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# Kiasu (Fear of Losing Out)

# An Indigenous Psychological Construct in Singapore and Its Impact

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Abstract: "Kiasu," a Hokkien term, which directly translates as the "fear of losing out" is synonymous with the Singapore identity. Yet, there has been little empirical research investigating this indigenous psychological construct in Singapore. This paper first delves into Singapore's Kiasu culture and existing research of Kiasu, which diverges on the operationalization and measurement of Kiasu as a psychological construct. While early research conceptualized Kiasu as a behavioral tendency, more recent investigations have begun to construe Kiasu as a mindset. Next, we review Kiasu-related outcomes in four domains: academic performance, learning strategies, well-being, and creativity. Finally, we propose a new theoretical framework integrating current research to guide future research directions. Specifically, the proposed integrated model is composed of Kiasu antecedents, individual Kiasu mindset, Kiasu behaviors, and Kiasu outcomes with moderators of normative Kiasu mindset and incentive system in the context. We believe that this proposed integrated model will help us better understand the prevalent Kiasu mindset and behavior in Singapore.

Keywords: Kiasu, fear of losing out (FoLO), Singapore, integrated model of Kiasu, normative Kiasu mindset

**Impact and Implications:** The Singapore identity is synonymous with Kiasu a.k.a. the Fear of Losing Out. In this paper, we reviewed existing research on Kiasu and propose a new theoretical framework composed of Kiasu antecedents, individual Kiasu mindset, Kiasu behaviors, and Kiasu outcomes with moderators of normative Kiasu mindset and incentive system in the context to guide future research on this indigenous mindset. Our review can contribute to the continued appreciation of cultural diversity and lifelong learning for the global citizen.

### Singapore's Kiasu Culture

Oxford Dictionary defined the word "Kiasu" as an adjective that describes a person having a grasping or selfish attitude arising from a fear of missing out on something (Lee, 2015). In fact, Kiasu is regarded as the single most defining adjective that captures the national identity in Singapore (Cheng & Hong, 2017). The Kiasu phenomenon has spawned a nationally loved comic strip, "Mr. Kiasu," marked by exaggerated and humorous depictions of Kiasu behaviors in Singapore (Ho et al., 1998). What is Kiasu and why are Singaporeans so Kiasu? "Kiasu" is a Hokkien term that can be literally translated into the "fear of losing out" (Ho et al., 1998); it refers to an individual's mindset and characteristics arising from one's fear of losing out. Alternatively, Kiasu can be described as an obsession to optimize every transaction and get ahead of others (Hwang et al., 2002). In short, Kiasu mindset "involves a constant apprehension of securing one's share from a limited resource" (Choi et al., 2022). When people endorse this Kiasu mindset, they tend to be driven by a fear of losing out as inaction may lead to a failure of securing enough resources for one's needs and wants.

Kiasu has been shown as the top-ranked Singaporean characteristic in past National Values Assessments (Devadas, 2018; Tan, 2015). According to Pierson (2019), Singaporeans shared a strong belief that as a small nation with very limited land and resources, extra efforts are required to sustain and protect their country from larger neighboring countries such as Malaysia and Indonesia. Consequently, Singaporeans endorsed a Kiasu mindset to survive their independence from Malaysia (Pierson, 2019). While Kiasu mindset is still prevalent in Singapore, people's feelings toward other Singaporeans and their own Kiasu tendencies are ambivalent (Pierson, 2019). Positive connotations of Kiasu include being competitive and not giving up to prevent losing out to others. This drive facilitates Singaporeans' determination to win and succeed, which possibly explains Singaporean students' outstanding academic performance (Ang, 2019b; OECD, 2018) and possibly the nation's fast economic growth (The World Bank, 2019). However, Singaporeans are also mindful of the potential drawback of Kiasu such as suffering from unnecessary emotional and psychological stress caused by constant fear of losing out (Ang, 2019a; Cheow, 2019). Furthermore, focusing too much on one's own gain may instigate Singaporeans to inadvertently ignore the plight of others. Consequently, Singaporeans may jeopardize their own well-being and end up suffering from certain moral degradation due to Kiasu.

