employed by parents contributed to higher ER competence in children, positively mediated by authoritative parenting and negatively mediated by authoritarian parenting (Qiu & Shum, 2022). We speculated that CR employed by parents contributed to ERC in children, which was mediated by parenting styles (H7), but there was no gender difference in the mediating effect (H8).

The current study

METHOD

Participants and procedures

A total of 668 parents participated in this study. They were recruited from urban public preschools in Huhehaote, China. Participating parents were recruited from two-parent families with at least one preschool child.

Ethical approval for the study was obtained from the Ethics Committee at the authors' institution. Informed consent was obtained from all participants before data collection. The participating parents (n=674; fathers=230; mothers=438) were asked to complete a survey to report on their

parenting styles and practices, their use of ER strategies, and their children's ERC. Data collection used Wenjuanxing. Data

Measures

Demographic background. Demographic information was collected on the participants' age range, gender, education level, household income, and children's age range and gender.

Parents' emotion regulation strategies. The Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) assessed parents' use of ER strategies. This questionnaire uses a 7-point Likert scale with 10 items measuring 2 distinct ER strategies: cognitive reappraisal (CR; 6 items) and expressive suppression (ES; 4 items). The Chinese version is reliable; Cronbach's alphas for cognitive reappraisal and expressive suppression subscales were .84 and .72, respectively (Qiu & Shum, 2022). Cronbach's alphas for the subscales of two subscales were .857 and .715 for the current study.

Parenting styles. Parenting styles & dimensions questionnaire short version (PSDQ-short version, 32 items), authoritative parenting style (15 items, $\alpha=.86$), authoritarian parenting style (12 items, $\alpha=.82$), and permissive parenting style (5 items, $\alpha=.64$; Robinson et al., 2001). The Chinese version of the Parenting Style and Dimensions Questionnaire (PSDQ; Wu et al., 2002) includes 26 items forming two stylistic patterns of parenting: authoritative (15 items) and authoritarian (11 items). The authoritative pattern consisted of three stylistic dimensions: (1) warmth/acceptance (e.g., expresses affection by hugging, kissing, etc.), seven items; (2) reasoning/induction (e.g., gives child reasons why rules should be obeyed), four items; and (c) autonomy granting (e.g.,

were collected on the participants' age range, gender, education level, and monthly income.

allows the child to give input into family rules), four items. The authoritarian pattern consisted of three stylistic dimensions: (1) verbal hostility (e.g., yells and shouts when the child misbehaves), three items; (2) physical coercion (e.g., spansks when the child is disobedient), five items; and (3) nonreasoning/punitive (takes away privileges with little if any explanations), three items. Mothers and fathers rated themselves on each item by assessing "how often they perceived themselves exhibiting parenting behaviours reacted in each item" using a 5-point scale anchored by 1 (never) and 5 (always). The Chinese version has good reliability in China. Cronbach's alphas for the authoritative and authoritarian parenting subscales were .88 and .84, respectively (Qiu & Shum, 2022). Cronbach's alphas for the two subscales were .924 and .851 for the current study.

Children's emotion regulation competence. The Emotion Regulation Checklist (ERC; Shields & Cicchetti, 1997) assessed preschool children's ability to manage emotional experiences. This checklist consists of a 4-item Likert questionnaire on the nurse's report with 23 items. Eight items relate to the children's adaptive emotion regulation skills and assess the situational appropriateness of affective representations, empathy, and emotional self-awareness. The other 15 items measure children's emotional negativity and lability, who rate mood lability, lack of flexibility, dysregulated negative affect, and inappropriate affective expressions such as severe mood swings and exaggerated changes in emotional states. Emotion

regulation competence was calculated by totalling the scores for adaptive ER and negativity and liability, in which item 12 was excluded for not being loaded on either factor in early validation analyses. Some items were reverse scored (i.e., items 2, 6, 8, 10, 13, 14, 16, 17, 18, 19, 20, 22, 24), then averaged the total across all 23 items. Higher scores represented higher ER

competency. The Chinese version of the ERC was obtained with permission from the original developer (Guo, Yuqing (Vivian), and Cicchetti, 2014; Shields & Cicchetti, 1997). The ERC is reliable and valid in young Chinese children (Zhu et al., 2020, 2021). Cronbach alpha for internal consistency was .807 for the current study.

RESULTS

Demographic information

Among the 668 participants, there are 230 fathers and 438 mothers. At the education level, there are 231 high schools and below, 207 colleges, and 230 universities and

above. At the monthly income level, there are 178 \$ 5,000 and below, 348 \$ 5,000 - \$10,000, 115 \$10,000-\$30,000, and 27 \$30,000 and above (see Table 1).

	N	Percentage (%)		N	Percentage (%)		N	Percentage (%)		N	Percentage (%)
Parents	658		Age range			Education level			Monthly Income		
		34.4	≤32	202	30.2		231	34.6		178	26.6
Father	230	65.6	33-39	392	58.7	Secondary or below	207	31.0	≤5,000	348	52.1
Mother	438		≥40	74	11.1	Post-secondary	230	34.4	5,001-10,000	142	21.3
Children	341					University or above			>10,000		
Boy	327		3-4	139	20.8						
			4-5	217	32.5						
Girl			5-6	221	33.1						
			>6	91	13.6						

Gender differences in ER strategies

A three-way complete random ANOVA with parental gender, mean monthly income, and education as independent variables and CR as dependent variable found that only the main effect of gender was significant, $F(1,650) = 5.038, p = 0.025, \eta^2 = 0.008$. Mothers had significantly higher mean scores on this dimension (5.50, 95% CI = [5.39, 5.61]) than fathers (5.29, 95% CI = [5.14, 5.44]).

The same three-way completely randomized ANOVA with parental gender, mean monthly income, and education as independent variables, and ES as dependent variable found that only the main effect of gender was significant, $F(1,650) = 17.705, p < 0.001, \eta^2 = 0.027$. The score of mothers (4.04, 95% CI = [3.90, 4.17]) was significantly lower than that of fathers (4.51, 95% CI = [4.33, 4.69]).

Gender differences in parenting styles

Since there were only 8 persons with "postgraduate or above" in the education variable, this level was combined with "undergraduate" and coded as "undergraduate or above". There were only 12 and 15 persons with a personal monthly income of "30-50 thousand" and "50 thousand or above", respectively, so these two levels were combined with "10-30 thousand" and coded as "10,000 or above".

A three-way completely randomized ANOVA with parents' gender, personal monthly income, and education as independent variables and authoritative parenting style as dependent variables found that only the main effect of gender was significant, $F(1,650) = 3.898, p = 0.049, \eta^2 = 0.006$. The mean score for this parenting style was significantly higher for mothers (4.23, 95% CI = [4.16, 4.29]) than for fathers (4.12, 95% CI = [4.03, 4.20]).

The same three-way complete random ANOVA with parental gender, personal monthly income, and education as independent variables and authoritarian parenting style as dependent variables found a significant main effect of gender, $F(1,650) = 4.480, p = 0.035, \eta^2 = 0.007$. Mothers scored significantly higher (1.89, 95% CI = [1.83, 1.94]) than fathers (1.79, 95% CI = [1.71, 1.86]). A significant interaction between education and gender was found, $F(2,650) = 5.59, p = 0.004, \eta^2 = 0.017$. Simple effects analysis revealed a significant upward trend in fathers' scores on authoritarian parenting with increasing education (see Fig.1), $F(2,650) = 3.391, p = 0.034, \eta^2 = 0.010$. In contrast, mothers' scores tended to decrease, though only reaching borderline significance, $F(2,650) = 2.761, p = 0.064, \eta^2 = 0.008$.

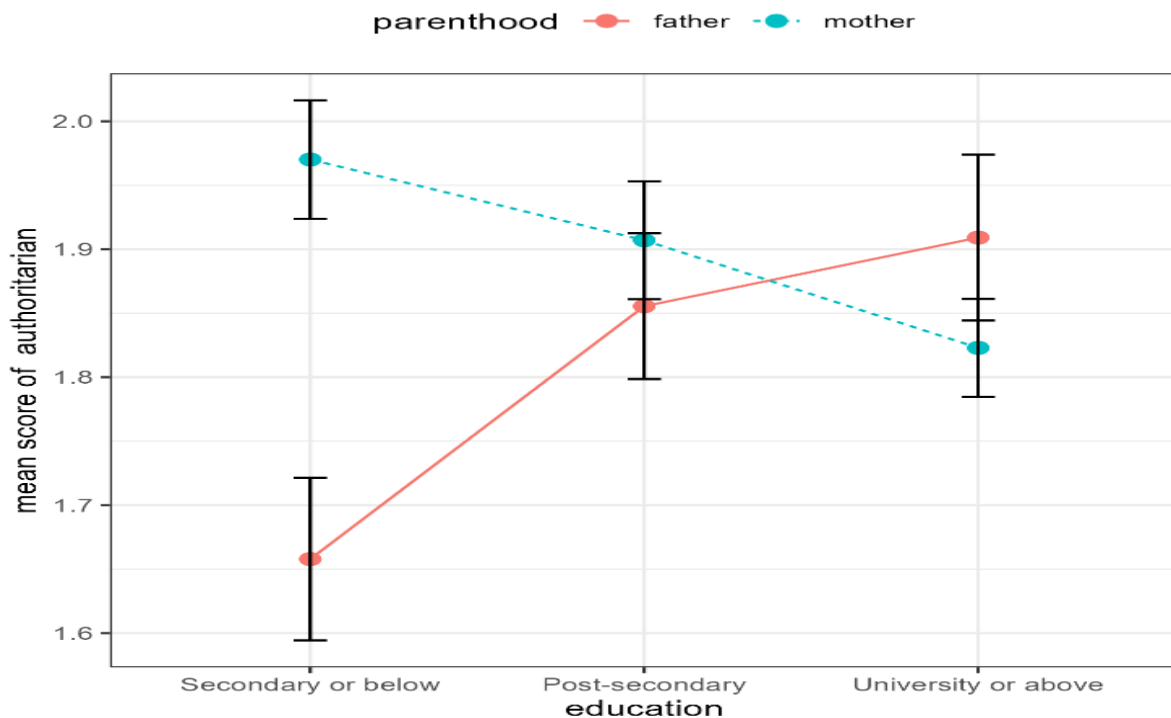


Fig. 1. Interaction between educational level and parenthood on scores of authoritarian parenting style

The ANOVA analysis revealed gender differences in these two parenting styles, so we further analyzed the gender differences in all dimensions; significant differences were found in only two dimensions, warmth and verbal hostility (see Table 2). No matter warmth and verbal hostility were significantly higher in mothers than fathers.

Table 2
Gender differences on different dimensions of parenting styles

	Father		Mother		Gender Difference	
	Mean (SD)	SD	Mean (SD)	SD	t	Sig
Authoritative						
Warmth						
Inductive Reasoning	4.22	.64	4.36	.61	-2.651	.008**
Autonomy Granting	4.18	.69	4.25	.70	-1.280	.201
	3.88	.75	4.00	.75	-1.959	.051
Authoritarian						
Verbal Hostility						
Physical Coercion	2.26	.76	2.50	.79	-3.942	.000***
Non-Reasoning	1.63	.56	1.72	.56	-1.958	.051
	1.66	.62	1.60	.57	1.290	.198

** p < .01

*** p < .001

Correlations analysis

Partial correlations were computed to examine the relationship between parents' use of ER strategies, parenting styles, and the children's ERC after controlling for parents' education level and monthly income (see Table 3).

A significant positive correlation existed between parents' use of CR and ES for both fathers and mothers. Parents' use of CR and ES positively correlated with all the dimensions of authoritative parenting and negatively correlated with all the dimensions of authoritarian parenting. However, there was only a significant negative correlation between parents' use of ES and verbal hostility. In other words, parents with better CR and ES skills displayed more authority and less verbal hostility towards their children. Children's ERC was found to correlate positively with parents' use of CR and ES, but only the correlation with parents' CR was significant; the correlation with parents' ES was insignificant. Moreover, children's ERC was positively associated with all the dimensions of authoritative parenting but negatively associated with all the dimensions of authoritarian parenting, and these correlations were significant.

Table 3

Partial correlations between fathers' (n=230; above diagonal) and mothers' (n=438; below diagonal) use of emotion regulation strategies, their parenting styles, and the children's emotion regulation competence, after controlling for parents' education level and monthly income for both fathers and mothers.

	Authoritative Parenting					Authoritarian Parenting			
	CR	ES	ERC	Warmth	Inductive Reasoning	Autonomy Granting	Verbal Hostility	Physical Coercion	Non-Reasoning
CR	—	.392***	.313***	.481***	.486***	.484***	-.300***	-.239***	-.280***
ES	.198***	—	.054	.168*	.195**	.209***	-.154*	-.056	-.059
ERC	.391***	.013	—	.378***	.417***	.352***	-.407***	-.445***	-.469***
Authoritative									
W									
IR	.513***	.105*	.440***	—	.835***	.796***	-.274***	-.223***	-.360***
AG	.482***	.146**	.447***	.818***	—	.794***	-.281***	-.207**	-.356***
	.481***	.162***	.438***	.760***	.792***	—	-.315***	-.162*	-.324***
Authoritarian									
VH									
PC	-.139**	-.131**	-	-	-.202***	-.258***	—	.661***	.591***
NR	-	-.050	.379***	.185***	-.216***	-.265***	.635***	—	.618***
	.198***	-.004	-	-	-.347***	-.364***	.464***	.536***	—
	-		.369***	.213***					
	.326***		-	-					
			.414***	.393***					

* p < .05

** p < .01

*** p < .001

Mediation role of parenting style

Referring to the model of previous studies, two dimensions of parents' ER were used as independent variables: the child's emotion regulation competence as the dependent variable, two dimensions of parenting style as mediating variables, and the parents' gender as a subgroup variable for analysis.

The model fit was acceptable with PCMIN/DF=5.146, CFI=0.924, TLI=0.879, SRMR=0.095, and RSMEA=0.079.

A comparison of the coefficients of each path of the parents revealed no significant differences between the paths.

