Harm in Harmony:

A Socioecological Perspective on East Asian Collectivism

Shi Liu

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Abstract

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Decades of research have described East Asian cultures as collectivistic, often characterized by ingroup relationships that are harmonious and cooperative. I propose an alternative account of East Asian Collectivism—the Harm-in-Harmony Theory. Specifically, I propose that East Asian culture can be better understood as a tension between high levels of cooperation and competition within groups. The co-existence of cooperation and competition drives competition covert. To cope with covert competition, people in East Asia develop a heightened threat-detection system—ingroup vigilance—a cognitive tendency to perceive ingroup members as hostile and threatening. The Harm-in-Harmony theory provides an alternative account for a number of cross-cultural differences (i.e., East Asians being more responsive and attentive to others) that have previously been explained through harmonious interdependence. This work contributes to a more balanced view of collectivism, revealing its interpersonal tensions in the forms of covert competition and ingroup vigilance.

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Dedication

To Li Wenliang (1986-2020).

Chapter 1: Harm in Harmony Overview[1]

In the past quarter century, the field of cultural psychology has been guided primarily by frameworks such as collectivism-individualism (Triandis, Bontempo, Villareal, Asai, & Lucca, 1988) and interdependence-independence (Markus & Kitayama, 1991). Central to these frameworks is the view that East Asians value harmony. In interpersonal relationships, East Asians emphasize "attending to others, fitting in, and harmonious interdependence" (Markus & Kitayama, 1991, p. 224). Within their social groups, East Asians emphasize sacrificing self-interests for the benefit of the group and maintaining harmony within the group (Singelis, 1994; Triandis et al., 1988; Triandis & Gelfand, 1998).

Despite this common narrative, a more nuanced understanding of East Asian Collectivism has begun to emerge in cross-cultural research, one that highlights the tensions in East Asian social relationships. For instance, East Asians tend to be more cautious about friends, believing "There are likely to be people in my close social network (relatives and friends) who feel hatred and ill will toward me" (Li, Adams, Kurtiş, & Hamamura, 2015), and they are more reluctant to tell personal secrets to friends (Schug, Yuki, & Maddux, 2010). This suspicion permeating East Asian relationships poses a puzzle considering the harmonious interdependence perspective. In my dissertation, I propose a theoretical framework that integrates the appearance of harmony in East Asian cultures with the presence of caution and suspicion in their relationships within social groups.

[1] This chapter is based on a working paper entitled "Harm-in-Harmony Theory: Why Vigilant Social Cognition Permeates East Asian Collectivistic Societies," with coauthors Daniel Sullivan, Garriy Shteynberg, and Adam Galinsky.

The starting point of the Harm-in-Harmony theory is that the ecological condition in East Asia produced cooperation within social groups but also engendered interpersonal conflict and competition within the same group. That is, East Asian Collectivism represents a tension between high levels of cooperation and high levels of conflict within a single, stable social network. Moreover, I argue that the combination of high cooperation and high competition within social groups drives competition covert. To adapt to covert competition, people in these cultures developed ingroup vigilance—a heightened state of perceiving ingroup members as hostile and threatening, to detect and prevent potential harm to oneself. The Harm-in-Harmony theory explains why, despite the appearance of interpersonal harmony, there is pervasive yet covert interpersonal conflict woven into the fabric of East Asian Collectivism.

1.1 Aim and Novelty of the Present Analysis

Notions of collectivism in contemporary social psychology emerged from seminal studies that contrasted interdependent self-construal in East Asia with independent self-construal in North America (Cross, Hardin, & Gercek-Swing, 2011; Markus & Kitayama, 1991). This research program adopted a *dimensional* approach, comparing cultural groups along a particular cultural dimension (i.e., independence-interdependence; individualism-collectivism). Among its many accomplishments was a partial "de-centering" of social psychology from North America/Europe, forcing researchers to reconsider the generalizability of their findings, and to integrate the intriguing patterns from studies involving East Asians.

Although the dimensional approach and the dichotomization of North/European American and East Asians have produced a plethora of insights, it has not created a complete view of East Asian psychology. Among the leading experts, Triandis (1995) warns that the dimensions can be heuristically overused at the expense of conceptual clarity. He writes of

cultural dimensions: “their wide applicability also represents a danger. Like the man with a hammer who uses it at every opportunity, if we do not sharpen their meaning, we can overuse the constructs” (p. 2). D. Cohen (2015) further suggests that for the dimensional approach, “there was necessarily some sacrifice in depth” (p. 431), because the dimensional approach may have overlooked the underlying cultural logic in a particular socioecological region. Anthropologist A. P. Fiske (2002) even claims the concept of collectivism is contrasted with Western individualism to such an extent that the construct becomes detached from the local’s reality. He writes: “IND [Individualism] is the concatenation of features that, in our own ideology and folk sociology, Americans perceive as defining our culture. COL [Collectivism] is an abstraction that formalizes our ideological representation of the antithetical other, a cultural vision of the rest of the world characterized in terms of what we imagine we are not” (p. 84). Overall, scholars have identified limitations with the dimensional approach that inhibit a more complete understanding of East Asian culture and the underlying logic that animates it.

The current analysis goes beyond the dimensional approach and re-conceptualizes the cultural logic in East Asian Collectivism. In doing so, I echo Markus and Kitayama’s (2010) caution against constructing an artificially rosy image of Collectivism: “(A)lthough interdependence ensures that people are likely to be responsive to others, this does not imply harmony or affection among the people engaged in interdependent relationships” (p. 425). The Harm-in-Harmony theory expands on this prescient concern by analyzing the development, experience, and perpetuation of the competition and conflict forces that permeate interpersonal relations in East Asia.

Below, I begin by identifying the ecological conditions in East Asia that encouraged the development of Collectivism. It is these ecological conditions that created both the appearance of cooperation and the potential for conflict.

1.2 Socio-Ecological Conditions: Limited Relational Mobility in Agricultural Communities

Psychology has a long tradition of studying how socioecological factors influence the human mind and culture (Berry, 1967; D. Cohen, Nisbett, Bowdle, & Schwarz, 1996; Gangestad & Buss, 1993; Gelfand et al., 2011; Nisbett, 2004; Oishi, 2014; Uskul, Kitayama, & Nisbett, 2008). Following this tradition, I begin by examining a prominent ecological conditions that have been present in East Asia's long history of agriculture: limited relational mobility.

East Asians have lower relational mobility than Westerners (Schug et al., 2010; Thomson et al., 2018; Yuki & Schug, 2012). Yuki and Schug (2012) consider relational mobility to be an ecological-level factor (instead of an individual-level factor) because ecological conditions constrain "the amount of opportunities people have to select new relationship partners in a given society or social context" (Yuki et al., 2007, p. 3).