While Kiasu is depicted as Singapore's societal characteristic, limited empirical research have examined this significant indigenous psychological construct in Singapore (Bedford & Chua, 2018; Wee et al., 2022). Given that Kiasu as a critical indigenous psychological construct is predominant in Singapore and can positively and negatively impact Singaporeans, we aim to examine the Kiasu construct and outcomes with a systematic review of existing literature and propose a theoretical model for future research. In this paper, we operationalize Kiasu as a mindset. We first introduce the different conceptualizations and measurements of Kiasu to establish Kiasu (Fear of Losing Out, FoLO) as a mindset. Second, we survey the influence of Kiasu on Singaporeans' psychological and behavioral outcomes. Finally, we propose an integrated model of Kiasu for future research.

# The Construct and Measurement of Kiasu (Fear of Losing Out, FoLO)

Despite the prevalence of Kiasu in Singapore, scholars have vet to set an agreed upon operationalization or measure of the psychological construct. At the time of writing, there are only 12 published empirical papers related to Kiasu (Appendix A). In Cheng and Hong's (2017) review for the conceptualization of Kiasu, Kiasu was described as an "obsessive concern with getting the most out of every transaction and a desire to get ahead of others" (Hwang et al., 2002, p. 75). In daily life, Kiasu is manifested in behaviors such as parents queuing overnight to secure a spot at a prestigious kindergarten for their child (Ho et al., 1998). For Singaporean students, extreme behavior such as attending massive tutoring classes is common practice (Bedford & Chua, 2018). Cheng and Hong (2017) attributed these behaviors to a strong *fixed-pie mindset*, assuming that available resources are fixed and limited, and survival depends on one's ability to outcompete others.

In terms of the conception of Kiasu as a construct, there are two perspectives: operationalizing Kiasu as a behavioral tendency versus a mindset (mentality). As a pioneer in the study of Kiasu, Ho et al. (1998) regarded Kiasu as a behavioral tendency. They defined Kiasu as five behavioral types driven by a fear of losing out mentality, namely the fear of losing out, selfishness, calculating, greed, and Kiasi (translation: afraid to die), and measured through the selfreported frequencies of 10 representative Kiasu behaviors (Ho et al., 1998, Appendix B). Whereas the 10 representative Kiasu behaviors suggested by Ho et al. (1998) may be induced by other motives, some researchers argued that Kiasu should be described as the exhibition of a set of behaviors driven by Kiasu attitudes. For example, Wierzbicka (2003) illustrated the importance of intentions preceding Kiasu behavior with a semantic analysis of texts by Singaporean authors.

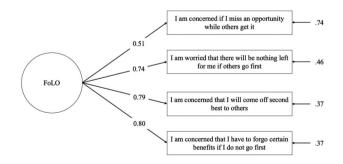
Similarly, Hwang et al. (2002) defined students' Kiasu behaviors as driven by two types of Kiasu attitudes – Kiasu positive and Kiasu negative. Kiasu positive reflects the positive side of Kiasu associated with the idea that diligence and extra effort would lead to future success. Contrarily, Kiasu negative refers to the negative side of Kiasu, reflecting a desire to keep knowledge and course material to oneself to prevent others from benefitting from them. Thus, those with more knowledge or course material would have a better chance at outperforming others. A scale of six items depicting students' Kiasu behaviors compelled by the two Kiasu attitudes was used to measure Kiasu (Appendix C).

Major limitations have been identified by various scholars (Bedford & Chua, 2018; Goh, 2013; Wee et al., 2022) regarding both behavioral-based measurement of Kiasu (Ho et al., 1998; Hwang et al., 2002). Both measures fail to capture the underlying psychological mechanism and components of Kiasu construct, making it hard to differentiate Kiasu-like behaviors that are not driven by Kiasu motives. Specifically, Goh (2013) pointed out that the identified Kiasu behaviors may not capture all instances of Kiasu as Kiasu behaviors that are not taken into consideration in the behavioral measurement will not be observed. Bedford and Chua (2018) also acknowledged that the same "Kiasu behavior" can be identified as both Kiasu and non-Kiasu depending on one's motivation that underlies the action. Moreover, Hwang et al.'s (2002) Kiasu positive has also been criticized as being too conceptually similar to competitiveness, an existing psychological construct (Bedford & Chua, 2018). Consequently, capturing individual levels of Kiasu through behavioral measures does not seem to be adequate.