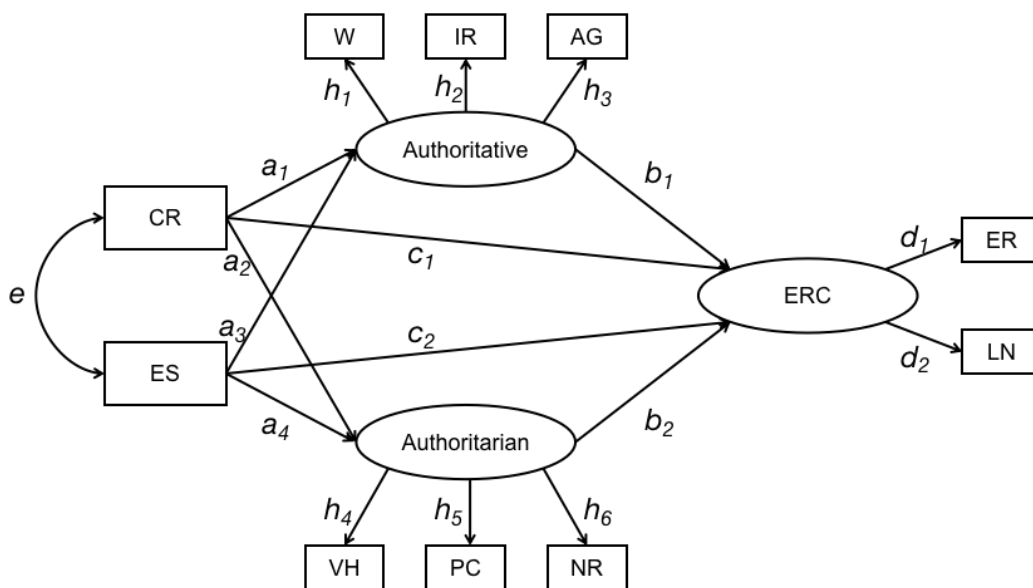


Fig. 2. Structural equation model to test the relations among parents' ER, parenting styles, and children's ERC.

Table 4 Multigroup SEM analyses: standardized estimates of the total effects and path coefficients based on Figure 2.

Path	Father			Mother		
	Coefficient	95%CI	p	Coefficient	95%CI	p
Total Effects						
CR→ERC	.552***	.376, .728	< .001	.601***	.500, .703	< .001
ES→ERC	-.090	-.276, .096	.34	-.093	-.207, .020	.11
Direct Effects						
c1	.128	.074, .371	.21	.238***	.110, .367	< .001
c2	-.098	-.264, .068	.25	-.110*	-.214, .007	.04
a1	.527***	.417, .636	< .001	.541***	.470, .613	< .001
a2	-.324***	-.463, .185	< .001	-.270***	-.369, .171	< .001
a3	.014	-.111, .139	.83	.024	-.060, .109	.57
a4	-.003	-.149, .142	.96	-.014	-.117, .088	.79
b1	.462***	.274, .651	< .001	.487***	.363, .611	< .001
b2	-.556***	-.731, -.381	< .001	-.369***	-.485, -.253	< .001
Indirect Effect						
CR→ERC	.424***	.281, .566	< .001	.363***	.276, .045	< .001
ES→ERC	.008	-.091, .108	< .001	.017	-.039, .073	< .001

* p< .05

*** p< .001

The total effects of parents' ER strategies on children's ERC and the standardized path coefficients of the hypothesized model (Fig. 2) are presented in Table 4. Both parents' use of CR significantly predicted higher ERC in children (father's total effect = .552, $p = <.001$; mother's total effect = .601, $p = <.001$). Parents' CR strategies could influence children's ERC more than ES. Moreover, the direct effects on children's ERC were significant for the mother's CR (.238, $p = <.001$) and ES (-.110, $p = <.05$), which means the two of the mother's ER strategies could influence children's ERC. While for fathers, ER strategies could not affect children's ERC directly.

The mediation effects of the model are also shown in Table 4; parents' CR could significantly predict children's ERC indirectly (father's indirect effect = .424, $p = <.001$; mother's indirect effect = .363, $p = <.001$), which was mediated by both authoritative and authoritarian parenting. Conversely, parents' ES could not significantly predict children's ERC directly and indirectly, except that the significance of the mother's ES to children's ERC reached significance at

$p < 0.05$ level. So, the mediating effect of parenting styles was only significant between parents' CR and children's ERC, not ES.

Based on the above, for mothers whose CR strategy could influence children's ERC directly and indirectly, ES could only affect children's ERC directly; the direct effect of the father's ER on children's ERC did not reach significance.

DISCUSSION

This study investigated how parents' ER and parenting styles were associated with children's emotional development in mother-child and father-child relationships, where fathers adopted a more and more important role in parenting their children. As gender equality legislation has increased the social status of Chinese women, and Western parenting values emphasizing father involvement have been brought into Chinese society, these factors might have increased father involvement in parenting.

While under the influence of Confucianism, traditional Chinese fathers' key responsibilities included being strict in withholding explicit expressions of warmth (Li & Lamb, 2015). Traditionally, in our study, we thought fathers were stricter than mothers. We got the result of gender differences in the two parenting styles; mothers were significantly higher than fathers, which differed from Chuang and Su (2009). Interestingly, fathers' scores on authoritarian parenting increased with increasing education, while mothers' scores tended to decrease. At the high school level, mothers' authoritarian parenting was higher than fathers, but when they reached the university level, fathers were higher than mothers. Gender and education level are two factors deciding parents' parenting style. Specifically, in each dimension, mothers showed more warmth and verbal hostility than fathers, which means that

mothers are warmer and stricter than fathers.

Morris et al.'s tripartite model (2007) posits that parents' ER can directly impact children's ER through modelling and indirect effects via parenting practices. We hypothesized that parents' CR might contribute to better ER competence in the children. We further hypothesized that parents' use of CR might be positively associated with authoritative parenting. Also, Zimmer-Gembeck and colleagues (2022) draw the same conclusion that cognitive reappraisal has a weaker association with negative parenting behaviours. We found that these hypotheses were supported mainly in the parenting model; only the direct effect coefficient for the mother reached significance, and the direct effect of the father's ES on ERC was not significant, while the direct effect of the mother's ES on ERC was significant, the direct effect of both mother's CR and ES on the child's ERC was significant. Parents' CR to authoritative parenting style coefficients were both significant.

Our results also supported the "meta-emotion philosophy" (Gottman et al., 1996) that caregivers' regulation of their own emotions significantly contributes to the socialization of children's emotion regulation skills. Specifically, we found that better CR—whether in fathers or mothers predicted higher ER competence in

children. Significant indirect effect of parent's CR to ERC. Moreover, this association was only mediated by authoritative parenting in the parents. Prior research has revealed negative mediation effects of harsh parenting on maternal and child's emotion dysregulation among school-aged children and adolescents (Morelen et al., 2016; Sarita, et al., 2013) and also positively mediated by authoritative parenting and positively mediated by authoritarian in parents' parenting among preschool children (Qiu & Shum, 2022).

By contrast, the father's ES had no significant effect on ERC; only mothers' ES significantly predicted their parenting style did not mediate lower ERC in children, even mothers' ES. As a response-focused strategy, expressing suppression generally leads to non-adaptive psychosocial outcomes (Gross & John, 2003). Our results did not reveal clear negative implications of this ER strategy in fathers. In a cross-cultural study, Soto, Perez, Kim, Lee, & Minnick (2011) show that expressive suppression was associated with negative psychological functioning in European Americans but not in Hong Kong Chinese. Soto, Levenson & Ebling (2005) argue that this cultural difference stemmed from the notion that suppression in Chinese cultures is more normative than in Western cultures, as it is consistent with traditional Asian values of emotional moderation (Russell & Yik, 1996).

Previous research supports cognitive reappraisal as a more adaptive ER strategy, as it allows an individual to reinterpret an emotion-triggering event and subsequently develop more positive emotions towards the situation, while suppressing expression

is considered less adaptive as it leads to inhibition that guides emotions (Gross & John, 2003). Zimmer-Gembeck et al. (2022) found the strongest association between parents' difficulties, such as low emotional awareness, suppression, or a lack of emotion regulation strategies, and children's difficulties. In this study, parents' CR and ES were positively correlated, different from Gross & John (2003). Also, in a Chinese two-generation study, the CR and ES of parents are negatively correlated. However, grandparents are positively correlated because the high tendency to employ CR does not associate with the low tendency to adopt ES in emotion regulation, and vice versa (Qiu & Shum, 2022). Less ES among the parents than the grandparents, suggesting an attenuation of the norm under the influence of Western values that encourage more open emotional expression rather than control and restraint in social interactions (Soto et al., 2005; Qiu & Shum, 2022), this can also be used to explain the divergence between our results and its findings. Because the participants in Qiu and Shum's are well educated, more than 90% are in post-secondary, while only 66% were in our study. This may be related to regional differences. Chengdu is a first-tier city in China, and the economy and the level of education are much better than in Huhehaote. Therefore, relatively less influenced by Western values and more conservative in emotion regulation, the parents' use of ES is relatively high.

Finally, despite gender differences in the contributions of parents' ER to children's ER competence in this parenting model, the level of ER competence did not differ between fathers' and mothers' different parenting styles, only in different types of parenting. Our results indicated that the

level of ER competence was more influenced directly by parents' CR strategy and mothers' ES, parents' parenting styles,

and indirectly by parents' CR to authoritative parenting style.

LIMITATION

The study has some limitations. First, all participating parents were from urban areas of China, and the parents in the current study were mainly educated. Therefore, the results presented here may differ from those in other Chinese communities or rural areas of China.

Second, the study was questionnaire-based, so we could not determine the direction of causality between the variables. Although it seems logical to expect that the emotional development of preschool children would be influenced by the parenting style of their parents and the emotional climate of the family, there is also the possibility that children's ER skills could influence their interactions with parents. The direction of the prediction can be clarified in future studies using an experimental design. Furthermore, the data on ER of preschool children were collected exclusively from their parents. To account for subjective

assessment bias, teachers' reports should be considered.

Third, the study relied on parent reports for all measures, which could inflate associations due to shared method variance. Some other measures may need to be added, for example, observation or interview with a small scale of preschool children.

In addition, it is worth noting that the differences in outcomes between mothers and fathers may be related to contextual factors such as the educational level and personal monthly income or other confounding factors not examined in the current study. Although demographic variables were included in the analyses as covariates, there was still the possibility that they could differ in unobserved ways, contributing to the results presented here. This remains a major area for improvement in this study.

IMPLICATION

Despite these limitations, the present study contributes to existing knowledge on the relationships between parents' ER strategies, parenting styles, and children's ER competence. It addresses the research gap on fathering in Chinese families. From an educational perspective, this research advances our understanding of the specific aspects of parenting that can contribute to raising emotionally competent children.

We found that higher cognitive reappraisal among parents contributed to higher ER competence in children. We also showed that children's ER competence was positively correlated with authoritative parenting but negatively correlated with authoritarian parenting in both fathers and mothers. Our results underscore the importance of parents applying cognitive reappraisal in emotion regulation and

adopting more authoritative and less authoritarian parenting behaviours in their day-to-day interactions with children in developing stronger emotion regulation competencies in preschool children.

On a broader level, our results are consistent with the meta-emotion philosophy (Gottman et al., 1996) and confirm that caregivers' emotion regulation impacts their children's emotional socialization. The magnitude of the impact of parents' emotional regulation and emotional socialization on a child's development requires appropriate parental intervention (Hajal & Paley, 2020). Therefore, teaching parents how to regulate their emotions can significantly impact the emotional development of young children.

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Emotion coaching parenting programs can increase parents' sensitivity to their own emotions and their children's emotions (Qiu & Shum, 2022). With the increasing involvement of fathers in child-rearing in China and other parts of the world, there is also a need to develop parenting interventions specifically for fathers and provide them with more support in their parenting role. Based on the current finding that cognitive reappraisal in parents contributes to adaptive ER development in preschool children, parenting interventions for both parents can include training components focused on promoting their awareness of ER strategy use and acquisition of emotion-supportive parenting skills in their dealings with children.

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AN OVERVIEW OF FAMILY FUNCTIONING ON CYBERBULLYING AMONG ADOLESCENTS: A CONCEPTUAL PAPER

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ABSTRACT

The prevalence of cyberbullying is higher in adolescents, which affects their psychological well-being. Thus, it is important to understand the role of family functioning in stopping young cyberbullies from wrongdoing and protecting victims. Thus, this conceptual paper aims to explore the relations between family functioning and cyberbullying in adolescents and further discuss the roles played by key aspects such as family cohesion and family communication. Also, this paper explained theoretical backgrounds that highlight how family functioning is essential to address cyberbullying in adolescents. Some future directions are discussed.

Keywords: Cyberbullying, family functioning, cohesion, communication, adolescents

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INTRODUCTION

Cyberbullying refers to a repetitive aggressive act that happens virtually via the Internet and social media, which involves behaviours like trolling, flaming, cyberstalking, and spreading hate speech (Ariffin et al., 2021; Chudal et al., 2021; Gladden et al., 2014). While its prevalence is higher in adolescents (Nixon, 2014; Brochado et al., 2017), cyberbullying can bring undesirable physical and psychological detrimental effects to both perpetrators and victims (Wolke et al., 2017; Tiiri et al., 2020). Indeed, existing studies have shown that cyberbullying perpetrators are prone to experience isolation and secrecy, feelings of helplessness, anger, and aggression (Hellfeldt et al., 2020). Meanwhile, the victims are more exposed to depression and anxiety (Klomek et al., 2015; Wolke & Lereya, 2015), as well as suicidal ideation (Klomek et al., 2009).

Cyberbullying in adolescents

Recent studies have shown a high prevalence of cyberbullying in adolescents globally, where cyberbullying victimization (14.0%-57.5%) was higher than cyberbullying perpetration (6.0%-46.3%) (Zhu et al., 2021). This pressing issue gives rise to multiple adverse effects for both perpetrators and victims, such as heightened stress, anxiety, eating disorders, sleep disturbances, and disruptions in daily

Family functioning and its key aspects

Family functioning refers to how a family operates as a unit, including how its members interact, communicate, and fulfil various roles and responsibilities within the

Family is important to adolescents. According to Bronfenbrenner and Ceci (1994), family is one of the closest people in an adolescent's microsystem, which plays a vital role in shaping their development. For instance, a close and warm family relationship can help to reduce adolescent's negative behaviour, which includes cyberbullying (Bowes et al., 2010; Shah et al., 2021). Nevertheless, how family functioning, such as family cohesion and family communication, can deter cyberbullying among adolescents needs to be discussed. Thus, this concept paper aims to bridge the gap. The discussion will be divided into four sections: 1) the literature review on cyberbullying and family functioning, 2) the theoretical framework, 3) details of the methodology used, and 4) suggestions and direction for future research.

life (Charoenwanit, 2019). Also, adolescents find themselves compelled to conceal their experiences in cyberspace from their closest people (Kumar & Goldstein, 2020). Most alarmingly, those who struggle to cope with these risky behaviours are at risk of contemplating suicide (Hinduja & Patchin, 2010; Iranzo et al., 2019; Van Geel, Vedder & Tanilon, 2014).

family system (Panganiban-Corales & Medina, 2011). It encompasses the dynamics and processes that characterize a family's functioning (Chun, 2006). Family

functioning can have a significant impact on the overall well-being and development of its members.

A key aspect of family functioning is family cohesion. It refers to the emotional bond family members can have towards each other (Olson et al., 1983; Damulira et al., 2019). Existing studies suggest that the sense of belonging to a family can help youth protect their mental health and address issues related to stress, depression, and anxiety (Dwairy & Achoui, 2010). Moreover, a recent study by Najjari et al. (2023) argued that cohesion between parents and children plays an important role in mitigating problematic behaviour in

adolescents, thus reducing the chances of cyberbullying.