Limited relational mobility can be traced back to agriculture and its rural basis (Durkheim, 1893/1997; Simmel, 1903/1971). Because land is immovable, farmers are bound to their land and restricted in their ability to relocate or diversify their social relations (Fung, 1966). The Chinese actually have a phrase to describe this tendency, *An Tu Zhong Qian* (安土重迁), meaning being attached to one's land and unwilling to leave it. These historical constraints on mobility likely developed into a cultural reluctance to move and forge new relationships. Empirically, a recent 39-country study has shown that historical farming is linked to low relational mobility (Thomson et al, 2018).

I next turn to a discussion of how low relational mobility produces both a (commonly acknowledged) need for cooperation as well as a (typically unobserved) potential for conflict within social groups in these societies. See Figure 1 for the conceptual model.

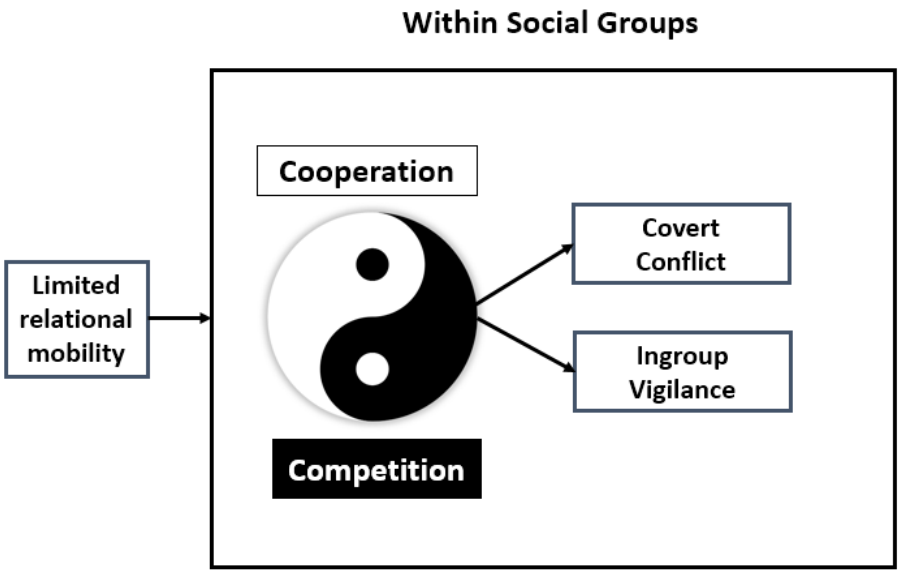


Figure 1: The Harm in Harmony Model

1.3 Interdependence: The Coexistence of Cooperation and Conflict

Limited relational mobility provides the seeds both for cooperation and for conflict within social groups. Western scholars and laypeople often think that we cooperate with and have conflict with a different set of people—Individuals cooperate with their friends and compete with their foes (Galinsky & Schweitzer, 2015). However, I propose that low relational mobility produces the *simultaneous* existence of cooperation and conflict within a group: Limited relational mobility constrains these two forces within a social group.

Limited relational mobility guarantees that the majority of one's social interactions happen within a relatively small group. Therefore, one will cooperate and have potential conflict with the same group of people. For instance, farmers in a rice-farming village may exchange labor with their fellow villagers and work together on irrigation projects (Talhelm et al., 2014).

Yet, they are also likely to have conflict with these same villagers over land borders or water rights (Buoye, 2006).

The coexistence of cooperation and conflict was observed by historian Thomas Smith (1977) in his study of a small Japanese farming village in the Tokugawa Era (1603-1867). As scholars have pointed out, a rice farming village in East Asia is a typical example of a social group defined by limited relational mobility (Oishi et al., 2015). Smith noticed that although there was great emphasis on village solidarity, "there was an equally important competitive side to village life that has been largely ignored: a competition between families rather than individuals, covert rather than open but fierce and unrelenting nevertheless" (p. 114-115).

Japanese anthropologist Takie Lebra (1984) elaborates on how limited relational mobility fosters the coexistence of cooperation *and* conflict in the Collectivistic culture of Japan. Lebra argues that harmony and conflict are not mutually exclusive in Japan and that the "harmony *or* conflict" model is "an oversimplified dichotomy that fails to capture reality" (p. 56). She writes: "in a social unit, like a *buraku*, characterized by its closure and tight network of cooperation, intense competitiveness, jealousy, and hatred may indeed predominate, though such conflict emotions usually may not surface." A villager informant in Henna Buraku, for instance, "described the fellow villagers as always having their eyes wide open for every chance to 'tear up and win over one another …Other's misfortunes are celebrated by cooking red-bean rice, and their good fortunes are cursed'" (p. 57). As cultural psychologist Eunkook Suh puts it, "Living in a culture closely knit with others means not only that you have many friends to seek solace from, but it also implies that there are more people who are jealous of your achievements" (Suh, 2007, p. 1337).

At the core of the analysis is the recognition that limited relational mobility causes cooperation and conflict to co-exist within a group. Too often these forces are seen as negatively related, or at best orthogonal (for exceptions, see M.-J. Chen, 2002, 2008; Krauss, Rohlen, & Steinhoff, 1984). However, much of the empirical evidence supporting the negative relationship between conflict and cooperation has been produced with short-lasting groups or relationships characterized by high levels of choice and mobility. In contrast, in long-lasting groups characterized by limited relational mobility, conflict and cooperation are inseparably linked.

Although the term "interdependence" has become almost synonymous with the notion of an interdependent self-construal in social psychology today, it is worth recalling that the objective state of interdependence between individuals can be positive and negative. In Deutsch's Interdependence Theory (Deutsch, 1949, 1977), he differentiates *promotive interdependence*—"everybody sinks or swims together" from *contrient interdependence*— "if one swims, the other must sink" (1977, p. 20). Here, I propose that limited relational mobility simultaneously produces both forms of interdependence within social groups. Therefore, I argue that East Asian Collectivism is best understood as a tension between high levels of cooperation and high levels of conflict within social groups.

Next, I elaborate how people in East Asian Collectivistic cultures maintain the appearance of harmony that has been the documented by so much research despite the constant threat of conflict.

1.4 Behavioral Pattern: Covert Conflicts

I propose that the appearance of harmony in East Asian Collectivistic cultures, masking the prevalence of conflict, is maintained through covert conflict. Covert conflict represents a constellation of interpersonal frictions—such as sabotage, competition, and revenge—that tend

to occur without full common knowledge of the parties involved. Covertness is doing one thing in public, but doing or believing another in private. For instance, a behavior is covert when a situation offers anonymity. An intention can be covert when it's justified by other motives. Expressions can be covert when people use indirect language that provides plausible deniability (Lee & Pinker, 2010). Covertness in East Asia means that interpersonal conflict is often a shadow lurking beneath the appearance of harmony.