To provide a more comprehensive conception of Kiasu and to counter the potential limitations of measuring Kiasu by observed behaviors, recent investigations operationalize Kiasu as a mindset (Choi et al., 2022; Wee et al., 2022). A mindset is a set of beliefs formed on the basis of an individual's experience that guides one's motivation and behavior (Dweck & Yeager, 2019). According to Bedford and Chua's (2018) qualitative study, two dimensions of a Kiasu mindset was proposed: fear of missing out on a potential benefit or common good and trying not to fall behind others academically. Similarly, Cheng and Hong (2017) investigated Kiasu as both an individual tendency and a shared cultural tendency in Singapore by Singaporean's personal understanding of Kiasu. Specifically, a one item self-reported measure of Kiasu tendency and two additional items to measure the extent that Kiasu is perceived as a wildly shared cultural knowledge and dominant cultural tendency in Singapore, respectively (Appendix D). Cheng and Hong (2017) found support for Kiasu as a perceived dominant cultural tendency among Singaporeans by the high ratings (i.e., significantly above the scale midpoint) of Singaporeans' Kiasu knowledge and perception of Kiasu typicality in Singapore. Moreover, Singaporeans' personal Kiasu tendency is not correlated with their Kiasu knowledge, demonstrating Kiasu tendency as a type of individual difference in Singapore.

One major limitation of Cheng and Hong's (2017) single-item measure of Kiasu is that it lacks an operational definition of Kiasu. Specifically, how do Singaporeans make sense of Kiasu when responding to the item? Do they interpret Kiasu in a similar way when thinking of Kiasu? To address those limitations and attempts at reconceptualizing Kiasu as a mindset, Wee et al. (2022) drew upon Goh's (2013) study to provide a more comprehensive measure that can be applied to all Singaporeans and not just Singaporean students. Choi et al., (2022) further defined Kiasu as a "Fear of Losing Out (FoLO) mindset" that reflects "a constant concern that there would be no more resources for them if they do not take action" (p. 1352).

Items to capture Kiasu mindset were generated from a thorough literature review of available Kiasu research and interviews with various Singaporeans of different age groups, education levels, and occupations regarding their



**Figure 1.** CFA model for the factor structure of the FoLO scale in Wee et al.'s (2022) Study 1. *Note*. Circles represent latent variables. Squares represent indicators (manifest variables; FoLO items). Values on the longer, single-headed arrows signify path coefficients. Values for the smaller, single-headed arrows represent residual variances. All coefficients shown are standardized and obtained statistical significance at .05 level.

understanding of Kiasu (Goh, 2013). Accordingly, four items depicting Kiasu mindset were generated to comprise a Fear of Losing Out (FoLO) scale (Wee et al., 2022, Appendix E, Figure 1).

This newly developed FoLO scale by Wee et al. (2022) has shown good factor structure, reliability, and validity in multiple studies (Choi et al., 2022; Wee et al., 2022). Furthermore, Wee et al. (2022) revealed that Singaporeans' Kiasu mindset measured by the FoLO scale was positively associated with the one-item Kiasu tendency measure used in Cheng and Hong's (2017) research. However, Kiasu mindset was not significantly associated with the two items measuring Kiasu knowledge and typicality, supporting the notion that Kiasu mindset as an individual difference can be distinguished from one's Kiasu knowledge and perceived prevalence of Kiasu in Singapore. Wee et al.'s (2022) work also demonstrates discriminant validity between FoLO mindset and competitiveness, addressing previous concerns regarding the overlapping conceptions between former conception of Kiasu (i.e., Kiasu positive proposed by Hwang et al., 2002) and competitiveness (Bedford & Chua, 2018) (Figure 1).

### **Kiasu Outcomes**

Kiasu is associated with different outcomes in different domains. First, Singaporeans generally believe that Kiasu is beneficial for academic performance (Chua, 1989). This belief received equivocal support from empirical findings. In Hwang (2003), Kiasu positive is positively associated with students' advantageous feedback-seeking learning behaviors such as checking with other students outside of class and asking questions outside of class. Kiasu is also found to be associated with adventure learning (Hwang, 2003) - composed of outdoor activities aimed at team building via social support and task participation (McEvoy & Buller, 1997; Ng, 2000). Hwang (2003) showed that Singaporean students with high intention to prevent others from getting ahead (i.e., high Kiasu negative) and those with low intention to put in extra effort in one's work to get ahead (i.e., low Kiasu positive) can be inspired and energized by adventure learning. In short, Kiasu is good for positive learning behaviors. Ong and Cheng (2017) found preliminary support for this association as individuals with high Kiasu tendencies were more likely to persevere, an important trait for academic success. However, Ho et al. (1998) showed that Kiasu behaviors do not predict students' academic grades. In sum, the relationship between Kiasu and students' academic performance is inconclusive, and future research is required to reconcile the positive and negative influence of Kiasu on academic performance.