Family communication is another key aspect. It refers to the exchange of information, thoughts, feelings, and messages between members of a family unit (Brodzinsky, 2006). It encompasses various forms of interaction, including verbal and non-verbal communication (Abed et al., 2023). Also, it plays a crucial role in shaping family dynamics and relationships, as well as the overall well-being of family members (Epstein et al., 1978). Furthermore, openness in family communication allows all members to understand each other, thus facilitating adaptive resolution in family crises (Jiménez et al., 2019).

Research Objective

The main objective of this conceptual paper was to assess the relationship between family functioning, such as family cohesion and family communication, and

cyberbullying among adolescents. Also, we provided a theoretical overview to understand this phenomenon better.

Theoretical overview

In order to understand the relationship between family functioning and cyberbullying in adolescents, we considered two models: Double ABC-X model (McCubbin & Patterson, 1983) and Bowen's family system theory (Brown, 1999).

The Double ABC-X model (McCubbin & Patterson, 1983) helps researchers understand how families respond to and cope with stress and crises. This model listed three main components, which are ABCs (A = stressors, B = resources, C = perception), crisis (X_i), and crisis resolution (X_r). Families with more resources and

positive perceptions of the stressor are more likely to adapt successfully and may even experience post-crisis growth. However, families with fewer resources and negative perceptions may struggle to cope and experience negative long-term consequences.

Bowen's Family System Theory provides a comprehensive framework to understand the complex interplay of emotions, relationships, and behaviours within families (Brown, 1999). It explains how families function as interconnected systems and offers strategies for improving family relationships and individuals' emotional

health. This theory is often used in family therapy and counselling, mainly to increase individual differentiation, reduce emotional

reactivity, and promote greater emotional and relational health within the family system.

METHODOLOGY

The methodology used in this paper is a library search where we evaluated past studies on family functioning (i.e., family cohesion and communication) and cyberbullying. We utilized online academic databases, particularly Web of Science and Google Scholar. Approximately 30 articles about cyberbullying among adolescents and

the effect of family functioning on the behaviour have been investigated. Themes such as "family cohesion AND cyberbullying." Due to limited resources from the databases, we chose journal articles and book chapters that were available as open access.

DISCUSSION

Cyberbullying poses a significant concern for adolescents. Thus, addressing cyberbullying is crucial to safeguarding the well-being of adolescents holistically. In this concept paper, we reviewed the importance of family functioning to help adolescents deal with cyberbullying (Khairi et al., 2022). The first key aspect of family functioning, i.e., family cohesion, can help victimized adolescents to be more resilient. Parents who can provide emotional and social support to their victimized children can facilitate the development of healthy coping mechanisms among adolescents (e.g., talking to a loved one) (Bowes et al., 2010; Shah et al., 2021). This situation aligns with the Double ABC-X model, where families can navigate stressful situations and pinpoint areas where support and interventions can be helpful (Zhang et al., 2020). Also, by considering Bowen's Family System Theory, the positivity that exists in the interconnected system of

emotions-relationships-behaviour does not only improve the well-being of the cyberbullies or victims, but it can also positively affect the whole family.

Another critical aspect of family functioning, effective communication, encourages children to be open and share their problems with their parents. Indeed, open family communication allows all members to understand each other, thus facilitating adaptive resolution in family crises (Jiménez et al., 2019). Here, we can see that being open and transparent in communication can be an excellent resource to address cyberbullying perpetration and victimization, as suggested by the Double ABC-X model. This also aligns with Bowen's Family System Theory; having effective communication in a family can preserve harmonic relationships, which allows conflict resolutions among members.

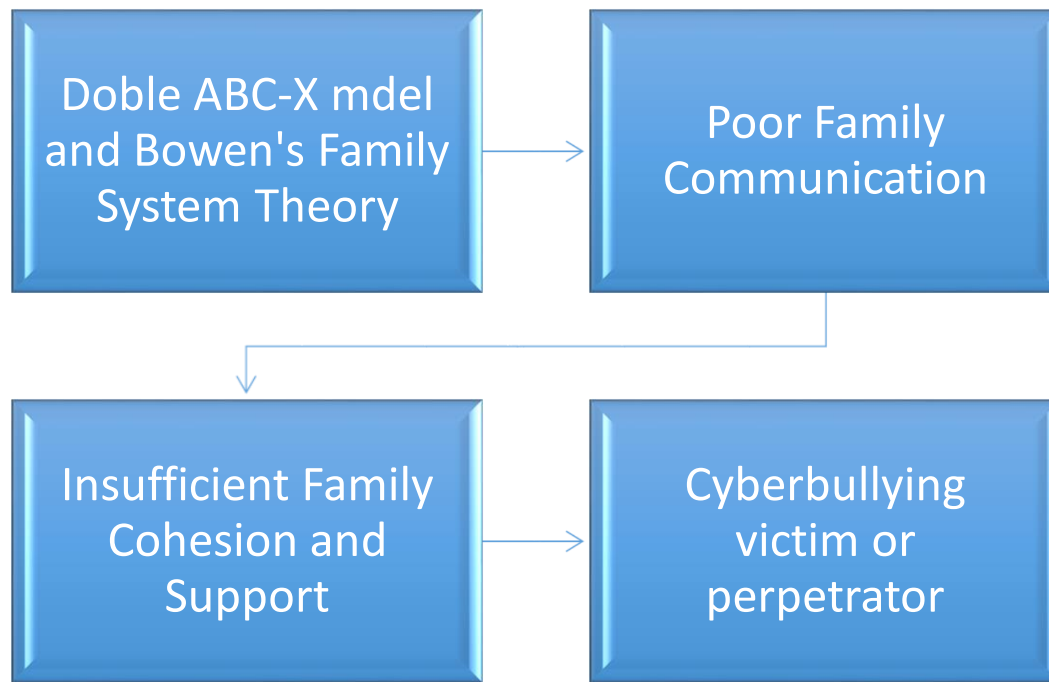


Figure1. According to the Double ABC-X model and Bowen's Family System Theory Having low-income family functioning, especially insufficient support or cold family communication can be the cause of cyberbullying as a victim or perpetrator

CONCLUSION

This concept paper has shed some light on the significance of family functioning in addressing cyberbullying among adolescents. The understanding of family cohesion and communication, as well as the related theories, can enhance the knowledge of how family can play their roles in overcoming risk behaviours related to cyberbullying. Also, it can be a basis for designing educational programs, especially for parents, to protect their children from cyberbullying.

Specifically, we recommend that stakeholders, governments, educational systems, or other organizations related to adolescents develop educational programs that focus on disseminating information on cyberbullying and how families can play a significant role in tackling the issue. Indeed, providing young people with ample

information on the severity of cyberbullying and its negative consequences for adolescents can help them to cater for the issue well. Also, families should be given knowledge, particularly on how they can support their children. This can help to prevent possible physical injuries or mental health issues if their children are involved in cyberbullying.

However, some limitations deserve attention. Firstly, this concept paper gathered information from limited sources and with open access status only. Thus, adding more databases can enrich the information on the topic. Secondly, we encourage empirical studies to prove our point of view, particularly on family cohesion and communication. Nevertheless, this paper concludes that family functioning can significantly contribute to the improvement of

adolescents' behaviours, particularly on cyberbullying.

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POVERTY ERADICATION THROUGH TECHNOLOGICAL INNOVATION IN MALAYSIA AND PAKISTAN

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ABSTRACT

This study analyzes the role of technological innovation in eradicating poverty in Malaysia and Pakistan. The study used qualitative analysis to assess the extent of poverty in both countries and the mitigating strategies adopted by each government. The role of technological innovation is vital in poverty eradication as by promoting the Information, Communication and Technology sector, economic growth can be promoted, which is helpful in poverty reduction. It is observed that poverty in Malaysia, although reduced, is still affecting the lives of many, and the government is committed to poverty eradication through various measures and policies. The poverty in Pakistan has intensified over the years due to slow economic growth. The government has devised policies and standards for poverty reduction and supporting low-income households. The study concluded that technological innovation has the potential to be directed towards addressing rural poverty and enhancing the agriculture industry; therefore, technological innovation should be encouraged. Both governments should ensure the provision of new technologies to the firms and also train the poor people to use the technology efficiently.

Keywords: *Technological Innovation, poverty, ICT sector*

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INTRODUCTION

Amerta Sen defines poverty as having an income level which is not sufficient for an individual to afford the necessities of life. Sen elaborates that poverty is a complex phenomenon that has many aspects, and personal characteristics and circumstances should be taken into account while defining the poverty level.

Technological advancements have penetrated every field of life in the last few decades, and the spread of Information and Communication Technologies (ICT) has created profound impacts worldwide (Walsham et al. 2007). ICTs are vital in economic development and structural change across the regions. The growth of technology has spillover effects in terms of better living standards and welfare improvement.

Poverty has multiple elements, including lack of nutrition, low health status, low education and lack of financial resources, unemployment, etc. Poverty eradication is complex beyond just distributing food and resources to poor communities. Instead, it necessitates collaborative efforts to strengthen local economies and empower them to work autonomously. Similarly, developing well-rounded and highly skilled individuals in regions afflicted by poverty can serve as a vital strategy for governments aiming to achieve long-term success in reducing poverty (Li et al., 2019).

Technological innovation (TI) is widely acknowledged as a crucial determinant in eradicating poverty, which constitutes the primary goal of economic growth in developing countries. Programs and strategies for the long-term eradication of

poverty should be formed by considering technology, innovation, and R&D components (Dasanayaka, 2013). Technology has always been a robust tool for fostering social and economic advancement. It may be utilized in various industries, from boosting agricultural output to producing cheap electricity, supplying clean water, and enhancing health. Information and communications technology (ICT), especially, can combat poverty by improving people's access to financial, medical, and educational resources. Surprisingly, even essential technologies may impact the fight against poverty (Prodi, 2015).

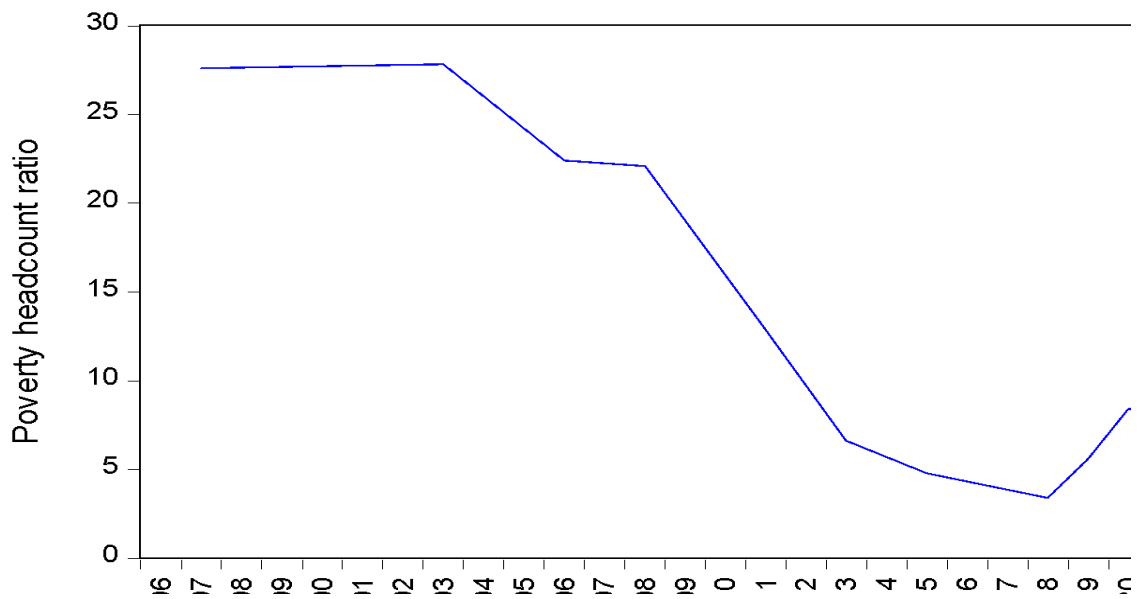
Malaysia is an upper middle-income country with a GNI per capita of US \$27,288 (PPP for 2017) in 2022. According to the revised Upper-Middle Income Class Poverty Line set by the World Bank Group at US\$6.85 (2017 PPP), Malaysia's income poverty rate is predicted to be 3.4 per cent in 2018/2019. The incidence of poverty at the national poverty line income increased to 8.4 per cent in 2020 as a result of the COVID-19 pandemic's significant effects on households in Malaysia. As assessed by the Gini index, income inequality grew slightly over the same period, rising from 40.7 percent in 2019 to 41.1 percent in 2020 (World Bank, 2023). Poverty in Malaysia decreased to 6.2 per cent in 2022 from 8.2 per cent in 2021 using the national poverty level of a monthly household income of RM 2589. This is due to the reopening and recovery of the economic sector (as shown in Figure 1).

The poverty line income (PLI) is used to assess poverty in Malaysia. It specifies the

minimal revenue or consumption required to cover a person's basic needs, including things like food, clothing, and housing, as well as necessities like transportation, cultural pursuits, and leisure time. Therefore, a household will be deemed poor if its spending or income is below the PLI

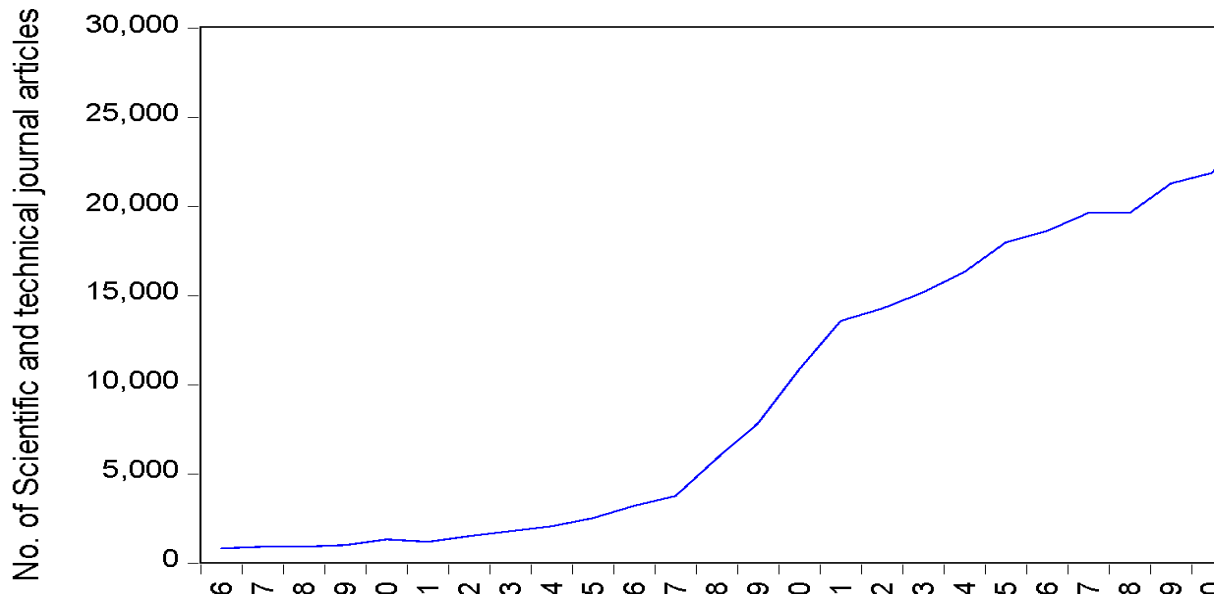
set by the government. Malaysia has experienced structural changes since its inception as it transformed from an agriculture-based economy to industrial development and is currently undergoing a transformation in the ICT field.