Covert conflict arises from three related sources: (1) low relational mobility, (2) the co-existence of cooperation and conflict, and (3) harsh sanctions.[2] First, low relational mobility means that if conflicts escalating into acrimony, people are going to be stuck with that acrimony for a long time, with few opportunity to find new relationships. Second, open conflicts threaten the possibility of cooperation with the same group of people. Therefore, conflict must be expressed covertly to maintain future cooperation. Lastly, harsh social sanctions in East Asia (Gelfand et al., 2011) discourage open competition and conflict, which further drives the expression of conflict and self-interest below the surface. As a result, feelings of competitiveness or conflict must be expressed covertly to keep relationship, maintain cooperation, and to avoid sanctions.

[2] Readers might wonder: (1) What is the relationship between low relational mobility and harsh sanctions? (2) Which one—low relational mobility or harsh sanction—is the primary cause of covert competition? For the first question, low relational mobility and harsh sanctions ("tight culture") share a common cause: They both emerge in societies that had strong historical and ecological threats (such as poverty, high population density, and historical prevalence of pathogens; Thomson et al., 2018; Gelfand et al., 2011). Therefore, it's not surprising that relational mobility is highly correlated with various measures of cultural tightness (rs range from -.39 to -.70, Thomson et al., 2018). For the second question, we can take a step back and ask: Can we single out a cultural factor that is the primary cause of everything? I believe the answer is no. Culture is a system with related and mutually reinforcing factors (Cohen, 2001; Markus & Kitayama, 2010; Nisbett, 2004). Factors like harsh sanctions, low relational mobility, covert competition, and ingroup vigilance may mutually reinforce each other and they form an organic whole that we call collectivism. In my empirical studies in Chapter 2, I toke a thin slice of collectivism, and examined how low relational mobility can explain covert competition. My studies don't exclude the possibility that sanction leads to covert competition, or that sanctions leads to covert competition more than low relational mobility do.

It should be noted that the covert nature of conflict further perpetuates the coexistence of cooperation and conflict within social groups in East Asia. As Japanese anthropologist Lebra puts it: "the cultural value of harmony may intensify, instead of mitigate, conflict" (1984, p. 56). She reasoned that the norm of harmony may make people more cognitively and emotionally sensitive to conflict. In addition, the covert nature of conflict may make particular conflicts less likely to be definitively resolved, meaning they will continue to exist in parallel with acts of cooperation. Therefore, covert conflict keep conflict from reaching extreme levels, but at the same time help perpetuate that conflict.

Covert conflict within a social group was observed by anthropologist Yoshida (1984) in his study of Japanese farming villages. He observed that in times of drought, there are conflicts over water rights both between and within villages, but the style of conflict is quite different. When engaged in intergroup conflict between villages, villagers "pursue these conflicts openly and with little restraint." However, within a village, "unity is always stressed, and the weight of the complex interweaving of social relationships reinforce this ideal. The combination serves to suppress the open expression of conflict. Tensions lie below the surface, feelings run deep, grudges persist, but the surface of relationship is managed to exhibit harmony" (p. 96-97).

Conflict can also be covert by disguising it as consistent with Collectivist social norms. For instance, anthropologist Hsu (1967) studied a Chinese rural village in the 1940s. He observed that the townspeople had two defining features: (1) submission to authority figures and (2) a competitive urge to out-perform same-status peers in their family. Hsu (1967) concluded that selfish status competition was rationalized and masked as a sign of obedience to authority. For example, brothers could justify fierce competition for resources as a quest to please their authoritative father.

Another example comes from anthropologist Tada's (1991) observation of competition in Japan. He notes that although there is keen competition among company employees in Japan, it is "often disguised by hard work for the sake of a company" (Tada, 1991, p. 267). Here, the company employees use the rationale of benefiting the company (a socially encouraged behavior in East Asian Collectivism) to mask their competition with other employees (a sanctioned behavior in the culture).

The covert nature of competition and conflict may also explain why researchers of East Asian Collectivism using self-report scales are more likely to observe socially encouraged cooperation rather than socially sanctioned competition and conflict.[3] This is because self-report involves overt self-expression. If open competition and conflict are sanctioned, and thus these tendencies remain covert, then competition and conflict in East Asian settings should be difficult to detect through standard self-report methods.

So far, I have analyzed that the co-existence of cooperation and conflict within social groups in East Asia leads to covert conflict. Next, I analyze how East Asians cope psychologically with the potential harm from covert conflict. I propose that this potential harm creates the need for a sensitive threat detection system in social relations.

1.5 Social Cognition: Ingroup Vigilance

To deal with covert conflict, I propose that people in East Asia developed a heightened threat detection system. I conceptualize this threat detection system *vigilant social cognition*.

[3] An exception was reported by Briley and Wyer (2001). They showed that compared to Americans, Hong Kong participants were more likely to endorse values of competition, agreeing to vertical individualism items such as "It annoys me when other people perform better than I do" and "When another person does better than I do, I get tense and aroused." My study (Chapter 3 Study 3) differs from this work in two ways: (1) I focus on ingroup competition, whereas previous work is about competition in general; (2) I use concrete scenarios instead of scales to avoid the reference group effect (Heine et al., 2002).

Vigilance is a core concept in ethology. Animals, facing potential dangers in their environment, keep a watchful eye. Birds and herds animals are primarily vigilant toward predators. Among primates, however, a large proportion of vigilance is directed toward con-specifics, who can be an important source of aggression and competition (Caine & Marra, 1988; Treves, 1999). Primatologists refer to this within-species vigilance as social vigilance (Ebitz, Watson, & Platt, 2013).

My understanding of vigilant social cognition in human beings originates from Kramer's analysis of paranoid social cognition (Kramer, 1998). Focusing on the U.S. Individualist culture, Kramer explained why certain individuals develop paranoid styles of cognition as a function of their status in social relationships. Kramer argued that paranoid social cognition features a tendency toward a "sinister attribution error," thinking conspiratorially about social relationships. I adapt his understanding for my analysis.

It is important to clarify why I use the term *vigilant* instead of *paranoid* social cognition. Working primarily from a mono-cultural perspective, Kramer (1998) analyzed why some individuals displayed *errors* of social attribution and perception that were potentially maladaptive in the local context, therefore he uses the pejorative term "paranoid." For instance, Kramer argued that paranoid social cognition can be self-fulfilling and to some extent disconnected from reality. I use the neutral term "vigilant" to highlight its adaptiveness in East Asian Collectivistic cultures.