Second, Kiasu may impact learning outcomes. With the emphasis on elitism, the societal margin of success is narrow in Singapore, and success is only deemed to be achievable through high academic performance (Ho et al., 1998). Consequently, parents often engage in Kiasu behaviors to ensure their children's success. This Kiasu tendency can be translated into students' learning goal orientations. Choi et al. (2022) demonstrated that Kiasu endorsement led to students' performance-approach and performance-avoidant goal orientations, which in turn enhanced surface learning. Importantly, the relationship between performance goal orientation and surface learning was moderated by social comparison. As Bedford and Chua (2018) suggested, one reason why Singaporeans are so Kiasu is because they are driven by their fear of falling behind their peers academically. Choi et al. (2022) found support for this assertion. When students engage in upward social comparison, Kiasu led to a performanceapproach goal orientation that inhibited surface learning (Choi et al., 2022), reflecting students' desire to learn deeper when they are doing worse off. Contrarily, for students who engaged in downward social comparison, Kiasu led to a performance-avoidance goal orientation and higher surface learning (Choi et al., 2022), reflecting students' desire to stay ahead of their peers when they are doing better.

Third, beyond academics and learning outcomes, previous research has suggested that Kiasu is often related to negative behaviors and life outcomes. Kiasu students were found to have lower satisfaction in their academic grades, regardless of their actual performance (Ho et al., 1998). Additionally, Wee et al. (2022) found a negative relationship between Kiasu and Singaporeans' self-esteem via an enhancement of conformity moderated by need for cognitive closure. That is, Singaporeans' Kiasu mindset will encourage them to conform more with social norms and others' expectations. Sheldon et al. (2004) revealed that when individuals conform to social norms to fulfill others' expectations, their self-esteem may be damaged due to the incongruency between one's own desires and actions.

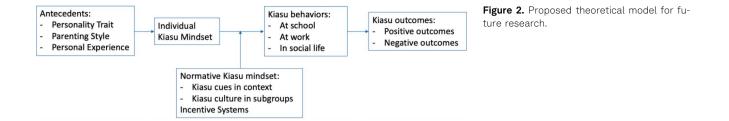
Finally, a negative relationship between Kiasu and creativity was established by Cheng and Hong (2017). In four studies, it was found that Singaporeans' Kiasu endorsement led to lower individual creativity via a prevention-focused orientation that seeks security and strives to avoid *losses* This is because Kiasu is driven by fear, self-interest, and self-protection that is aligned with a prevention-focused orientation, and a prevention focus is linked to risk-aversion and less extensive information-seeking, which hampers creativity (Friedman & Förster, 2001, 2002). Cheng and Hong (2017) demonstrated that the effect of Kiasu is twofold: a. individual tendency and b. shared cultural norm. Specifically, whereas Singaporeans with high Kiasu tends to exhibit lower creativity than those with low Kiasu, creativity of those with high Kiasu suffers the most when Kiasu is cued to be a shared norm in the context. Thus, high Kiasu Singaporeans exhibit the lowest creativity compared to others when exposed to Kiasu cues. This provides important insight for the distinct and interactive influence of Kiasu on individual and social levels in Singapore.

In sum, the current literature has begun to illuminate downstream psychological effects among Singaporeans with a Kiasu mindset. However, the current findings are still insufficient to provide a comprehensive understanding of Kiasu phenomena in Singapore that can address the causal relationships among Kiasu mindset, behaviors, and outcomes. In the following section, we will propose an integrated Kiasu model for a systematic study of Kiasu in Singapore.