Figure 1: Trends of Poverty Headcount Ratio at \$6.85 a Day in Malaysia



Source: World Development Indicators

Figure 2: Trends of Technological Innovation (Scientific and Technical Journal Articles)



Source: World Development Indicators

Over the past three decades, Malaysia has effectively enhanced its competitiveness by implementing science and technology policies and undertaking substantial measures to strengthen its research and development infrastructure. The country has achieved a comparable standing with other developed countries (Akoum, 2016). As a result, Malaysia witnessed significant technological innovations in conjunction with its rapid economic growth. Malaysia experienced increasing technological innovation (as measured by the scientific and technical journal articles) from 1996 to 2021, as shown in Figure 2. Access to technology can enable people to fight against poverty.

According to the Planning Commission of Pakistan, poverty prevails more in rural than urban regions. Ashraf (2017) stated that poverty is more severe in rural areas, and the government should focus more on these regions. ADB (2022) observed that the sluggish economic growth of Pakistan is also causing poverty in the country. The government of Pakistan initiated different policies and measures to combat the poverty level in the country. According to UNDP’s Human Development Report (2023), 12.9% of the population in Pakistan is vulnerable to multidimensional poverty, while 21.9% lives below the poverty line.

Table 1: Multidimensional Poverty by Province in Pakistan

Province	MPI	Incidence	Intensity
Punjab	0.152	31.4%	48.4%

Sindh	0.231	43.1%	53.5%
Khyber Pakhtunkhawa	0.250	49.2%	50.7%
Balochistan	0.394	71.2%	55.3%

Source: Ministry of Planning

Table 1 points out that multidimensional poverty is highest in the Balochistan and Khyber Pakhtunkhawa regions of Pakistan.

Technological innovation in agriculture, fishery, and small and cottage enterprises holds significant importance because many impoverished people derive their income from these specific industries (Dasanayaka, 2013). Therefore, it is essential to analyze the role of TI in eradicating poverty in Malaysia and Pakistan

LITERATURE REVIEW

Different studies investigate the influence of TI on poverty alleviation, such as Liu & Chang (2023), which examined the impact of financial technology on poverty alleviation in Asian countries, employing data from 2010 to 2021. They showed that financial technology development was varying across Asian countries. It was evident that financial technology considerably impacted poverty eradication. Similarly, the study by Awad (2023) examined the potential ways ICT influences poverty eradication in Sub-Saharan Africa (SSA) countries using data from 2003 to 2019. Their study indicated that income and employment directly impact poverty alleviation. In the case of Malaysia, Zainal et al.,(2023) examined the determinants of poverty using data from 2009 to 2019. They showed that income inequality and the inflation rate increased the poverty headcount ratio in Malaysia. Afzal et al. (2022) examined the impact of technological penetration on poverty levels and income inequality worldwide using data from 86 nations from 2005 to 2020. The findings suggested that the influence of

technological penetration varies among countries, contingent upon their respective income levels. The association between technology and income inequality has significant implications for low-income countries.

Similarly, Ye et al. (2022) investigated the impact of financial technology on reducing poverty in China. The researchers utilized a dataset encompassing 31 provinces and examined the time frame from 2011 to 2020. They showed that financial technology plays an imperative role in effectively mitigating poverty. It was observed that the influence of financial technology on poverty mitigation was significantly more noticeable in regions with lower income levels. In their study, Lechman & Popowska (2022) analyzed the association between the deployment of ICT and the reduction of poverty in developing nations. The researchers utilized data from 40 developing countries from 1990 to 2019. The results indicated that implementing information and communication technology (ICT), enrollment rates in educational institutions, and improvements

in economic resources were imperative in eliminating poverty in developing nations. Bouabdallah & Baroudi (2022) explored the influence of FDI on poverty in Algeria from 1990 to 2019. The authors showed that FDI and inflation were positive and significant indicators of poverty rates. Conversely, trade and GDP per capita were found to harm poverty.

The research conducted by Nakara et al. (2021) investigated the impact of innovation and entrepreneurship on poverty alleviation. The researchers utilized a dataset consisting of 3373 individuals engaged in entrepreneurial activities. It was discovered that entrepreneurs who possess high levels of motivation and knowledge exhibit a robust inclination toward innovation. Likewise, integrating innovation can assume a substantial function in mitigating poverty among economically disadvantaged enterprises. Rizqulloh & Firmansyah (2021) investigated the influence of ICT on alleviating poverty throughout 34 provinces in Indonesia. The findings indicated a considerable impact of ICT on poverty eradication throughout 34 regions in Indonesia.

The study by Topalli et al. (2021) explored the influence of inflows on poverty levels in six Western Balkan nations from 2002 to 2021. The findings indicated that FDI has made a considerable contribution to the alleviation of poverty in the countries of the Western Balkans. The research additionally reveals that laws that foster economic freedom and openness inside a government are crucial for alleviating poverty. OECD (2022) study pointed out that FDI increases economic growth and promotes technological advances, which help to

reduce poverty. If foreign investment is based on the merger and acquisition of companies likely to be shut down, then FDI can help decrease unemployment and poverty (Hemmer and Hoa, 2002).

Zameer et al. (2020) investigated the influence of TI, financial development (FD), and globalization on the efficiency of poverty eradication. The analysis utilized data from China spanning from 2007 to 2018. The study showed that TI and FD directly impacted the poverty reduction efficiency in China. Nevertheless, the findings regarding the influence of globalization on the effectiveness of poverty reduction were not statistically significant.

Ruhyana & Essa (2020) examined the potential for utilizing ICT to alleviate poverty in Sumedang Regency and Bandung City. The findings suggested that ICT can diminish the probability of experiencing poverty, even when accounting for several confounding factors such as age, gender, educational attainment, family size, access to business credit, and work situation. Similarly, Yilmaz & Koyuncu (2018) examined the association between ICT and poverty across 182 nations. The researchers utilized data spanning from 2000 to 2013 for their analysis. It was determined within ICT indicators that internet usage exhibited the most significant impact on poverty. The primary effect of internet penetration among metrics related to ICT indicated that facilitating the widespread adoption of the Internet and increasing accessibility was crucial in addressing poverty and mitigating income disparity. The study conducted by Muchdie (2017) investigated the effects of technological advancements on poverty

eradication in Indonesia from 2004 to 2013. The study showed that implementing technology advancements has yielded favourable outcomes in reducing poverty. Lastly, Dhrifi (2014) examined the impact of agriculture and TI on poverty in countries within the SSA region. The author utilized data from 32 nations dated from 1990 to 2011. The findings indicated that agricultural production substantially drives economic growth and alleviates poverty. Furthermore, his study showed that technological advancements have a positive influence on poverty reduction by enhancing agricultural output and fostering economic growth.

The studies by Akobeng (2017) and Meyer & Sanusi (2019) highlighted that FDI generates employment opportunities and improves socioeconomic conditions, which helps in poverty eradication. A study such as Gohou & Soumaré, (2012) Anetor et al. (2020) and Chindengwike (2022) also identified that FDI helps in economic development through promoting investment which leads to poverty alleviation in a country.

Asian Development Bank (2022) study examined that increasing poverty in Pakistan is due to poor governance and weak economic growth. Besides, environmental degradation is also causing poverty as people living in vulnerable regions are being affected by extreme weather conditions.

The study by Ali and Ali (2018) observed that government expenditure helps reduce poverty in Pakistan, whereas budget deficit increases the poverty rate. Besides, the rise in inflation and unemployment also increases the poverty rate. Yousaf and Ali (2014) also examined that with an increase

in unemployment, poverty increases in Pakistan. Akhtar et al. (2017) highlighted that an increase in agricultural output helps to decrease poverty in Pakistan. In contrast, an increase in education enrollment is also effective in reducing poverty in the long run.

The study by Mahmood and Chaudhary (2013) pointed out that Foreign Direct Investment (FDI) in Pakistan played a key role in poverty reduction by promoting economic growth. Jamal (2006) stated that income inequality increases in Pakistan with an increase in wage gap as it generates disparities among the individuals. SBP (2007) reported that the government is focusing on improving ICT infrastructure in the country so that low-income households can have better access to markets, healthcare and government services, which will help to minimize poverty. The introduction of technology by the government of Pakistan in the labour-intensive sector is helpful as it will help increase the productivity of labour through which their income level will increase, and poverty can be mitigated (Mahmood, 2005).

According to the literature assessment, few researchers have explored the role of technological innovation in poverty eradication. In Malaysia, though, studies have yet to examine the association between technological innovation and poverty eradication. As a result, this analysis will significantly contribute to the literature by providing insights into technological innovation in alleviating poverty in Malaysia. This study also has important implications for Malaysian policymakers in designing policies

focusing on technological innovation to reduce poverty.

China, through its distance learning education initiatives, helps to mitigate poverty, and these measures are based on technology promotion in the education sector to make it possible to educate

children in far-off regions. Telesecundaria Program of Mexico benefited around 700,000 secondary school students in remote villages. ICT helped involve students and teachers through which continuation of the educational process becomes possible.

MATERIALS AND METHODS

The study used qualitative analysis to analyze the role of technology in poverty eradication in Malaysia and Pakistan. The main reason for using qualitative research is that through this approach, detailed information regarding the subject can be explored through various aspects. As poverty has different dimensions and elements which need to be investigated thoroughly, which may not be appropriate by using the quantitative analysis, the qualitative approach seems to be the better one as it helps to understand the complex

phenomena related to poverty, such as reasons of poverty, factors that affect the poverty and policies and measures to eradicate the poverty.

In the first step, the study explored the existing literature on poverty in Malaysia and Pakistan, and based on it, findings are drawn. Besides, data from national and international published sources indicates the extent of poverty in both countries. The study also overviews the policies related to poverty reduction in Malaysia and Pakistan.

RESULTS AND DISCUSSION

The key stakeholder in devising poverty reduction policies in Malaysia is the Economic Planning Unit (EPU). Other stakeholders involved in the policy formulation include public service machinery, civil society organizations, and leaders from Federal, State and local levels. The New Economic Model (2010) aims to increase the income levels of households of the bottom 40 percent. The 10th Malaysia Plan intends to decrease hard-core poverty and increase the productivity of low-income families in the country. The plan also standardized the definitions of poverty and low-income groups through which

identification of target groups becomes possible.

The Government Transformation Programme focuses on rural infrastructure development and reducing living costs to achieve the poverty reduction objective. The government of Malaysia aims to eradicate poverty by 2030 through the provision of employment prospects and career progression plans. The government also initiated measures for poverty eradication in the agriculture sector, i.e. 'Azam Tani' or Special Program for alleviating poverty in the agriculture sector. The critical focus of this program was to serve 22,500 poor and hard-core poor

during 2010-15. The government is committed to tackling poverty by spending an additional US \$ 3.2 billion to upgrade infrastructure and providing subsidies to the poor.

The government of Pakistan initiated the National Poverty Graduation Programme (NPGP) in 21 districts of four provinces. There are two key components of the programme, including Poverty Graduation and Social Mobilization and Programme Management. The first component is related to asset creation, interest-free loans and training of assets and interest-free loan beneficiaries. The second component is based on the activity of beneficiaries.

Various measures are initiated under the 'Ehsaas' program by the Ministry of Poverty Alleviation and Social Safety of Pakistan. Through its different interventions, the strategy aims to provide a safety net for around 10 million families in Pakistan, livelihood opportunities, financial assessment, financial and digital inclusion and an enabling environment for poverty reduction. Hence, the role of technology has become crucial in poverty reduction as financial and digital inclusion is only possible by promoting technological innovation in the country. For this purpose, the Ministry, with the collaboration of the World Bank, agreed to promote the digital economy for poverty reduction and economic growth in the country.. The digital solutions, including digital payments and e-commerce, will help to promote financial inclusion, which will benefit low-income households. The Ministry is implementing a total of nine high-impact initiatives in the strategic roadmap, including Benazir Kafaalat, Benazir Nashonuma, Benazir

undergraduate scholarship project, Benazir Taleemi Wazaif, National Poverty Graduation programme, interest-free loan programme, National socio-economic registry, new payment system and mechanism for inclusion of beneficiaries in Benazir Kafaalat programme.

As per GSMA, there exists a clear digital gender gap in Pakistan as ICT access among various population groups, including rural and marginalized women and girls. The initiatives under Pakistan Youth's Empowerment Programme target ICT skills development among youth and women so they can earn their living and might not fall into the poverty trap. Thompson & Dahling (2019) emphasized that engaging in gainful employment and securing sufficient income and resources constitutes a fundamental approach by which individuals can prevent or escape from poverty. On the other hand, if people remain unemployed, their well-being and welfare are affected (Pradipta & Dewi, 2020), and it is most likely that the financial burden pushes them under the poverty line.

Technological innovation impacts economic growth and poverty reduction through two channels. One is the role of the Information Communications and Technology (ICT) sector as an industry and value-added, and the second channel in which ICT enables socioeconomic development. For instance, technological innovation and advancements in the medical field have improved the facilitation in the health sector. Thus, socio-economic well-being is ensured (Muchdie, 2017). ICT infrastructure is essential to decrease poverty and hunger through generating opportunities for economic activities. Through the indirect channel, technological

innovation improves the country's economic progress by enhancing productivity and efficiency (Mohamed et al., 2022) and leads to eradicating poverty in a country.

It can be observed from the policies and measures of Malaysia and Pakistan that both countries have introduced various initiatives to eradicate poverty in their respective countries. The New Economic Model and the 10th Malaysia Plan by the government of Malaysia are vital economic reforms that aim to increase economic

development to reduce poverty. Besides, the government also intends to reduce poverty by 2030 through structural reforms. On the other hand, the government of Pakistan is also focusing on tackling the issue of poverty by initiating specific policies in targeted districts where the prevalence of poverty is far more severe. Furthermore, the government of Pakistan also introduced poverty mitigation strategies through the relevant ministry, which provides social protection to low-income households.

CONCLUSIONS AND RECOMMENDATIONS

Poverty is a multidimensional phenomenon influenced by different socioeconomic factors. Malaysia's economy has successfully diversified from being reliant on agriculture and commodities in the beginning to one now home to robust manufacturing and service sectors. The Malaysian government aimed to improve people's lives in the bottom 40 percent population, which is more susceptible to economic shocks, increasing expenditures, and growing financial obligations. It suggests that poverty is still an issue in Malaysia. Therefore, this study investigates the role of TI in eradicating poverty in Malaysia. The analysis shows that TI is a contributing factor to poverty in Malaysia. Technological innovation is imperative in reducing poverty as technology enables people to get better health, education, and transportation facilities.