Why vigilance is adaptive in East Asia? First, because conflict is more likely to be covert in East Asia, people from these cultures may realize hostility can be present even when it is not directly observed. Second, from the perspective of error management theory (Haselton & Nettle, 2006), when individuals make judgments under uncertainty, the costs of false positives and false

negatives are different and selection favors “a bias towards making the least costly error” (p. 47). Haselton and Nettle (2006) use error management theory to explain how it is adaptive to over-attribute hostility when the cost of not detecting hosility is high. Similary, given East Asian Collectivistic cultures have more covert conflict and competition, there is a high cost for failing to detect the covert aggression of others. Therefore, I propose that over-attributing hostile motives to others is adaptive in East Asian settings.

A classic example of vigilance is illustrated by Ishii, Miyamoto, Mayama, and Niedenthal (2011), who studied how quickly Japanese and U.S. participants could detect changes of emotions in others. They morphed pictures of people from smiling to neutral facial expressions, and from sad to neutral facial expressions. Participants were asked to indicate when they no longer saw the initial expressions on the face. Japanese and American participants did not differ in their rating of the emotions in the first and last pictures. Yet, Japanese participants more quickly detected the disappearance of a smile than U.S. participants, suggesting they were more practiced and adept at detecting potential hostility in others. For the disappearance of sadness, however, Japanese participants were no more sensitive than Americans. Because the disappearance of a smile contains more potential threats than the disappearance of sadness, the finding suggests that Japanese people are not especially sensitive to all emotions; instead, they may only specialize at detecting potentially hostile emotions.

Recent findings show that East Asians pay more attention than North Americans to the possibility that someone might sabotage them. For instance, Zhang and Cross (2011) studied Chinese and U.S. participants’ emotional responses to success and failure. They found that in recalling moments of success, although Chinese participants were more likely to believe the

event made others “feel proud of them,” they were also more likely to fear that “their personal success made others jealous or envious” (p. 7).

These findings regarding envy, generalized trust and emotion detection might simply reflect East Asian’s vigilance against strangers or outgroup members. However, more recent findings comparing people from Hong Kong and North America confirm that East Asians are vigilant even in their close relatinships, believing that “There are likely to be people in my close social network (relatives and friends) who feel hatred and ill will toward me” (Li et al., 2015). In Chapter 3, I report more empirical work on ingroup vigilance.

In summary, I propose that East Asians developed a heightened threat detection system—vigilant social cognition—to cope with potential harm in social groups. In the following sections, I discuss the implications of Harm-in-Harmony Theory for understanding the nature of East Asian Collectivism.

1.6 Understanding East Asian Collectivism through the Harm-in-Harmony Lens

This model draws connections among a number of cross-cultural differences, from motivation to modesty to mental health challenges in East Asia.

Motivation and Control

Prevention Focus. One fundamental motivation is self-regulatory focus (Higgins, 1998), which distinguishes between two self-regulatory orientations: prevention and promotion. A prevention focus emphasizes safety and security, and a promotion focus emphasizes advancement and achievement. Previous research has shown that East Asians tend to be more prevention-focused than North Americans (A. Y. Lee, Aaker, & Gardner, 2000; Lockwood, Marshall, & Sadler, 2005; Uskul, Sherman, & Fitzgibbon, 2009).

The previous account has largely focused on how cooperation in East Asian collectivism leads to prevention focus. For instance, Lee et al. (2000) reasoned: "The interdependent goal of harmoniously fitting in with others, with its emphasis on fulfilling various social roles and maintaining connections with others, may be more consistent with prevention focus" (p. 1123). The role of prevention focus is to help individuals carefully avoid *their own* mistakes to fulfil their roles and obligations to others.

The Harm-in-Harmony perspective, however, provides a difference account of why East Asians are more prevention focused from the conflict and competitive side of East Asian Collectivism. A prevention focus fits an unsafe environment where the cost of mistakes are high (Higgins, 2008). Higgins writes: "Promotion focus states would be a better match than prevention focus states for an environment that is generally safe and provide opportunities for growth and improvement that should not be missed, whereas the opposite would be true for an environment where it is difficult to maintain safety and failures to be careful enough are highly costly" (p. 14). From the Harm-in-Harmony perspective, the environment in East Asian culture is characterized by high levels of potential interpersonal harm. As a result, a prevention focus that carefully avoids *other people's* mistakes would fit the environment. Ingroup vigilance taps into East Asians' tendency to detect and avoid *other people's* mistake.

Lack of Control. This perspective also explains why East Asians typically have lower feelings of control than Westerners (Zhou, He, Yang, Lao, & Baumeister, 2012). Humans have a fundamental need to maintain control, yet feelings of control are influenced by the environment. When the environment provides prolonged, inescapable, aversive feedback, feelings of control will suffer (Overmier & Seligman, 1967; Seligman & Maier, 1967). I propose that the combination of limited relational mobility with covert conflict means that many East Asians face

an inescapable yet aversive environment. Therefore, the theory would predict that East Asians have lower feelings of control.

Modesty Social Norm

This theory also provides a new account on why modesty social norms are so prevalent in East Asia. Research has found that East Asians are less likely to make favorable self-evaluations (Kurman, 2003). Asians' lack of favorable self-evaluations (at least in overt self-reports) is a puzzle, because even among East Asians, favorable self-evaluations predicts higher subjective well-being (O'Mara, Gaertner, Sedikides, Zhou, & Liu, 2012) and less depression and anxiety (Cai, Wu, & Brown, 2009). Previous research suggested that Asians are modest in order to maintain group harmony and to protect other people's feelings (Kurman, 2003).

From the Harm-in-Harmony perspective, however, being modest can also be a strategy to protect the self from potential sanctions and covert competition. The Japanese saying "the nail that stands out gets pounded down" echoes the Chinese saying that "the bird that takes the lead gets shot down". These quotes suggest the potential backlash one may face for being immodest and standing out. An immodest behavior not only open one up to sanctions but also to the possibility that others will covertly sabotage them. Therefore, by being modest, one can protect self-interest from potential sanctions and sabotage. A recent study finds that Koreans are less likely than Americans to share their achievement with others; this is because Koreans have higher relational concerns such as "I am afraid that other people would feel jealous or envious of me" (H. Choi, Oishi, Shin, & Suh, 2019, p. 534). Note that this view departs from the traditional view that emphasizes how East Asians are modest because they care other people's feelings, instead, this view emphasizes how East Asians impute negative intentions to others (e.g., jealousy, envy) and how being modest is a self-protection strategy.

Mental Health and Culture-Bound Syndromes

The model also provides insights into some mental health challenges in East Asia, including some culture-bound syndromes and Asians' reluctance to seek social support.