## Future Directions: An Integrative Kiasu Model and Its Theoretical and Practical Implications

Based on the review in previous sections, we propose to use Wee et al.'s (2022) conceptualization and measurement of Kiasu as a "Fear of Losing Out (FoLO)" mindset for three reasons. First, defining Kiasu as a mindset is more comprehensive than a set of behaviors. It can illuminate the motives and psychological processes underlying observed Kiasu behaviors and provide a holistic view of the Kiasu mechanism. Second, a measure of the Kiasu (FoLO) mindset has been established with good reliability and validity in multiple studies (Choi et al., 2022; Wee et al., 2022), demonstrating its utility in capturing Singaporeans' Kiasu mindset. Third, the investigation of Kiasu mindset and the development of Kiasu scale in Wee et al.'s (2022) research are based on a general survey of Kiasu findings in conjunction with interviews of various Singaporean populations. Their operationalization of Kiasu mindset and scale can be applied to the general population in Singapore instead of only Singaporean students studied in most other Kiasu research. Therefore, it is adequate to define Kiasu as a "Fear of Losing Out (FoLO)" mindset in Singapore and measure Singaporeans' Kiasu by the FoLO scale (Wee et al., 2022). Nonetheless, future research shall advance the use of the FoLO scale (Wee et al., 2022) with various populations in Singapore to examine the applicability of our proposed Kiasu definition and measure.

As for the mechanism of Kiasu and behavioral outcomes, current research findings reviewed in the previous section are too limited to address the prevalent Kiasu phenomenon in Singapore. It could be partly attributed to a lack of measure for Kiasu mindset that restricted the study



of Kiasu. Furthermore, whereas Kiasu is considered as a representative cultural tendency in Singapore, most research addressed only personal Kiasu tendencies and outcomes without taking into account the normative influence of Kiasu. As reported in Cheng and Hong (2017), Kiasu as an individual tendency interacts with Kiasu norm to impact Singaporeans. Drawing upon the personenvironment fit theory (van Vianen, 2018), we proposed that the normative Kiasu mindset and the incentive system in the context shall be taken into account in future Kiasu research. We propose the following theoretical model for future research.

### An Integrated Model of Kiasu Mindset

The proposed integrated model (see Figure 2) is composed of Kiasu antecedents, individual Kiasu mindset, Kiasu behaviors, and Kiasu outcomes with two moderators of normative Kiasu mindset and incentive system in the context. First, the antecedents of Kiasu mindset are critical for the formation of individual Kiasu mindset. However, the existing literature is silent on this topic. We propose three types of antecedents to look into as a starting point. The first type is personality traits such as neuroticism and need for cognitive closure (NFCC), which have been found to be positively associated with Kiasu mindset (Goh, 2013). Future research can investigate the influence of neuroticism and NFCC on the development of Kiasu mindset. The second is parenting styles because Kiasu parents are wellidentified in Singapore to influence Singaporeans from a young age (Ellis, 2014; Kiasu Parents Forum, n.d.). Whether parents' Kiasu mindset gets passed onto children via parents' dealing with children's learning and life, such as how Kiasu parents raise Kiasu children via an authoritarian parenting style, is worthy of investigation. Third, early exposure of Kiasu may contribute to the shaping of one's Kiasu mindset. Singaporeans may have differing exposure to Kiasu beliefs at schools with different pedagogy (e.g., attending a local vs. international school with different teaching styles and grading systems) or other social settings depending on the social groups they belong to. Early exposure to Kiasu practices may lead to higher personal endorsement of Kiasu mindset. All three antecedents shall be explored to elucidate the causes of Kiasu mindset.

Second, individual Kiasu mindset can be measured by the FoLO scale (Wee et al., 2022). Third, we propose to investigate Kiasu behaviors systematically in different contexts including school, work, and social settings. So far, most Kiasu research was conducted in school settings exploring students' learning strategies (Bedford & Chua, 2018; Hwang & Arbaugh, 2006; Hwang et al., 2002). We argue that Kiasu behaviors in work and social settings are equally important. A groundwork of surveying Kiasu behaviors shall be conducted to identify most representative and frequent Kiasu behaviors in different settings. This survey will lay the foundation for distinguishing behaviors to Kiasu and non-Kiasu via the linkage of Kiasu mindset and behaviors.

Fourth, attention can be paid to both positive and negative outcomes resulting from Kiasu behaviors in various domains. Specifically, positive outcomes speculated by general observation such as academic and job performance including perseverance at study and work, and personal achievement including career advancement, wealth, and social status shall be empirically tested. Similarly, negative outcomes including lowered creativity, reduced satisfaction both at school and work, lowered personal values and subjective well-being, and less concerns for other's plight shall be systematically investigated to provide a comprehensive understanding of Kiasu impact in Singapore.