Technological innovation improves the firms' efficiency and productivity and contributes to the economic prosperity of the country, thus eradicating poverty in Malaysia. The government of Malaysia

devised various policies and measures that target poverty reduction. Technological innovation has the potential to address rural poverty and enhance the agriculture industry. Therefore, incorporating technological innovations in production capacity, considering the natural environment, economic and social circumstances, and aligning with the prevailing technological proficiency of farmers can assume a crucial role. Moreover, the government of Malaysia should promote new talents that encourage technological innovation in the country.

The poverty levels have increased in Pakistan over the last few years due to poor economic growth and rising inflation, which has affected low-income households the most. Poverty is more prevalent in rural areas as compared to urban regions. Human Development Report (2023) stated that 12.9% of the population in Pakistan is vulnerable to multidimensional poverty, while 21.9% lives below the poverty line.

The government of Pakistan initiated various policies and measures for poverty eradication. National Poverty Graduation Programme and Ehsaas program by the Ministry of Poverty Alleviation and Social Safety are key policy interventions. Through these measures, the government is committed to improving the livings of low-income households and reduce poverty levels in the country.

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Both Malaysia and Pakistan governments are also making efforts to promote technological innovation in their countries, which will be helpful for poverty eradication through economic development, which in turn will boost economic activities.

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https://eco1.upm.edu.my/malaysian_journal_of_human_ecology_mjhe-3740

TINGKAH LAKU TANTRUM DALAM KALANGAN KANAK-KANAK DAN KAITANNYA DENGAN MASA SKRIN

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ABSTRACT

Tantrum adalah merujuk kepada emosi amarah kanak-kanak yang diluahkan melalui tingkah laku negatif dan tidak terkawal seperti merosakkan barang, memukul diri, marah berlebihan dan mengamuk apabila keinginan tidak dicapai. Usia kemuncak tingkah laku tantrum adalah pada peringkat kanak-kanak bertatih yang berumur di antara satu hingga tiga tahun. Tantrum yang tidak terkawal akan menyebabkan kanak-kanak mengalami masalah untuk mengurus emosi dengan baik dan menjejaskan perkembangan psikososial serta kesejahteraan hidup sepanjang proses perkembangan mereka. Justeru, kertas konsep ini akan mengupas pengaruh masa skrin terhadap tingkah laku tantrum dalam kalangan kanak-kanak bertatih. Masa skrin yang berlebihan akan menyebabkan berlakunya perubahan emosi serta tingkah laku kanak-kanak bertatih. Secara keseluruhannya, kertas konsep ini diharap dapat menyumbang kepada literatur kajian berkaitan pengaruh masa skrin terhadap tingkah laku tantrum kanak-kanak peringkat bertatih.

Kata kunci: *Tantrum, Kanak-kanak Bertatih, Masa Skrin, Kertas Konsep*

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ABSTRACT

A tantrum refers to a child's expression of anger through negative and uncontrollable behavior such as damaging things, self-hitting, excessive anger, and throwing fits when their desires are not fulfilled. The peak age for tantrum behavior is during the toddler stage, typically between the ages of one to three years old. Uncontrolled tantrums can lead to difficulties in emotional regulation and negatively impact their psychosocial development and overall well-being throughout their developmental process. Therefore, this concept paper will delve into the influence of screen time on tantrum behavior among toddlers. Excessive screen time can lead to emotional changes and behavioral shifts in toddlers. Overall, this concept paper aims to contribute to the literature on the influence of screen time on tantrum behavior in toddlers.

Keywords: *Tantrums, Toddlers, Screen Time, Concept Paper*

PENGENALAN

Tantrum adalah ledakan emosi yang berlaku apabila keinginan seseorang itu tidak dipenuhi (Andreas, 2021). Tantrum juga adalah simptom awal bagi masalah gangguan tingkah laku yang mana melibatkan perkembangan tingkah laku dan emosi individu (Van den akker, Hoffenaar & Overbeek, 2022). Kajian lepas menunjukkan bahawa sebanyak 83.7% daripada 1490 kanak-kanak yang berumur di bawah lima tahun menunjukkan tingkah laku tantrum dan sebanyak 4.4% mengalami tantrum setiap hari. Tantrum yang berlaku setiap hari boleh menyebabkan kanak-kanak terperangkap dengan emosi negatif (Van den akker, Hoffenaar & Overbeek, 2022) dan boleh mengganggu ketenteraman individu di sekeliling kanak-kanak (Sisterhen & Wy, 2022).

Walau bagaimanapun, tantrum dilihat sebagai sesuatu keadaan yang normal khususnya dalam kalangan kanak-kanak peringkat bertatih iaitu kanak-kanak yang berumur di antara satu hingga tiga tahun. Ini kerana, kanak-kanak pada peringkat ini mempunyai kesukaran untuk berkomunikasi dan mengurus emosi dengan baik. Oleh disebabkan itu mereka

akan cenderung untuk meluahkan emosi mereka dengan menjerit, menangis, memukul, merunggut dan sebagainya (Bani Salameh et al., 2021).

Terdapat pelbagai faktor yang boleh menyebabkan berlakunya tantrum dalam kalangan kanak-kanak peringkat bertatih dan salah satu daripadanya adalah masa skrin. Masa skrin adalah masa yang digunakan oleh seseorang individu di hadapan layar skrin seperti telefon pintar, komputer riba, televisyen dan media digital yang lain (Pratiwi, 2021). Berdasarkan saranan *Who Health Organization* (WHO), masa skrin bagi kanak-kanak yang berumur di antara dua hingga lima tahun tidak boleh melebihi satu jam dalam sehari. Walau bagaimanapun kajian lepas mencatatkan sebanyak 52.2% kanak-kanak yang berumur lima tahun ke bawah di Malaysia meluangkan masa di hadapan skrin melebihi dua jam dalam sehari (Raj et al., 2022).

Penggunaan masa skrin kanak-kanak yang melebihi saranan yang telah ditetapkan dikategorikan sebagai ketagihan masa skrin (Raj et al., 2022). Menurut Siwi dan rakan-rakan (2019) tahap ketagihan masa skrin

yang tinggi akan menyebabkan kanak-kanak mengalami tantrum apabila keinginan mereka untuk menggunakan gajet dihalang. Selain itu, ketagihan masa skrin juga akan mengganggu kefungsiiaan otak tingkah laku perkembangan bahasa dan sosial kanak-kanak (Astuti et al., 2021; Siwi et al., 2019). Pengkaji mendapati

bahawa kajian mengenai masa skrin yang melibatkan kanak-kanak khususnya kanak-kanak peringkat bertatih kurang diberi perhatian. Justeru, kertas konsep ini bertujuan untuk mengupas pengaruh masa skrin terhadap tingkah laku tantrum dalam kalangan kanak-kanak peringkat bertatih.

KAJIAN LITERATUR

Definisi dan Perspektif Tantrum

Tantrum adalah salah satu masalah dalam perkembangan emosi kanak-kanak. Walau bagaimanapun, tantrum dilihat sebagai sesuatu tingkah laku yang biasa dan normal khususnya dalam kalangan kanak-kanak taska dan prasekolah (Manning et al., 2019; Sarvananthan, 2018). Tantrum merujuk kepada ledakan kemarahan secara tiba-tiba atau luahan emosi yang dilakukan oleh kanak-kanak yang berusia di antara 18 bulan hingga tiga tahun (Adisti, 2022; Gasril & Yarnita, 2021; Sarvananthan, 2018). Tantrum juga berlaku dalam tempoh yang singkat dengan perlakuan seperti menangis, menjerit, menendang, memukul (Sarvananthan, 2018), berguling di lantai, mengamuk dan lain-lain (Adisti, 2022; Gasril & Yarnita, 2021). Menurut Zakiyah (2017), tantrum adalah reaksi marah yang ditunjukkan oleh kanak-kanak yang diluahkan melalui tingkah laku tidak terkawal dan negatif seperti memaling barang, menghentakkan kepala di dinding, dan menghentakkan kaki (Zakiyah, 2017). Kemuncak bagi tingkah laku tantrum adalah semasa kanak-kanak berumur di antara dua hingga empat tahun (Adisti, 2022) dan ini turut berlaku kepada kanak-kanak berusia di antara lima dan enam tahun, namun tantrum akan semakin berkurangan seiring dengan peningkatan

usia (Gasril & Yarnita, 2021). Antara faktor yang menyebabkan terjadinya tantrum dalam kalangan kanak-kanak adalah kerana mereka tidak dapat mengurus kemarahan dengan baik apabila keinginan tidak dipenuhi (Sravanti et al., 2018; Zakiyah, 2017). Keadaan persekitaran kanak-kanak seperti keletihan, lapar, sakit dan bosan juga akan menyebabkan kanak-kanak tantrum (Sravanti et al., 2018, Syamsuddin, 2013). Menurut pandangan Sisterhen dan Wy (2022), tantrum juga berlaku disebabkan sifat kanak-kanak yang inginkan perhatian daripada ibu bapa. Tambahan mereka lagi, kanak-kanak peringkat awal tidak dapat mengekspresikan emosi dengan baik dan masih tidak matang dalam menguruskan keinginan mereka. Ini jelas menunjukkan bahawa tantrum kanak-kanak dipengaruhi oleh dua komponen iaitu emosi dan tingkah laku (Sravanti et al., 2018). Tantrum yang ditunjukkan melalui emosi dan tingkah laku berlaku sekali sehari yang mana masa yang diambil adalah selama tiga minit bagi kanak-kanak berumur satu tahun setengah hingga lima tahun (Sisterhen & Wy, 2022).

Berdasarkan pendapat Gasril dan Yarnita (2021), tantrum yang tidak terkawal boleh membahayakan keselamatan mereka terutamanya apabila berguling-guling di

lantai yang keras. Kanak-kanak akan bertindak lebih agresif jika mereka sukar menenangkan diri dan emosi mereka dibiarkan tanpa kawalan (Zakiah, 2017). Kanak-kanak juga cenderung untuk menahan nafas sewaktu tantrum dan keadaan ini dilihat sangat berbahaya dan boleh menjejaskan kesihatan kanak-kanak terutamanya kanak-kanak yang berumur di bawah lima tahun (Sisterhen & Wy, 2022).

Definisi dan Perspektif Masa Skrin

Masa skrin merujuk kepada jumlah masa yang digunakan oleh individu untuk melakukan aktiviti pasif atau penggunaan media digital yang berasaskan teknologi canggih seperti telefon pintar, televisyen, internet, komputer, dan lain-lain (Mansor, 2021; Pratiwi, 2021). Penggunaan media digital juga didapati semakin berleluasa terutamanya dalam kalangan kanak-kanak. Ini berikutan terdapat pelbagai aplikasi yang berunsurkan pendidikan telah dicipta untuk kanak-kanak yang berumur di bawah lima tahun (Hiniker et al., 2016). Pada Mac 2020, seluruh dunia telah dilanda Pandemik Covid-19 dan Malaysia tidak terkecuali dalam melaksanakan Perintah Kawalan Pergerakan (PKP) (Suruhanjaya Komunikasi dan Multimedia Malaysia, 2020). Kesan daripada pandemik tersebut, masa dan aktiviti harian yang berlebihan di rumah telah digunakan untuk melayari internet. Ini telah menyebabkan kadar penggunaan internet dan masa skrin individu meningkat secara mendadak. Ibu bapa yang membenarkan anak-anak menggunakan gajet bukan sahaja menganggap gajet sebagai alat hiburan atau permainan tetapi juga untuk membantu memudahkan urusan penjagaan anak semasa mereka melakukan pekerjaan harian (Mansor & Wahab, 2021).

Kanak-kanak tantrum yang berisiko tinggi perlu mendapatkan rawatan daripada pakar kesihatan sekiranya mereka mengalami tantrum melebihi 25 minit (Sisterhen & Wy, 2022). Kajian lepas menunjukkan bahawa kanak-kanak yang mengalami tantrum boleh membawa kepada pelbagai masalah tingkah laku seperti hiperaktif, menghisap jari, kesukaran tidur dan lain-lain lagi (Sravanti et al., 2018).

American Academy of Child and Adolescent Psychiatry (2020) telah menyarankan masa skrin kanak-kanak yang berumur di antara dua hingga lima tahun ke bawah perlu dihadkan kepada hanya satu jam setiap hari dan tiga jam semasa hujung minggu. Saranan ini telah dikeluarkan bagi memastikan kanak-kanak tidak terdedah dengan skrin secara berlebihan. Namun begitu, penggunaan peranti digital dalam kalangan kanak-kanak pada telah melepasi saranan yang telah ditetapkan. Berdasarkan hasil kajian John dan rakan-rakan (2021), sebanyak 89.4% kanak-kanak menggunakan gajet secara berlebihan iaitu dengan kadar purata selama 2.14 jam dalam sehari. Media skrin yang sering digunakan adalah televisyen dan komputer yang bertujuan untuk menonton program kartun dan bermain permainan digital. Kajian lain pula mendapati kanak-kanak yang berumur di antara dua hingga lima tahun telah mencatat masa skrin yang lebih lama iaitu selama empat jam sehari (Ofly et al., 2021). Kajian di Malaysia menunjukkan sebanyak 68.5% kanak-kanak menggunakan telefon pintar berbanding 47.5% menggunakan televisyen bagi aktiviti yang melibatkan skrin (Mansor & Wahab, 2021).

Namun demikian, tidak dapat dinafikan terdapat kebaikan masa skrin dalam

merangsang perkembangan kanak-kanak. Antara kebaikan skrin yang ditonton oleh kanak-kanak adalah dapat membantu meningkatkan nilai empati, mewujudkan kreativiti, menyelesaikan masalah dan sebagai hiburan sambil belajar (Hiniker, 2016). Hal ini tidak dapat disangkal kerana kanak-kanak fitrahnya adalah berhibur sambil bermain dan sememangnya mereka mempelajari sesuatu melalui bermain. Masa skrin yang tidak berlebihan juga boleh memberi kesan positif kepada kanak-

Perkaitan antara Masa Skrin dan Tantrum Kanak-kanak

Dewasa ini, kanak-kanak lebih banyak meluangkan masa mereka di hadapan skrin seperti televisyen, telefon pintar, tablet, dan permainan video. Situasi ini telah mengundang kebimbangan masyarakat khususnya ibu bapa kerana masa skrin yang berlebihan akan memberi kesan ke atas perkembangan dan kesejahteraan kanak-kanak. Kajian lepas mendapati masa skrin yang berlebihan mendatangkan kemudaratan kepada perkembangan kanak-kanak dan kesihatan tubuh badan mereka (Guerrero et al., 2019). Kajian lepas juga menyatakan bahawa penggunaan masa skrin yang berlebihan akan memberi kesan ke atas tantrum kanak-kanak yang secara tidak langsung boleh mengganggu perkembangan fizikal, kognitif dan sosial serta menjejaskan kesihatan mata (Siwi et al., 2019).