Reluctance to Seek Social Support. A major mental health challenge for East Asians is that they seek social support less than European Americans (H. S. Kim, Sherman, Ko, & Taylor, 2006; Taylor et al., 2004). For European Americans, social support buffers stress (S. Cohen & Wills, 1985). However, when Asian participants were asked to seek help from close others explicitly, it actually exacerbated their psychological and biological stress compared to no help seeking (Taylor, Welch, Kim, & Sherman, 2007). Researchers have reasoned that East Asians are reluctant to seek social support because of their concerns with preserving group harmony and saving face (H. S. Kim, Sherman, Ko, & Taylor, 2006; Taylor et al., 2004; Taylor et al., 2007) or not wanting to feel indebted to others (Miller, Akiyama, & Kapadia, 2017).

For the Harm-in-Harmony perspective, there is another reason for East Asians' reluctance to seek social support: They don't want to expose their vulnerability. Seeking help is a direct expression of vulnerability. If Asians perceive that their social environment is a minefield of potential harm, they might be more reluctant to expose their vulnerability because others might exploit it. Indeed, the reluctance to confide to others is a typical symptom of paranoid social cognition "because of unwarranted fear that the information will be used maliciously against them" (Robins & Post, 1997, p. 3). Study 3 in Chapter 3 illustrates this point and shows that East Asians are so vigilant that they would interpret a friend's helping gesture as sabotage in disguise.

Culture-Bound Syndromes in East Asia. According to DSM-IV, culture-bound syndromes are "generally limited to specific societies or culture areas and are localized, folk, diagnostic categories that frame coherent meanings for certain repetitive, patterned, and

troubling sets of experiences and observations" (American Psychiatric Association, 1994, p. 844). From the Harm-in-Harmony perspective, covert conflict and ingroup vigilance in East Asia provide ground for some unique culture-bound syndromes.

***Hwa-byung*.** Hwa-byung is a Korean culture-bound syndrome in DSM-IV (American Psychiatric Association, 1994) and it means "anger disorder." Hwa-hyung is attributed to chronic anger suppression that produces somatic symptoms such as a mass in the chest (Lin, 1983). According to an online survey, 32% of Korean company employees suffer from this syndrome (Central Japan Daily, 2013). Although Hwa-byung is understood by patients and families as a physical affliction, case studies show that the onset of Hwa-byung is often precipitated by interpersonal conflicts and an oppressive environment where anger has to be suppressed (Lin, 1983). This analysis is consistent with the theory: the need for conflict to be covert creates the suppression of anger.

***Taijin Kyofusho*.** Taijin Kyofusho is a Japanese culture-bound syndrome (American Psychiatric Association, 1994) that represents a paralyzing fear of offending others through one's own physical appearance. Patients fear that their eyes, physical appearance or odor may displease or offend other people, and as a result, patients believe that other people are avoiding them (Iwase et al., 2000; J. Kim, Rapee, & Gaston, 2008). From the Harm-in-Harmony perspective, Taijin Kyofusho is a maladaptive form of vigilant social cognition: Patients become overly sensitive and make unsubstantiated attributions to others' negative intent. Research has found that higher levels of Taijin Kyofusho can be partially mediated by patients' perceptions of limited relational mobility (Sato, Yuki, & Norasakkunkit, 2014).

Shenjing Shuairuo. Shengjing Shuairuo is a Chinese culture-bound syndrome that represents "nerve weakness," or neurasthenia (American Psychiatric Association, 1994;

Kleinman, 1986). Symptoms include physical and mental fatigue, headaches and insomnia. According to Kleinman's medical anthropological work (1986), most of Shenjing Shuairuo patients could be rediagnosed using DSM-III criteria as depressive disorder. Through case studies, Kleinman argues that Shenjing Shuairuo helps individuals avoid harsh sanctions by making attributions to a physical (as opposed to mental) illness.

Somatization helps people utter the unutterable. Somatization is the core feature in these culture-bound syndromes. East Asians often have high levels of somatization (Sullivan, 2016). From the Harm-in-Harmony perspective, the significance of somatization is threefold. First, somatization often results from living in a culture where the appearance of harmony is paramount and thus anger and conflict have to be suppressed. For instance, there is correlational evidence that suppressing anger is positively related to somatization (S. I. Choi, Kim, Shin, & Cho, 2001; L. Liu, Cohen, Schulz, & Waldinger, 2011). Second, mental illness is more stigmatized in East Asia (Furnham & Wong, 2007). Somatization helps the sufferer avoid sanctions by directing suffering to a physical cause, rather than a mental one. Third, somatization provides an indirect way to communicate suffering and cry for help (Kirmayer, 1984; Kleinman, 1986; Lin, 1983). Instead of talking directly about interpersonal problems, patients can refer to their physical problems and negotiate ways to improve their condition. All of these qualities of the somatization of mental illness may be partly facilitated by a social environment that suppresses interpersonal conflicts. If interpersonal conflicts are treated as purely physical dilemmas, they can be dealt with without ever openly addressing the underlying interpersonal issues.

1.7 Why Vigilant Social Cognition May Be Hard to Change

The ancestral ecological conditions that produced East Asian Collectivism are changing rapidly today: Japan, South Korea and China are no longer agricultural societies and can afford higher relational mobility than was the case in their ancestral ecological environments. Given that I have presented a causal model that begins with these ecological conditions, one could argue that the rising levels of economic development and environmental changes will decrease the prevalence of vigilant social cognition in the near future.

Decades of research, however, have found that cultural patterns persist even after the originating ecological conditions have changed (D. Cohen & Nisbett, 1997; Gelfand et al., 2011; Talhelm et al., 2014). The studies I reviewed earlier on the social sensitivity of Japanese participants suggest that vigilant social cognition persists even years after gains in Japanese economic development. Here, I discuss the self-reinforcing nature of the Harm-in-Harmony pattern.

Vigilant social cognition produces self-reinforcing cycles that restrict change. First, social sensitivity makes individuals hyperaware of the potential hostility in social interactions. As everyday life is full of ambiguous interactions, individuals functioning under vigilant social cognition will perceive more hostility in social interactions, even when it is not there. Study 3 in Chapter 3 illustrates this point by giving people ambiguous social scenarios and tests how Chinese vs. Americans interpret those ambiguous social cues. Results showed that the cultural difference in ingroup vigilance was even larger in the ambiguous situation than in a clearly competitive situation.

Moreover, perceptions and expectations of hostility can be self-fulfilling: Perceptions of hostility can trigger hostile or aggressive reactions in oneself (Dodge, 1980) and in others (Frank

& Gilovich, 1988; Snyder, Tanke, & Berscheid, 1977), thus transforming perceptions of hostility into truly hostile behaviors. For instance, because competitive people tend to believe that other people are competitive, they treat others aggressively and, as a result, bring out the competitiveness in other people (Kelley & Stahelski, 1970).