Finally, two contextual factors can be taken into account: normative Kiasu mindset and incentive system. Normative Kiasu mindset such as Kiasu cues in context (e.g., peers/colleagues claim less efforts than they actually devote to study/work) and a strong Kiasu culture in subgroups such as at school or in work teams and companies that encourage employees to deal with work with a Kiasu mindset. As for the incentive systems, Kiasu is a fixed-pie mindset (Cheng & Hong, 2017) that can be activated by the need for securing limited resources. Therefore, Kiasu mindset may be deactivated when incentives or resources are not linked to social comparisons. For example, rewarding students' performance as a result of their own improvement instead of their ranking in the class can lessen the applicability of Kiasu mindset. A systematic survey of the proposed variables related to

Kiasu and corresponding relationships among the variables can be empirically investigated to lay the foundation for the psychological mechanism of Kiasu mindset and delineate specific Kiasu impact in Singapore.

Theoretically, this model can provide a framework for future Kiasu research in building causal relationships among Kiasu antecedents, mindset, behaviors, and outcomes as well as the contextual factors. It will shed light on the psychological mechanisms underlying Singaporeans' Kiasu behaviors and outcomes. Practically, interventions for Kiasu impact can be generated from the integrated model. With proper understanding of the cause of Kiasu mindset and the interaction between individual and contextual factors, corresponding strategies can be created to enhance or reduce the Kiasu impact depending on the desirability of outcomes.

Overall, Kiasu is undoubtedly widespread in Singapore and has significant impact on Singaporeans. Why is Kiasu most pronounced in Singapore if it is rooted in Confucius teachings shared by many Asian countries? One speculation would be to draw upon the situated dynamic framework of culture (Leung & Morris, 2015): The alignment between the cultural norms (i.e., Kiasu attitudes subscribed by the government in Singapore's founding years) and personal beliefs (i.e., Singaporeans' personal Kiasu beliefs cultivated by cultural values) produces the highest cultural practice endorsement (i.e., a prevalent Kiasu mindset among Singaporeans).

Although Kiasu is considered an indigenous psychological construct in Singapore, it is worth exploring whether the Kiasu - "Fear of Losing Out (FoLO)" mindset can be observed in other cultural contexts, and if yes, whether the contents of the mindset and the behaviors are similar or different among different cultural groups. Prior research has shown that a similar Kiasu phenomenon is observed in Hong Kong (Chua, 1989). Possibly due to the fact that Kiasu is rooted in Chinese values, it is anticipated that Kiasu can be observed in other Chinese societies, including the PRC, Hong Kong, Macau, and Taiwan. For example, an old Chinese saying, "寧為雞首, 不為牛後," corresponding to the English proverb, "Better to be the head of a dog than the tail of a lion" is still wildly endorsed by Chinese parents nowadays. Chinese parents continue to send their children to tutoring schools for long hours from a young age because they do not want their children to lose at the starting line (Dizik, 2014). Similarly, Kiasu may be observed in other Asian countries, especially those strongly influenced by Confucius teachings and have high regards for education. Conclusively, future work can be devoted to test the generalizability of Kiasu mindset in Asian cultural contexts.

Several researchers defined Kiasu as an extreme type of competitiveness and argue that Kiasu can be observed in Western societies including the United States and Australia (Kirby et al., 2010; Kirby & Ross, 2007). However, Cheng and Hong (2019) emphasized that Kiasu is a defensive type of competitiveness, and Wee et al. (2022) demonstrated that Kiasu mindset is different from the existing competitiveness construct composed of two components: enjoyment of competitiveness and contentiousness (Harris & Houston, 2010; Houston et al., 2002) both in psychological processes and outcomes. Future work is required to further explore the prevalence of Kiasu mindset in Western cultural contexts.

### Conclusion

Kiasu as an indigenous psychological construct in Singapore is prevalent and impactful but lacks empirical investigation. With the proposed integrated model of Kiasu mindset, future research can study Kiasu mechanism in a systematic way via the investigation of antecedents, individual Kiasu mindset and contextual moderators, Kiasu behaviors in different settings, and outcomes of Kiasu, all of which can shed light on practical implications in Singapore. Generalizability of Kiasu mindset in other cultural contexts can also be explored.