Menurut Wilkinson dan rakan-rakan (2021), kanak-kanak yang berumur di bawah dua tahun kebiasaanya akan didedahkan dengan bunyi latar skrin yang mana kanak-kanak hanya melirik dan tidak memberikan tumpuan yang sepenuhnya. Tambahan mereka lagi, kanak-kanak tidak dapat memproses skrin yang berbentuk dua dimensi kerana cabaran untuk memahami dan mempelajari sesuatu yang bukan dalam

kanak seperti membantu mereka untuk meningkatkan perkembangan bahasa, pengetahuan, dan berpeluang mempelajari nilai budaya dari negara lain (Astuti et al., 2021). Walau bagaimanapun, masa skrin yang berlebihan boleh memberi impak negatif kepada kanak-kanak seperti menghadapi masalah dalam masalah pembelajaran, percakapan, sosial dan peningkatan berat badan (Duch et al., 2013).

kehidupan sebenar. Oleh itu, pendedahan skrin kepada kanak-kanak di bawah dua tahun yang dianggap sebagai salah satu medium pendidikan tidak dapat membantu perkembangan mereka kerana masa skrin tersebut bersifat pasif. Kanak-kanak yang terdedah pada masa skrin dalam tempoh masa yang lama cenderung untuk bersikap cerewet, kurang kemampuan untuk berfikir secara kreatif, sukar menyelesaikan masalah dan mengalami masalah perkembangan bahasa dan masalah sosial (Wilkinson et al., 2021). Keadaan ini berlaku kerana kanak-kanak kurang interaksi secara dua hala bersama ibu bapa dan individu di sekeliling mereka. Menurut Adlil Rajiah (2023), kanak-kanak yang sering didedahkan dengan skrin didapati sukar untuk melakukan aktiviti berbentuk aman dan kurang penglibatan pergerakan fizikal dalam persekitaran yang sunyi atau statik kerana stimulasi bunyi yang berlebihan. Mereka juga mengalami masalah untuk memberikan tumpuan mengurus emosi dan kurang kemampuan untuk berfikiran secara kreatif sewaktu melakukan sesuatu aktiviti. Ini menyebabkan kanak-kanak lebih beremosi dan marah apabila mereka diminta untuk melakukan aktiviti yang tidak disukai.

Kajian mengenai hubungan antara masa skrin dan bebanan emosi dalam kalangan kanak-kanak berumur tiga tahun di Brunei telah dijalankan oleh Ooi dan rakan-rakan (2022). Kajian tersebut melibatkan seramai 165 orang ibu bapa yang mempunyai anak yang berumur tiga tahun. Hasil kajian menunjukkan sebanyak 72.7% kanak-kanak meluangkan lebih daripada dua hingga empat jam setiap hari untuk melayari masa skrin. Hasil kajian juga menunjukkan bahawa terdapat hubungan yang signifikan antara masa skrin dan bebanan emosi kanak-kanak. Kanak-kanak yang mengalami bebanan emosi yang berlebihan tidak mampu untuk mengawal tingkah laku tantrum apabila masa skrin mereka disekat. Ini menjelaskan bahawa semakin lama tempoh masa skrin yang digunakan oleh kanak-kanak, maka semakin tinggi tahap bebanan emosi yang mereka alami.

Seterusnya, Setyarini dan rakan-rakan (2023) telah mengkaji hubungan kesan masa skrin terhadap potensi tantrum dan perkembangan anak peringkat awal di Indonesia. Hasil kajian mendapati terdapat hubungan yang signifikan antara masa skrin dengan tantrum kanak-kanak. Ini menunjukkan bahawa semakin lama masa digunakan untuk berhadapan dengan skrin maka semakin tinggi tahap tantrum kanak-kanak. Hasil kajian tersebut juga menunjukkan bahawa pendedahan pada

skrin melebihi satu jam dalam sehari akan mengakibatkan kanak-kanak tidak mampu memproses emosi dengan baik dan cenderung untuk melemparkan kemarahan apabila diminta untuk berhenti menggunakan teknologi pintar tersebut.

Ibu bapa pada zaman kini beranggapan bahawa anak hanya akan diam sekiranya mereka diberikan gajet (Aulia et al., 2022). Oleh disebabkan itu, ibu bapa memberikan anak mereka gajet sewaktu makan, sebelum tidur dan semasa keluar berjalan. Keadaan ini secara tidak langsung akan membuatkan kanak-kanak lebih suka untuk menghabiskan masa mereka di hadapan skrin daripada melakukan aktiviti lain. Kanak-kanak akan menunjukkan tantrum jika masa skrin yang selalu dibenarkan oleh ibu bapa mereka dihadkan dan gajet mereka dirampas tanpa diberikan penjelasan (Siwi et al., 2019). Kanak-kanak yang tidak dapat mengawal emosi dan marah apabila masa skrin mereka diganggu akan menjejaskan perkembangan emosi dan sosial mereka (Aulia et al., 2022). Kajian lepas juga mendapati kanak-kanak yang terdedah kepada skrin secara berlebihan adalah berisiko tinggi untuk menunjukkan tingkah laku tantrum (Aulia et al., 2022). Tantrum yang disebabkan oleh ketagihan masa skrin akan memberi kesan jangka panjang kepada pertumbuhan dan perkembangan kanak-kanak sehingga mereka dewasa kelak.

Teori Kognitif Sosial (Bandura, 1989)

Teori kognitif sosial yang dikemukakan oleh Bandura (1989) menekankan bahawa perkembangan seseorang individu itu dipengaruhi oleh faktor individu dan persekitaran (Abdullah, 2019; Astuti et al., 2021). Menurut Abdullah (2019), teori

ini juga mengemukakan sebab dan akibat yang berlaku secara timbal balik yang melibatkan interaksi antara tingkah laku, kognisi, personaliti dan persekitaran dalam tingkah laku individu. Terdapat empat prinsip utama dalam proses pembelajaran

iaitu pemerhatian, mengingat, reproduksi dan motivasi. Bagi perkembangan kanak-kanak peringkat awal, pemerhatian dan peniruan model dengan gaya yang dilihat adalah lebih cepat. Hal ini dibuktikan bahawa kanak-kanak belajar secara langsung melalui persekitaran dan meniru perilaku model yang terdekat dengan mereka.

Selain itu, Astuti dan rakan-rakan (2021) juga menyatakan bahawa individu boleh memilih dan mencipta suasana yang diinginkan melalui tingkah laku mereka. Ini

dapat dilihat melalui personaliti kanak-kanak peringkat awal adalah secara semula jadi akan meluahkan kemarahan dan kecewa melalui tingkah laku tantrum dan ini mempengaruhi tingkah laku dan persekitaran kanak-kanak. Tambahan lagi, mereka akan meniru gaya model tersebut melalui tontonan video, cerita, gambar dan audio daripada percakapan individu lain (Mat & Zain, 2022). Justeru, Teori Kognitif Sosial Bandura memberi kefahaman tentang kepentingan pengaruh persekitaran iaitu masa skrin dalam tingkah laku tantrum kanak-kanak.

KESIMPULAN

Sebagai kesimpulannya, kertas konsep ini telah membincangkan mengenai pengaruh masa skrin terhadap tingkah laku tantrum dalam kalangan kanak-kanak bertatih. Tingkah laku tantrum yang tidak terkawal dan berpanjangan dalam kehidupan seharian kanak-kanak pada peringkat ini bukan sahaja meningkatkan tingkah laku tantrum malah akan menjejaskan perkembangan fizikal, kognitif, emosi dan sosial mereka. Tantrum dilihat sebagai tingkah laku yang agresif apabila kanak-kanak mula membahayakan dan mencederakan diri sendiri (Van den akker,

Hoffenaar & Overbeek, 2022). Oleh itu, perhatian dan bantuan perlu diberikan kepada kanak-kanak yang mengalami tantrum bagi mengelak dari berlakunya pelbagai masalah yang lebih serius. Oleh demikian, kertas konsep ini diharapkan dapat mengisi kelompongan kajian lepas mengenai pengaruh masa skrin terhadap tingkah laku tantrum dalam kalangan kanak-kanak bertatih. Kesimpulan ibu bapa memainkan peranan yang sangat penting dalam memantau penggunaan skrin anak untuk mengelakkan dari berlakunya masalah tantrum.

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VALIDATING KAUFMAN DOMAINS OF CREATIVITY SCALE (K-DOCS) FOR CHINESE SENIOR HIGH SCHOOL STUDENTS

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ABSTRACT

This study aims to validate the Kaufman Domains of Creativity Scale (K-DOCS) for use among Chinese high school students. By using a stratified sampling technique, 800 students were selected from three high schools in Shenyang, Liaoning Province, China. The K-DOCS consisted of five domains: Self/Everyday, Scholarly, Performance (writing and music), Mechanical/Scientific, and Artistic. The results of the study showed good reliability and validity of the revised scale. Exploratory factor analysis and confirmatory factor analysis confirmed that the revised scale had five dimensions, explaining 54.911% of the variance. The revised scale had good internal reliability, split-half reliability, and test-retest reliability. For each of the five dimensions, the Cronbach α values were 0.839, 0.737, 0.817, 0.794 and 0.757; the estimates of split-half reliability were 0.793, 0.761, 0.782, 0.767 and 0.771; the estimates of test-retest reliability were 0.964, 0.982, 0.996, 0.981, and 0.982. Moreover, the CFA results yielded a good model fit for the revised scale ($\chi^2/df = 2.048$, CFI = 0.904, RMSEA = 0.051, NNFI = 0.830, IFI = 0.905, TLI = 0.891). As the results were also consistent with peers' ratings of highly creative students, it also showed good calibration validity.

Keywords: Kaufman Domains of Creativity Scale, Scale Revision, Reliability and Validity, Chinese Senior High School.

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INTRODUCTION

The concept of creativity has been difficult to define, and due to different research perspectives, researchers have defined creativity from the perspectives of product, process, personal traits, and environment, which has led to the lack of a universally accepted definition of creativity (Walia, 2019). Furthermore, the debate of whether creativity is domain-general or domain-specific has been continuously conducted among researchers, and both perspectives are supported by empirical studies (Hong and Milgram, 2010; Plucker and Beghetto, 2004; Schoevers et al., 2020; Teng et al., 2022). Domain-general theories hold that there is a general construct of creativity that can be applied to any domain and that with this ability one can produce creative achievements in any domain one works in (e.g., Barbot and Tinio, 2015; Chen et al., 2006; Qian et al., 2019). Contrarily, domain-specific theories maintain that creativity exists in a particular domain and is difficult to be converted to other domains (e.g., Baer, 2012; Boccia et al., 2015; Lunke and Meier, 2016; Simonton, 2009). In recent years, there has been a tendency to merge the two perspectives (Long et al., 2022), which leads to the model of blind variation and selective retention that functions as a theoretical basis for understanding creativity and discovery (Simonton, 2011), where change, selection, and retention are conceptualized as cross-domain in nature. Specifically, variation is defined as the process of continually generating new and particular ideas, selection is considered as the choice made after comparing and

contrasting particular ideas, and retention being the method used in the retention selection process (Simonton, 2011).

Plucker et al. (2021) classified and summarized the creativity measurements in the past decades. It shows that no matter what kind of measurement tools researchers use, the construct of creativity is mainly reflected in Divergent Thinking. However, Japanese researchers, A. Horikami and K. Takahashi propose a new concept of creativity, the Tripartite Thinking Model of Creativity (TTMC). It defined creativity as an interaction between three modes of thinking: logical, critical, and lateral (A. Horikami & K. Takahashi, 2022).

Past theories and practices have found that general tests of creative thinking are not adequate to assess a person's ability and level of creativity (Kaufman & Baer, 2004; Baer & Kaufman, 2005). Creativity exists in different areas, so different types of creativity measurement and assessment tools have been created. This study is based primarily on Kaufman's research in the area of creativity and is a revision of the Chinese version of the Kaufman Domains of Creativity Scale (K-DOCS). This scale has demonstrated good reliability and validity in the United States with a group of 2,318 college students as subjects. Similar tests have also been administered to fourth graders in elementary schools, but there was no significant correlation between self and other-rated results (Kaufman, Evans & Baer, 2010). A study from Poland (N=500) demonstrates that K-DOCS is a reliable and valid measure for accessing

domain-specific creativity (McKay, A. S., Karwowski, M., & Kaufman, J. C., 2017). Therefore, this study was conducted to validate the applicability of the Creativity Domain Scale for a group of high school students, to enrich the

cross-cultural theory of the creativity domain through empirical research and help students, schools, and parents to gain a more comprehensive understanding of students' creativity profiles in different domains.

Related works

Creativity and Domains of Creativity

Creativity is a highly complex concept, and its definition varies due to different research perspectives. Mackinnon proposed an operational definition of creativity from four perspectives: personality, process, context, and product (Mackinnon, 1961). Amabile suggests that it is best not to consider creativity as a personality trait or general ability but as a concept composed of certain personality traits, cognitive abilities, and social environments. In China, the widely accepted concept of creativity is proposed by Professor Zhu Zhixian and Professor Lin Chongde, which defines creativity as an intellectual quality that, based on certain purposes, utilizes all known information to generate novel, unique, and socially valuable products (Lin C., 2009).

J.C. Kaufman and Ron Beghetto introduced the 4C model of creativity.

Big-C refers to genius-level creativity, which is possessed by a small number of outstanding individuals. Little-c represents everyday creativity, and mini-c represents learning creativity. Everyone has these two types of creativity. Pro-c refers to expert-level creativity, and after going through the learning phase of mini-c, some individuals can progress to the pro-c stage and become experts.

An increasing number of empirical studies have found that creativity can be classified into general and specific domains. The Creativity Playground Theory (Kaufman & Baer, 2004; Baer & Kaufman, 2005) and the Domain-Specific Developmental Model of Creativity (Plucker & Beghetto, 2004; Plucker & Zabelina, 2009) both suggest that creativity exists in both general and specific domain.