Finally, vigilant social cognition also perpetuates itself at the societal level. From Granovetter's threshold theory of collective behavior (Granovetter, 1978), once a behavior reaches a threshold proportion in a society, the behavior can become a stable equilibrium and difficult to change. D. Cohen (2001) has used this threshold model to understand cultural patterns as a stable equilibrium. Hence, I suggest that once a society has a high level of vigilant social cognition, being vigilant becomes a stable equilibrium, the destabilization of which requires that the majority of people change their behavior in concert—an unlikely event. Study 3B in Chapter 2 and Study 2 in Chapter 3 illustrate the persistence of culture patterns by studying students from China's rice vs. wheat farming regions.

In the next two chapters, I report empirical studies that tested the main hypotheses in the Harm-in-Harmony theory. Chapter 2 centers on covert competition. Chapter 3 centers on ingroup vigilance.

Chapter 2: Covert Competition

Based on the analysis in Chapter 1, I propose two hypotheses:

H1: People in collectivistic cultures compete more covertly than people in individualistic cultures.

H2: Limited relational mobility explains cultural differences in covert competition.

2.1 Study 1: MBA Students' Self-Reported Covert Tactics[4]

Methods

Participants. I surveyed 522 first-year MBA students (41.8% female; M_{age} = 27.7 years, SD_{age} = 2.3) from Columbia Business School as a part of a class exercise. The sample size was pre-determined to be all students that took the class. Among the participants, 254 self-identified as White, 154 as Asian, 38 Hispanic/Latino, 22 Black/African American, and 53 other.

I tested for differences between students of White/European heritage compared to students of Asian and Latin heritage. This comparison accomplishes two goals. (1) It allows for a comparison between collectivistic and individualistic cultures, since prior studies have found that higher collectivism in Asia and Latin America (e.g., Hofstede, 1980). (2) Comparing Asian culture and Latin cultures allows us to pull apart collectivism and relational mobility. This is because, although Latin societies tend to score high on collectivism, they differ in that Asian collectivism features low relational mobility, whereas Latin culture has one of the highest relational mobility in the world (Thomson et al., 2018).

I dummy coded ethnicity into four dummy variables (Asian, Black, Latino, other), comparing them with Europeans and European Americans. Power analyses indicated that the

[4] This chapter is based on a working paper entitled "Covert Competition in Collectivistic Cultures: The Role of Relational Mobility," with coauthors Michael Morris, Thomas Talhelm, and Qian Yang. This paper is now under review at the Journal of Personality and Social Psychology.

sample sizes were large enough to detect cultural differences with 70% power when the effect sizes were small to moderate (d = 0.25 comparing Asian and European Americans; d = 0.55 comparing Latin and European Americans; d = 0.43 comparing for African American and European American, all α = .05, two-tailed).

Dependent variable. Participants rated how much they hid their competitiveness (1 = *strongly disagree* to 7 = *strongly agree*; α = .65). Items were are "I am more ambitious than I would like to admit," "I hide my ability," "I try to appear less competitive," "I avoid being threatening," "I rarely talk about career ambitions," "I attribute success to good luck instead of ability or hardworking," and "I work harder than I appear." I pilot tested the items so that there were no cultural differences in how people from different cultural backgrounds viewed the items in terms of social desirability.

Control variables. I controlled for major demographic variables (age, gender, U.S. born) and the industry students had worked in (finance, consulting, technology, and other).

Results

Students from Asian backgrounds were significantly more likely to hide their competitiveness than European American students (Table 1, Model 1). This difference remained significant when I accounted for major demographic variables (Model 2) and industry (Model 3).

In contrast, students from African American and Latin backgrounds were not significantly more likely to hide their competitiveness than European American students (Model 1). This was true regardless of accounting for the demographic variables (Model 2) and industry (Model 3).

Table 1: Regression Analyses on Hiding Competitiveness (Chapter 2 Study 1).

Variables	Model 1	Model 2	Model 3

Asian	0.21* (0.09)	0.32** (0.10)	0.32** (0.10)
African American	0.03 (0.19)	0.05 (0.19)	0.04 (0.19)
Latin	-0.05 (0.15)	-0.01 (0.15)	-0.01 (0.15)
Other	0.04 (0.13)	0.13 (0.14)	0.14 (0.14)
Age (years)		0.03† (0.02)	0.02 (0.02)
Male		0.20** (0.08)	0.22** (0.08)
U.S. born		0.18† (0.09)	0.16† (0.09)
Finance			-0.09 (0.09)
Consulting			-0.08 (0.11)
Technology			0.06 (0.14)
R^2	.01	.04	.04
Adjusted R^2	.004	.02	.02

Notes: Unstandardized regression coefficients are displayed, with standard errors in parentheses. † $p < .10$. * $p < .05$. ** $p < .01$.

Discussion

This study found initial evidence that Asian MBA students were more likely to hide their competitiveness than European American students. One counter-explanation is that Asian students hide their competitiveness because they are minorities in the U.S., not because of their collectivistic cultural background. However, this explanation is hard to square with the fact that two other minority groups—Latin and African American students—didn't show the same pattern.

The comparison between Latin and Asian culture suggests that relational mobility is playing a more important role than collectivism. Participants from high-relational-mobility Latin cultures did not hide their competitiveness. Thus, relational mobility is one candidate for a variable that can explain differences in covert competition. Of course, relational mobility is by no means the only difference between cultures in Asia and Latin America. Thus, in the next

study, I more explicitly tested whether relational mobility can explain cultural difference in covert competition.

2.2 Study 2: Peer-Rated Covertness among American and Chinese College Students

Methods

Participants. I recruited 70 students (32 men, M_{age} = 22.4 years, *SD* = 2.2) from Zhejiang University in China and 67 students (31 men, all self-identified as White, M_{age} = 23.5 years, *SD* = 4.8) from Columbia University in the United States. I based the sample size on a power analysis that indicated that 64 participants per culture was required to detect a medium effect (*d* = 0.50) with 80% power. I aimed to keep the samples roughly equivalent by selecting universities that are elite in each country and also in large cities. I screened for inattentive participants using a straightforward item at the end of the study: "I didn't pay attention. Please do not use my data." Three participants agreed with this item and were excluded from analysis (China: 1, U.S.: 2).

Measures.

Hiding competitiveness. To complement Study 1, I had people rate *other people's behavior*, rather than their own behavior. Although both self-report and other-report have value, studies have found that descriptive social norms (perceptions of others' behavior) sometimes have larger explanatory power than personal attitudes (e.g., Shteynberg, Gelfand, & Kim, 2009; Zou et al., 2009). Participants indicated their perceptions of people around them using the hiding competitiveness scale (1 = *strongly disagree*, 7 = *strongly agree*).