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# Appendix A

# Existing Empirical Research on Kiasu

Author	Year	Title	Conceptualization	Measurement
Bedford & Chua	2018	Everything also I want: An exploratory study of Singaporean Kiasuism (fear of losing out)	Mindset and Behaviors	Qualitative interviews, thematic analysis
Cheng & Hong	2017	Kiasu and creativity in Singapore: An empirical test of the situated dynamics framework	Individual and Cultural Tendency	Three items measuring Kiasu tendency, Kiasu knowledge, and perceived Kiasu stereotypicality
Choi et al.	2022	The impact of fear of losing out (FoLO) on college students' performance goal orientations and learning strategies in Singapore	Mindset	Wee et al.'s (2022) FoLO scale
Ellis	2014	Afraid to lose out: the impact of Kiasuism on practitioner research in Singapore schools	Mindset	Qualitative interviews, thematic analysis
Ho et al.	1998	A preliminary study of Kiasu behaviour – is it unique to Singapore?	Behavioral tendency	Five behavioral types driven by a fear of losing out mentality, namely the "fear of losing out," selfishness, calculating, greed, and Kiasi
Hwang	2003	Adventure learning: Competitive (Kiasu) attitudes and teamwork	Attitude	Hwang et al.'s (2002) Kiasu-positive and Kiasu-negative scale
Hwang et al.	2002	The silent Chinese: The influence of face and kiasuism on student feedback-seeking behaviors	Attitude	Two types of Kiasu attitudes. Kiasu positive: diligence and extra effort would lead to future success). Kiasu negative: desire to keep knowledge and material to oneself to prevent others from benefitting from them
Kirby et al.	2010	Exploring the factors affecting the use of Kiasu tactics	Attitude	Hwang et al.'s (2002) Kiasu-positive and Kiasu-negative scale
Kirby & Ross	2007	Kiasu tendency and tactics: A study of their impact on task performance	Attitude	Hwang et al.'s (2002) Kiasu-positive and Kiasu-negative scale
Li & Fang	2002	Are Kiasuism and Singapore 21 diametrically opposed in influencing Singaporeans' decision-making?	Behavior	The A to Z of Kiasu's Philosophy based on the Mr. Kiasu comic
Wee et al.	2022	Toxic effect of fear of losing out on self- esteem: A moderated mediation model of conformity and need for cognitive closure in Singapore	Mindset	4-items Fear of Losing Out (FoLO) scale
Wierzbicka	2003	Singapore English: A semantic and cultural perspective	Mindset	Qualitative interviews, thematic analysis

# Appendix B

### Ho et al.'s (1998) Kiasu Behaviour Scale

Scale items	Scale anchors
1. Rushing for train/bus seat	1 (very often) – 5 (r
2. Rushing to sales	
3. Piling food during buffets	
4. Grabbing more expensive food at buffets	
5. Queuing way ahead of time to buy tickets	
6. Reserving seats in the library	
7. Stowing reference books on other shelves	
8. Bringing back toiletries/utensils	
9. Elbowing one's way into crowded lifts	
10. Studying before the semester commences	

# Appendix C

### Hwang et al.'s (2002) Kiasu Scale

Scale items

Kiasu negative

1. I try not to let others know the right answers.

2. I try not to let others have access to useful books and notes.

3. I do not share useful knowledge with others.

Kiasu positive

1. I read beyond my assigned readings.

2. I supplement my knowledge with nonrequired course materials.

3. I do research on my coursework.

# Appendix D

### Cheng and Hong's (2017) Kiasu Measures

Measurement	Items	Scale anchors	
Kiasu tendency	To what extent do you think the cultural tendency of "Kiasu" describes you?	1 (not at all) – 5 (very much)	
Kiasu knowledge	How much do you understand this cultural tendency, "Kiasu"?		
Perceived Kiasu stereotypicality	To what extent do you think the cultural tendency of "Kiasu" describes a typical Singaporean?		

rs

(never)

Scale anchors

1 (not at all) - 7 (all the time)

# Appendix E

### Wee et al.'s (2022) FoLO Scale

#### Scale items

1. I am concerned if I miss an opportunity while others get it

2. I am worried that there will be nothing left for me if others go first

3. I am concerned that I will come off second best to others

4. I am concerned that I have to forgo certain benefits if I do not go first

Scale anchors

1 (disagree strongly) – 7 (strongly agree)