The present study on creativity assessment tools

Currently, there are relatively few measurement tools for domain-specific creativity in China. The commonly used ones include the Scientific Creativity Test (Hu Weiping & Adey.P., 2002) and the Chinese Creativity Test (Hu Weiping, Hu Gangyao & Han Qin, 2006). Additionally,

measurement of creative products using consensus assessment techniques is also employed, which requires high demands on evaluation methods. These existing tools typically objectively measure creative performance in specific domains. In 2015, Tsinghua University conducted

an applicability validation of the Kaufman Domains of Creativity Scale (K-DOCS) specifically for a sample of college students. The sample consisted of 441 students from a prestigious university in Beijing. The results showed good internal consistency reliability for the revised version of K-DOCS, ranging from 0.80 to 0.91 across the five dimensions. The content validity of the scale was evaluated through expert ratings, and structural validity was assessed using confirmatory factor analysis. The revised model demonstrated good fit indices, with a CFI of 0.93 and RMSEA of 0.039. In this study, the Creativity Self-Efficacy Scale was selected as a criterion measure, and the correlation coefficients with K-DOCS ranged from 0.30 to 0.46 (Tu, C., & Fan, F., 2015). Creative thinking is considered the core of creativity (Guilford, 1966). It is typically inferred by measuring the level of creative thinking, and various tests are used for this purpose. Divergent thinking tasks, such as the Torrance Tests of Creative Thinking (TTCT), the Southern California Creativity Test (SOI), the Wallach-Kogan Tests, and the Chicago Creativity Test, are commonly used to measure creative thinking ability. Application-based tests assess the application of creativity in specific domains, such as art, music, and science. For example, the Snijders-Oomen Nonverbal Intelligence Test (SON-R) developed by the University of Munich is an application-based test that measures divergent thinking in specific domains. Sternberg primarily focuses on measuring and assessing the aspects of creativity that are highly correlated with intelligence. S. Suherman and T. Vidakovich did a

systematic review of assessment of mathematical creative thinking (MCT) and found that additional MCT measurement tools are necessary for secondary and high school levels. MCT is a domain-specific assessment tool to help identify the ability of mathematical thinking of a student. It's widely used for Programme International Student Assessment (S. Suherman & T. Vidakovich, 2022).

Based on the general and specific nature of creativity, Kaufman and Baer developed the Creativity Scale for Diverse Domains (CSDD) in 2004, which identifies nine domains of creativity: science, interpersonal relationships, writing, art, interpersonal communication, solving personal problems, mathematics, crafts, and physical movement. In 2012, Kaufman expanded the measurement tools based on previous research and introduced the Creativity Domain Questionnaire (CDQ), consisting of 56 items. This led to the development of the Kaufman Domains of Creativity Scale (K-DOCS), which includes 50 items and measures creativity in five major domains: self/everyday creativity, academic creativity, performance creativity (writing and music), mechanical/scientific creativity, and artistic creativity. In a sample of 2318 individuals, the internal consistency reliability for the five dimensions was 0.86, 0.86, 0.87, 0.86, and 0.83, respectively. In a retesting sample of 132 individuals, the reliability coefficients for the five dimensions were 0.80, 0.76, 0.86, 0.78, and 0.81, respectively.

METHODS

Participants

Three types of sample were involved in the validation process. In the first sampling, a number of 295 participants from seven classes of School A were involved for a focus-group interview. In each class, the students were asked to recommend three “most creative” classmates by voting. A total of 21 students, three from each class, constituted Sample A in this study and were determined as criterion in the study. The second sampling was conducted by cluster sampling among 829 students from one Band 1 and two Band 2 secondary schools. After removing missing data, a sum of 29 participants were excluded from the sample, and 800

students were included in the sample with a recovery rate of 96.5%. The 800 responses were further divided into two samples (Samples B and C) evenly according to stratified sampling method, each with 400 participants. Sample B was for item analysis and exploratory factor analysis (EFA), and sample C was for confirmatory factor analysis (CFA) and validation. Additionally, all the samples were involved in the reliability analysis (estimated through internal reliability and split-half reliability). The third sampling was conducted 6 weeks later for estimating test-retest reliability. A total of 37 participants were randomly selected from the students who consented to participate in the follow-up study.

Instrument

The *K-DOCS* scale, designed by Kaufman (2012), consists of 50 items that measure creativity across five domains: self/everyday creativity, scholarly creativity, performance creativity (including writing and music), mechanical/scientific creativity, and artistic creativity. Participants were asked to rate their level of creativity using a five-point Likert scale (“1” = much less creative and “5” much more creative).

This scale was initially established based on a sample of 2,318 college students from a public university in the United States. The internal consistency reliability of the scale was found to be 0.86, 0.86, 0.87, 0.86, and 0.83 for each of the five domains, respectively. A two-week test-retest reliability was conducted on 132 participants and the results were 0.86, 0.76, 0.86, 0.78, and 0.81, respectively, for each of the domains.

Procedures

After a thorough exchange with Kaufman, the creator of the *K-DOCS* scale, the authors were granted permission to adapt the scale for use in creativity research among high school students. The adaptation process was carried out by a

team of 10 researchers. The first step involved two educational psychologists who translated the original scale verbatim. Then, a professor from the psychology department and one from the English language department were

consulted to review and revise the translated items for language expression and to minimize potential misunderstandings due to cultural differences. The next step involved a professional translator who performed backward translation, followed by further modifications to ensure semantic equivalence with the English version. Finally, five master students in educational psychology finalized the revision of the scale by checking each item and ensuring that the wording was as close as possible to the context of Chinese high schools.

Both individual and focus-group interviews were conducted to further contextualize the scale before data collection. A total of 35 high school students were invited randomly for individual interviews to discuss the translated items and remove those that do not align with the actual situation of high school students. For example, the item “I

can find some interesting things to do when I don't have money.” was eliminated from the scale as most students reported that their parents did not allow them to have pocket money. Seven classes from School A, with a total of 295 students, were involved in the focus-group interview. Each class voted on three of the most creative students, totally 21 students to verify the criterion validity.

The data collection took place in three high schools (one Band 1 and two Band 2 schools) in one province in China. A total of 829 students from Year 10 to Year 12 in 22 classes participated in the validation process. The Chinese version of the *K-DOCS* scale was administered with the guidance of their course teacher and collected after 15 minutes in class. Statistical procedures such as exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and difference testing were performed using SPSS and Amos.

RESULTS

Item analysis

An item analysis was conducted using the critical ratio method. The total scores of each subject were calculated and arranged in ascending order to distinguish the top 27% (high-performance group) and the bottom 27% (low-performance group). The difference between the high-

performance and low-performance groups was analyzed using an independent samples t-test. The results revealed that there were statistically significant differences between the two groups for each item on the scale, indicating a good degree of discrimination among the items.

Table 1. Results of item analysis

item	<i>t</i> -value	<i>df</i>	item	<i>t</i> -value	<i>df</i>
Q2	-8.956***	217	Q27	-11.807***	217
Q3	-9.083***	217	Q28	-6.009***	217
Q4	-6.893***	217	Q29	-8.579***	217
Q5	-7.281***	217	Q30	-9.648***	217
Q6	-10.678***	217	Q31	-12.607***	217
Q7	-9.023***	217	Q32	-10.518***	217
Q8	-9.163***	217	Q33	-10.037***	217
Q9	-4.742***	217	Q34	-13.420***	217
Q10	-6.817***	217	Q35	-8.517***	217
Q11	-10.232***	217	Q36	-8.917***	217
Q12	-14.564***	217	Q37	-7.378***	217
Q13	-11.036***	217	Q38	-11.242***	217
Q14	-5.908***	217	Q39	-6.216***	217
Q15	-7.639***	217	Q40	-11.681***	217
Q16	-8.713***	217	Q41	-8.404***	217
Q17	-11.091***	217	Q42	-12.173***	217
Q18	-13.132***	217	Q43	-12.691***	217
Q19	-6.172***	217	Q44	-9.750***	217
Q20	-6.937***	217	Q45	-10.203***	217
Q21	-5.305***	217	Q46	-9.611***	217
Q22	-11.157***	217	Q47	-11.285***	217
Q23	-11.087***	217	Q48	-12.579***	217
Q24	-7.288***	217	Q49	-8.744***	217
Q25	-10.117***	217	Q50	-10.548***	217
Q26	-8.143***	217			

Note. *df* = degree of freedom; *** *p* < 0.001

Results of EFA

The procedure of EFA was conducted to examine the factor structure of creativity measured by the *K-DOCS* scale. The EFA was performed on Sample B (*n* = 400) using the principal component analysis method, and varimax rotation was applied to maximize the orthogonality of the factors. Q1 had been eliminated based on the results of the individual interviews, leaving only 49 items (Q2 to Q50) to be analyzed through EFA.

The procedure of EFA led to 11 factors

in total, of which five factors were completely consistent with Kaufman’s five factors, and the other factors consisting of less than four items or factor loadings less than 0.4 were removed from the analysis, leaving 29 items for further analysis. The KMO (Kaiser-Meyer-Olkin) measure of sampling adequacy was 0.899, which indicated that the sample was appropriate for factor analysis. The Bartlett’s test of sphericity was significant, (approximated chi-square = 4445.173, *df* = 406, *p* < 0.001),

indicating that the correlations among the items were not due to chance. The results of the EFA revealed that the five factors

accounted for 54.911% of the total variance (Table 2).

Table 2. Total variances explained

Components	Extraction sums of squared loadings		
	Total	% of variance	Cumulative %
1	8.062	27.801	27.801
2	2.667	9.198	36.999
3	2.172	7.489	44.488
4	1.672	5.764	50.252
5	1.351	4.659	54.911

The final matrix of rotated components is presented in Table 3. The construct measured by the *K- DOCS* scale was revealed to have five dimensions among the Chinese high school students, consisting of 10, 10, 6, 6, and 3 items respectively. It is noteworthy that the five dimensions were fully consistent with Kaufman’s five factors in the original scale.

Items	Components				
	F1	F2	F3	F4	F5
Q31	0.726				
Q11	0.685				
Q6	0.677				
Q22	0.675				
Q26	0.618				
Q17	0.615				
Q36	0.614				
Q42	0.563				
Q32	0.412				
Q24		0.773			
Q29		0.764			
Q9		0.742			
Q14		0.686			
Q34		0.629			
Q27			0.715		
Q47			0.654		
Q37			0.577		
Q50			0.482		
Q12			0.443		
Q8				0.803	

Q38	0.762
Q18	0.747
Q13	0.563
Q3	0.554
Q35	0.806
Q45	0.741
Q10	0.613
Q25	0.560
Q40	0.509

Note. Extraction method: Principal component analysis Rotation method: Varimax with Kaiser normalization

Specifically, nine items (Q6, Q11, Q26, Q31, Q36, Q17, Q22, Q42, and Q32) were found to belong to the same factor, referred to as self/everyday creativity (F1). Additionally, five items (Q12, Q27, Q37, Q47, and Q50) were identified as the scholarly creativity factor (F2), while five items (Q3, Q8, Q13, Q18, and Q38) were categorized as performance creativity (F3). Another factor, mechanical/scientific creativity (F4), was established through five items (Q9, Q14, Q24, Q29, and Q34). Finally, five items (Q10, Q25, Q35, Q40, and Q45) were grouped together as part of the artistic creativity factor (F5).

Results of CFA

Sample C was selected for confirmatory factor analysis (CFA) to examine the structural model derived from exploratory factor analysis (EFA) for its goodness of fit. The comparison of fit indices for the initial and modified models of Sample C can be found in Table 4. The path diagram for the initial model of Sample C is shown in Figure 1, while the path diagram for the modified model is shown in Figure 2.

Table 4. Comparison of initial and modified model fitting

Fit Index	CMIN/DF	RMSEA	CFI	NFI	RFI	IFI	TLI
Initial Model	2.591	0.063	0.851	0.780	0.757	0.853	0.835
Modified Model	2.048	0.051	0.904	0.830	0.808	0.905	0.891