Covert competition tactics. In addition to the hiding competitiveness scale, I adapted 13 items from three existing scales designed to capture hidden forms of aggression in the workplace: the Aggressive Experience Scale (Glomb, 1998), the Workplace Aggression Scale

(Neuman & Baron, 1998), and the Self-reported Inappropriate Negotiation Strategies Scale (measures underhanded negotiation tactics, Robinson, Lewicki, & Donahue, 2000). For example, participants rated how much the people around them "withhold important information from the competitor" and "appear friendly to the competitor to gain information." To measure societal perceptions, I modified the wording so that participants indicated "how likely are people in your society to behave in the following ways toward a coworker or classmate *when they compete*" from 1 (*very unlikely*) to 5 (*very likely*).

Confrontational competition tactics. I also measured competition tactics that are explicitly confrontational and therefore not at all covert. Items were adapted from the Aggressive Experience Scale (Glomb, 1998), including "Intimidate the other person; get in their face," "Belittling the other person in front of other people," "Flaunting their status or power over the other person," "Swearing at the other person," "Making jokes at the other person's expense," and "Openly rejecting the other person's request" (1 = *very unlikely* to 5 = *very likely*).

Mediator: relational mobility. Participants rated "people around you" on four items from the relational mobility scale (Yuki et al., 2007): "These people are able to choose the groups and organizations they belong to"; "It is often the case that they cannot freely choose who they associate with" (reverse-coded); "Even though they might rather leave, these people often have no choice but to stay in groups they don't like" (reverse-coded); and "There are few opportunities for these people to form new friendships" (reverse-coded).

Results

Table 2: Descriptive Statistics and Mean-Level Comparisons by Culture (Chapter 2 Study 2).

	China	US
	n = 68	*n* = 66

	α	*M*	*SD*	*α*	*M*	*SD*	*t*	*p*	*d*
Hiding competitiveness	.83	5.04	0.94	.63	4.24	0.87	5.08	< .001	0.88
Covert tactics	.89	3.29	0.69	.91	2.86	0.77	3.35	.001	0.58
Confrontational tactics	.75	2.77	0.70	.84	2.64	0.84	1.01	.312	0.18
Relational mobility	.64	4.15	0.95	.71	4.51	1.16	-1.97	.051	0.34

Hiding competitiveness. Chinese students were more likely to believe that other people are hiding their competitiveness than American students (Table 2; d = 0.88, 95% CI [0.48, 1.10]).

Competition tactics. I analyzed competition tactics using a 2 (Type: covert vs. confrontational) × 2 (Culture: China vs. U.S.) mixed ANOVA, with type of competition as a within-subjects measure. There was a main effect of culture, $F(1, 132) = 5.74$, $p = .018$, $\eta_p^2 = 0.04$, which was qualified by the predicted interaction effect, $F(1, 132) = 6.27$, $p = .014$, $\eta_p^2 = 0.03$. As shown in Table 2, for covert competition measures, Chinese students perceived more covert competition tactics than Americans, $t(132) = 3.35$, $p = .001$, $d = 0.58$, 95% CI of the mean difference [0.23, 0.93]. However, there was no significant cultural difference in confrontational competition tactics, $t(132) = 1.01$, $p = .312$, $d = 0.18$, 95% CI of the mean difference [-0.17, 0.52]., Results indicate that Chinese participants expected more covert tactics but not more confrontational tactics.

Relational mobility mediates differences in covert competition. Chinese participants perceived marginally lower relational mobility (M = 4.15, SD = 0.95) than Americans (M = 4.51, SD = 1.16), $t(132) = -1.97$, $p = .051$, $d = 0.34$, 95% CI of the mean difference [-0.685, 0.004].

Next, we ran mediation analyses to test whether relational mobility could explain cultural differences in covert competition. Because hiding competition and covert competition tactics were highly correlated ($r = .41$, $p < .001$), I averaged the two into a composite covertness

score. A bootstrapping test using 1,000 samples indicated that relational mobility had a significant mediation effect, 95% CI [0.001, 0.190].

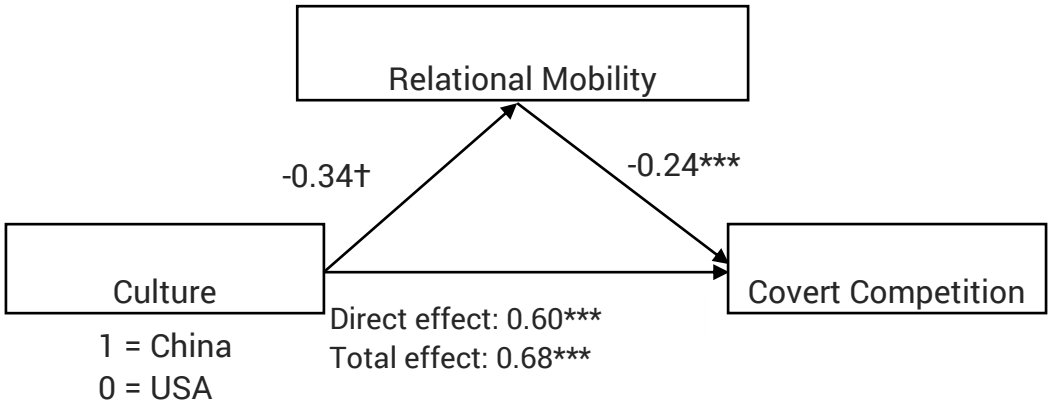


Figure 2: Chapter 2 Study 2 Mediation Model.

Discussion

This test of college students found stronger perceptions of covert competition in China than the U.S. Differences in relational mobility explained a portion of differences in competition. Together, Studies 1 and 2 found that collectivists compete more covertly than individualists, comparing both within a country and between two countries. The two studies also suggest that covert competition may have roots in low relational mobility.

One weakness of Studies 1 and 2 is that they both relied on abstract statements, like "I avoid being threatening." There is some evidence that using concrete scenarios is a more reliable way to measure cultural differences (Heine, Lehman, Peng, & Greenholtz, 2002; Peng, Nisbett, & Wong, 1997). In the next two studies, I designed concrete scenarios of competition and asked participants to come up with their own tactics of competition. This also has the strength of avoiding putting words in people's mouths.

2.3 Study 3A: Free-Response Measures of Covertness in American and Chinese Working Adults[5]

Methods

Participants. I recruited 52 American participants from MTurk and 66 Chinese participants from a Chinese crowdsource market similar to MTurk (Zhubajie). American participants included 27 male and 25 female MTurkers (M_{age} = 35.4 years, *SD* = 11.1; 47 Whites, 3 African Americans, 1 Asian, and 1 Hispanic). Chinese participants included 35 male and 31 female respondents (M_{age} = 26.8 years, *SD* = 5.5). I used hierarchical linear modeling to account for the fact that tactics are nested within participants (R package lme4, Bates, Mächler, Bolker, & Walker, 2015). I based the sample size on simulated hierarchical linear model analyses (with tactics nested within participants) that recommends at least 50 participants (Maas & Hox, 2005).