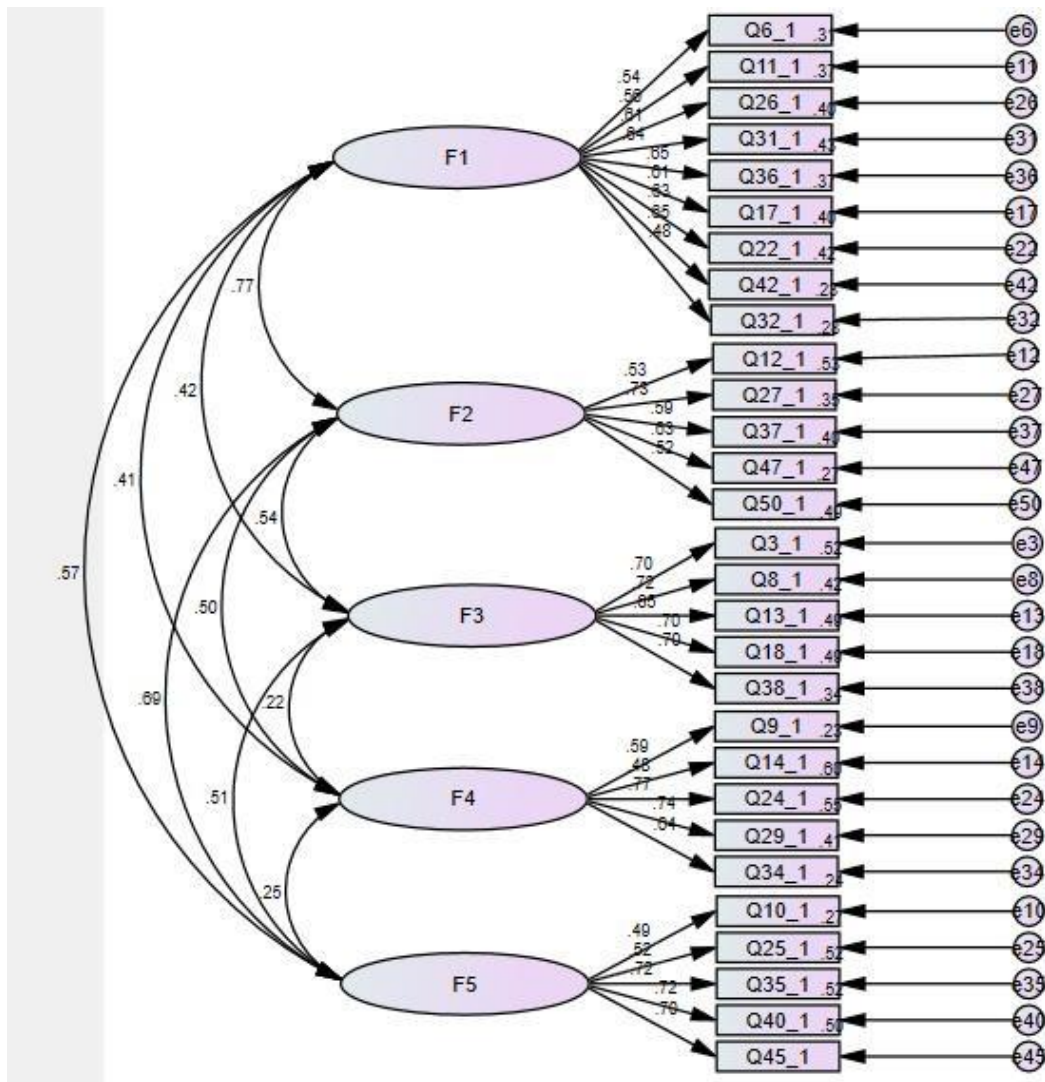


Figure 1 Initial Model of Sample C

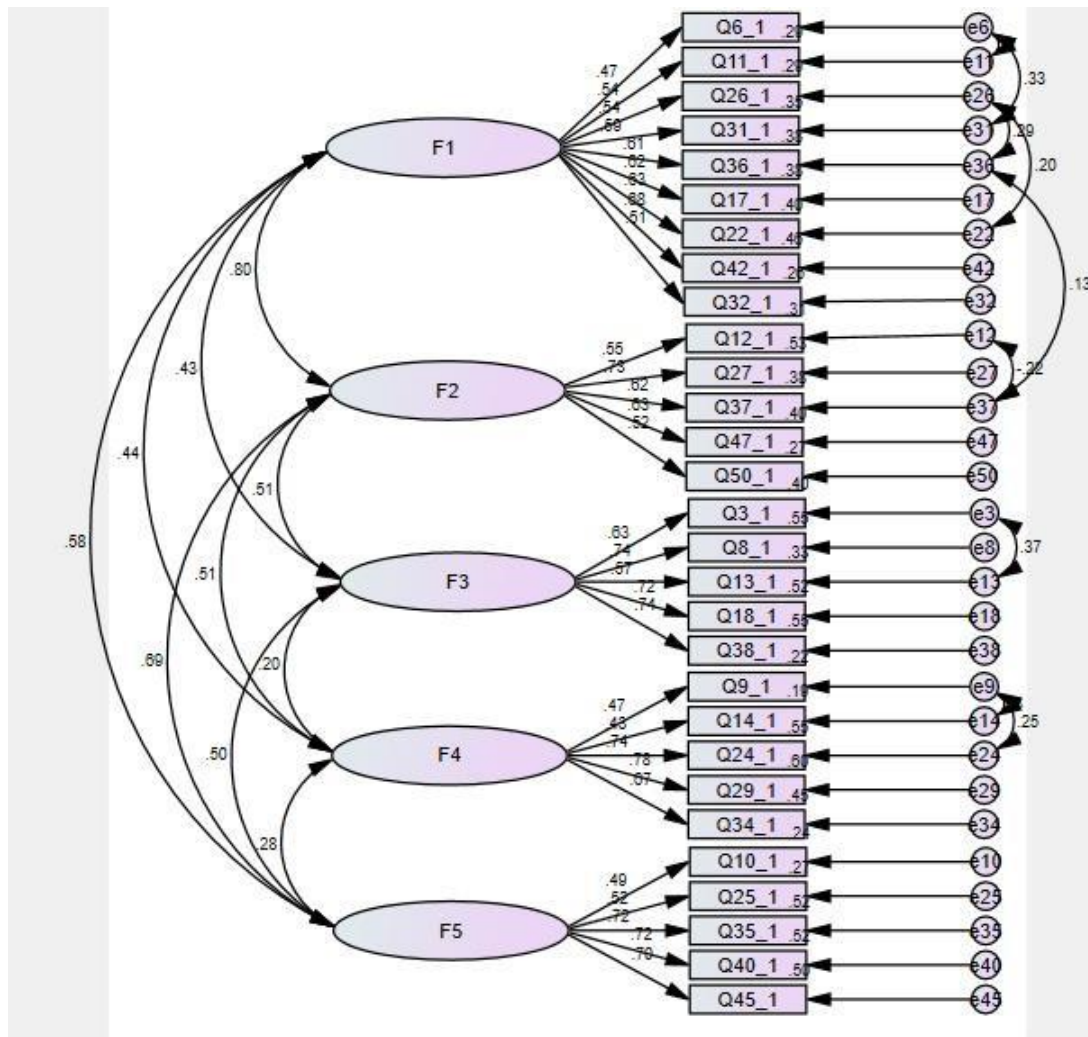


Figure 2 Modified Model of Sample C

Correlation between factors

The correlation coefficients between each factor were computed using the oblique factor matrix, and the findings are presented in Table 5. The five factors exhibit significant intercorrelations, indicating robust construct validity of the revised K-DOCS scale for Chinese high school students. Moreover, none of the correlation coefficients surpasses 0.55, suggesting that while there are shared underlying dimensions among these factors, they also possess distinct characteristics that differentiate them from one another.

Table 5. Correlation matrix between factors

	F1	F2	F3	F4	F5
F1	1				
F2	0.372	1			
F3	0.522	0.299	1		
F4	0.286	0.128	0.412	1	
F5	0.254	0.181	0.346	0.309	1

Criterion validity

Comparing the collected data of the three most creative students from each of the seven classes in School A, their evaluation results were analyzed and presented in Table 6. Among the 21 students rated as high creativity, 19 of them scored one standard deviation above the mean in at least one of the five dimensions: self/everyday, academic, performance, mechanical/scientific, and artistic, accounting for 90.48% of the total. Additionally, 13 students scored above the mean by more than one standard deviation in two or more dimensions, accounting for 61.90%. Seven students scored above the mean by more than one standard deviation in three or more dimensions, accounting for 33.33%. Four students scored above the mean by one standard deviation in all four dimensions, accounting for 19.05%. Furthermore, six students scored two standard deviations above the mean in the academic, performance, mechanical/scientific, and artistic domains, accounting for 28.57%.

Table 6. Comparison of peer assessment and scale assessment

	F1	F2	F3	F4	F5
M±SD	3.67±0.65	3.12±0.78	2.75±0.99	2.51±0.89	3.34±0.85
Student 8	4.33	3.60	3.00	2.40	4.20
Student 22	4.22	3.20	2.60	3.80	3.20
Student 26	4.11	3.40	2.80	3.20	3.00
Student 43	3.78	3.80	3.60	2.60	4.20
Student 52	3.22	1.80	1.20	1.40	2.60
Student 64	4.33	3.60	2.60	4.20	3.80

Student 84	4.78	3.80	4.80	4.60	4.40
Student 92	4.22	3.80	3.80	3.20	4.20
Student 187	4.67	4.80	3.60	3.00	1.80
Student 240	2.78	2.40	3.60	2.20	4.20
Student 248	3.44	2.40	4.20	2.20	3.00
Student 256	4.00	2.60	4.20	3.40	4.20
Student 263	4.44	4.00	4.20	2.60	2.60
Student 275	3.78	2.60	1.60	3.40	3.20
Student 283	4.56	2.80	4.60	1.60	4.60
Student 299	4.78	4.60	3.60	4.60	4.40
Student 309	4.67	4.80	4.40	4.20	4.00
Student 314	4.22	4.00	3.00	3.40	4.80
Student 318	3.89	3.40	1.80	5.00	3.80
Student 396	4.78	4.40	5.00	3.20	5.00
Student 419	3.89	4.00	3.60	3.00	4.80

Reliability Test

Internal Consistency Reliability

Based on the factor analysis results and the corresponding items for the five factors, the overall consistency coefficient of the sample population was calculated to assess the internal consistency reliability of the revised scale. The results are presented in Table 7.

Table 7. Internal Consistency Reliability

	F1	F2	F3	F4	F5	Total
Cronbach's α	0.839	0.737	0.817	0.794	0.757	0.898

Split-Half Reliability

Based on the factor analysis results and the corresponding items for the five factors, the split-half reliability of the scale was calculated for the overall sample population. The results are presented in Table 8.

Table 8. Split-Half Reliability

	F1	F2	F3	F4	F5	Total
Split-half	0.793	0.761	0.782	0.767	0.771	0.800

One and a half months later, a random sample of 37 students who were willing to participate in the follow-up test was selected for the retest. The analysis results are presented in Table 9.

Table 9. Test-retest Reliability

	F1	F2	F3	F4	F5	Total
Pearson Coefficient	0.964	0.982	0.996	0.981	0.982	0.993

DISCUSSION

During the scale revision process, it was found that the five major factors in the

domain of creativity for Chinese high school students were consistent with the

five-factor model of Kaufman's K-DOCS creativity domain scale. This indicates cross-cultural consistency in the domain of creativity. However, although the main factors are the same, there are differences in the specific items under the factor of self and daily creativity. Four items, Q17, Q22, Q32, and Q42, underwent a factor transformation. In Kaufman's K-DOCS scale, these four items belong to the academic creativity domain. However, in the revised version of the creativity domain scale for Chinese high school students, these four items were categorized under the dimension of self and daily creativity.

CONCLUSIONS AND LIMITATIONS

The revised version of the creativity domain scale for high school students, consisting of 29 items and encompassing five factors (self/daily creativity, academic creativity, performance creativity including writing and music, mechanical/scientific creativity, and artistic creativity), demonstrates good reliability and validity, meeting the standards of measurement.

The purpose of this study is to verify the cross-cultural adaptability of K-DOCS scale in China. However, since the test sampling are not from all over the country, but from Shenyang, capital city of Liaoning Province, only the regional applicability of the revised K-DOCS scale can be verified at present. Whether this scale is applicable to high school students in all over of China still needs further verification. The scale is currently being tested at a school by other

The reason behind this difference can be attributed to the content of these four items, which all involve critical thinking. For example, item 17, "Expressing one's own views in controversial debates," is highly valued in academic abilities in Western countries, particularly in university admissions. However, in China, activities such as debate competitions or providing criticism and suggestions are not considered academic pursuits but fall under the domain of students' self and daily creativity. This reflects the cultural differences between East and West.

researchers in Guiyang, Guizhou province. It is hoped that the applicability can be further verified in other provinces and cities in China in the future.

In terms of sampling, this study has a limitation of a relatively small sample size. The sample size for the third year of high school is relatively smaller compared to the sample sizes of the first and second years of high school. Indeed, using an external criterion that is specific to a particular domain as the criterion measure would enhance the construct validity of the scale. By utilizing a non-self-report measure specifically designed for a relevant domain, the criterion-related validity of the scale would be strengthened, providing more persuasive evidence of the scale's validity.

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BOOK REVIEW

The Study of The Meaning of Life by Sun Zhengyu,
Beijing Normal University Publications,
2020, 524 pages,
ISBN 9787303258031

Reviewed by Liu Bin & Ratna Roshida Ab Razak

The book entitled "The study of the meaning of life" is a study on the meaning of life is a philosophical work, written by Chinese philosopher Sun Zhengyu. It was published in August 2020 by Beijing Normal University. The book delves into life's meaning, value and purpose and analyzes and compares Chinese and Western philosophies, religions, and other aspects. This book covers the author's thinking and exploration of the study of philosophical views, dialectics, and the study of the meaning of life, as well as philosophical general theory works. It is the representative result of the author's long-term engagement in studying and teaching Marxist philosophy. The author's long-term concern on the fundamental issues of philosophy, philosophical education and practical issues constitutes the theme and soul of this series of works. Throughout the book, Sun Zhenyu provides in-depth thinking and exploration, challenges readers' views and beliefs about life's meaning, and leads readers to think and explore the value and purpose of life. He believes that although the meaning of life may be challenging to define, everyone has the responsibility and obligation to find their meaning in life and their purpose and fulfilment in life. Overall, *A Study in the Meaning of Life* is a deep and engaging book that provides a valuable contribution to the philosophical discourse on the meaning of life. It is a must-read for

anyone interested in philosophy, spirituality, and the human experience.

In the book, Sun puts forward several propositions and viewpoints on the meaning of life, such as the nature of human self-consciousness, the influence of social culture on our understanding of the world, and the relationship between spirituality and the meaning of life. He also cites many philosophical and religious traditions, such as Confucianism, Taoism, Buddhism, Christianity and existentialism, to explore how humans find meaning and value in life in different cultural and religious contexts. The author thinks that man is a being with "self-consciousness", a being who "lives to death", and a being who "seeks meaning". People look forward to a "meaningful" life and cannot stand "meaningless" survival. In the book "A Study on the Meaning of Life", the main line is to tell the meaning of human life, which is generally composed of three parts: one is to tell the life world, the spiritual world, the cultural world and the meaning world; Second, it tells the lifestyle, thinking mode, value concept, aesthetic consciousness and ultimate concern of modern people. Third, it tells the cultivation, truth, support, tension and source of people's spiritual home.

This book points out that the value of philosophy for human life in the contemporary era lies in its comprehensive response, critical reflection, normative correction and ideal guidance to the "crisis of meaning" of The Times to shape a new "meaning of life", lead a new "spirit of The Times" and create a new "human civilization". This is philosophy's indispensable and irreplaceable "meaning" in how human beings grasp the world.

The Study on the Meaning of Life reveals that people can not stand the "meaningless" life and explains people's yearning for the "meaningful" life. People cannot stand the limited life, cannot stand the loss of self, cannot stand the suffering of reality, cannot stand the cold reason, cannot stand the complete blank. Therefore, the meaning of life is always expressed as finite to infinite yearning, small to lofty yearning, this shore to the other shore yearning, and existence yearning for poetry. Human beings are physical, psychological, and ethical beings, so people always desire to break free from physical suffering (birth, old age, illness, death), psychological suffering (depression, loneliness, emptiness and helplessness), ethical suffering (oppression, discrimination, abandonment and humiliation), and achieve "poetic dwelling". However, in the existence mode of "man's dependence on man" based on natural economy, man can only be self-alienated in the "sacred image", and he always suffers the "rampant essentialism which is intolerable in the life without choice standard". In the existence mode of "people's dependence on things" based on market economy, it can only be the self-alienation of people in the "non-sacred image", and they always bear "the unbearable light existential anxiety in the life without standard choice". "Meaningful" life is the eternal theme of human thinking and the ideal of human pursuit.

No matter what interpretation and connotation people give to the "progress" of civilization or the "development" of history, "progress" and "development" for human beings are always embodied in the satisfaction of the physical needs of a relatively rich material life, the satisfaction of the psychological needs of a relatively rich spiritual life, and the satisfaction of the ethical needs of a relatively harmonious social life. The pursuit of these three

aspects of satisfaction constitutes the pursuit of their purpose in human history. The most profound foundation of the "progress" and "development" of history lies in the "dialectics of history" in which "people create their history". This "dialectic of history" lies in that man is both the frequent "result" and the frequent "premise" of history. As the "result" of history, man obtains the "condition" as the "premise" of creating history. As the "premise" of history, man has changed the "condition" of creating history, thus providing new "results" for his historical activities. Man's "historical activities" as the "premise" and "result" of history constitute the "objective law" of historical development and form the historical connotation of the meaning of life. In the dialectical movement of "premise" and "result", man constantly improves and satisfies his physiological, psychological, and ethical needs, thus realizing the "progress" of civilization and the "development" of history, that is, constantly realizing man's pursuit of the meaning of life.

According to Son, the meaning of life is not a fixed concept but is constantly changing and developing. He believes that the changes in human society and culture will constantly affect and change people's understanding of the meaning of life. The meaning and value of life will vary in different cultural and religious contexts, and this difference will gradually change

over time and history. For example, in different historical periods, people's awareness and understanding of the meaning and value of life may constantly change with the development of society and culture. Similarly, different cultural and religious backgrounds can affect people's understanding and perception of the meaning of life. Therefore, the exploration and understanding of the meaning of life

need to be thought and analyzed from different levels and perspectives.

Some thoughts and opinions put forward in this book can help readers better understand the meaning of life and inspire readers to think and explore the meaning of life. Therefore, this book is of great significance and value for people to understand the meaning of their own lives and how to find and achieve meaning in their own lives.

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eISSN 2773-4951



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