Procedure. Participants read four scenarios about competition and imagined what "people around you might do in this situation." For instance, this is a sample scenario about actresses competing for lead role:

[Leading Actress] Mary (Chinese version: Ma Li) is an actress in a drama troupe. There is a new play in preparation. Mary wants to become the leading actress but there are other actresses who also want the position. In order to become the leading actress, what are some things that Mary might do?

I randomly assigned participants to read versions about a male or female protagonist. For each competition scenario, I asked participants to imagine two or three tactics. This open-ended

[5] Portions of these data in Study 3A & Study 3B that examine the ethicality of the tactics are reported in Chapter 3 and have been published (S. S. Liu, Morris, Talhelm, & Yang, 2019). However, this chapter is concerned with a different concept and reports a new DV, while accounting for the differences in ethicality.

response format allows me to capture the full range of culturally varied competition behaviors, instead of focusing on a set of pre-defined behaviors as in the previous studies.

After they listed tactics for all four scenarios, participants rated how covert each tactic is. For example, participants rated how much they agreed that "Mary [the protagonist] would like other actresses to know her behavior" (-3 = *strongly disagree*, 3 = *strongly agree*). I reverse-coded responses so that larger numbers indicate more covertness.

Results

Cultural differences. Results showed that Chinese participants expected competition tactics to be more covert (M = 0.11, SE = 0.17) than Americans (M = -0.55, SE = 0.19), $t(113.9) = -2.55$, $p = .012$, 95% CI of the mean difference [0.15, 1.17]. This cultural pattern was similar ($p = .005$) when I controlled for age and gender.

Accounting for ethicality. Because people tend to hide unethical tactics, one alternative explanation could be that Chinese participants simply expected more unethical tactics. In that case, the difference would be in ethicality, not covertness.

To test this possibility, I had two bilingual research assistants code all the tactics participants listed in both countries. The assistants coded each tactic as: (1) ethical (e.g., "do research on the role"); (2) unethical (e.g., "poison other actresses' food," "have sex with the producer"); or (3) gray area, which is neither clearly ethical nor unethical (e.g., "become buddy-buddy with the director"). The overall percentage agreement between the two coders was 88%. Disagreements were resolved by discussion. We describe more detailed analysis of ethicality in Chapter 3.

In this study, I examined if the cultural difference in covertness persisted after accounting for ethicality. We tested covertness for a Culture (China, USA) × Ethicality (unethical, gray, vs.

ethical) interaction, with tactics nested within individuals. It is not surprising that people tended to hide unethical tactics (M = 2.14, SE = 0.16) more than gray-area tactics (M = 1.22, SE = 0.17) and ethical tactics (M = -0.94, SE = 0.12; all differences ps < .001). There was a significant Culture × Ethicality interaction, $F(2, 1069.9) = 4.24$, $p = .015$. When the tactics were clearly unethical or ethical, there was no culture difference in covertness, ps > .540. However, for gray-area tactics, participants in China still expected more covertness (M = 1.46, SE = 0.21) than Americans (M = 0.49, SE = 0.33), $t(683.8) = 2.52$, $p = 0.012$, 95% CI [0.22, 1.74]. The results indicate that the cultural difference in covertness centers on gray-area tactics.

Discussion

Using open-ended questions with a sample of working adults, Study 3A found again that people in a collectivistic culture (China) expected more covert competition than people in an individualistic culture (U.S.). People in both cultures expected that people would try to hide clearly unethical tactics, such as sleeping with the director to get an acting role. And people in both cultures had very little expectation that people would hide clearly ethical strategies, such as studying hard to get the part. Yet cultural differences emerged for ethically ambiguous tactics. For these gray area tactics, participants in China expected more covertness than Americans did.

This finding helps sketch out the specific type of situation under which cultural differences will emerge. However, one question this study cannot definitively answer is whether this difference is due to cultural factors like collectivism or relational mobility. China and the US differ not only in collectivism but also in history, language, and political system. To address these country-level alterative explanations, I ran Study 3B comparing cultures within a single country.

2.4 Study 3B: Free-Response Measures of Covertness in China's Rice vs. Wheat Regions

Research has shown regional differences in collectivism within China. Among the majority ethnic Han, people from the rice-farming areas of southern China are more collectivistic than people in the wheat-farming areas of northern China (Talhelm et al., 2014). Thus, I tested people who grew up in China's rice and wheat regions.

There are theoretical reasons to line covertness to historical ecologies. Pre-modern rice farming required farmers to work closely to manage water levels and shared irrigation systems (Talhelm & Oishi, 2018). This created a paramount need to maintain relationships while at the same time created competition for scarce resources (such as water in times of drought). Consistent with this, a study of 39 societies around the world found that cultures with a history of rice farming had lower relational mobility (Thomson et al., 2018). If low relational mobility leads to covert competition, people from rice areas would be more inclined toward covert approaches than people from wheat areas.

Methods

Participants. I recruited 450 college students from three universities in China. Following previous research, I compared differences among historically farming cultures of Han ethnicity (Talhelm et al., 2014). Thus, I excluded 34 non-Han Chinese students and 16 Han students from the historically herding provinces of Tibet, Xinjiang, and Inner Mongolia Two participants typed random characters in open-ended questions and were further excluded, leaving 398 participants in the final analysis (M_{age} = 20.3 years, SD = 2.7; 231 female).

Materials. I used the same scenarios as in Study 3A. Participants rated the covertness of the competition tactics using items such as: "Will Mary [the protagonist] try to make other

actresses aware of the behavior or hide the behavior to other actresses?" (-3 = *try very hard to make others aware*, 3 = *try very hard to hide*). In order to account for the ethicality of the tactics, I asked participants to categorize the tactics into unethical, gray-area, or ethical (after they had listed all the tactics).

Rice vs. wheat. Participants indicated where they primarily grow up. Following previous research, I tested rice as a continuous variable and as a categorical variable ((Talhelm et al., 2014). I analyzed the data using a 3-level HLM with tactics nested within participants and participants nested within provinces.

Other socioecological variables. Previous research has shown that poverty and pathogen prevalence are related to collectivism (Fincher, Thornhill, Murray, & Schaller, 2008; Greenfield, 2016) and that population density is associated with competition (Sng, Neuberg, Varnum, & Kenrick, 2017) and norm tightness (Gelfand et al., 2011). Thus, I also collected province-level data on GDP, pathogen prevalence, and population density.

Results

Rice-wheat differences. Students from rice provinces expected competition tactics to be more covert (M = 0.20, SE = 0.07) than students from wheat (M = -0.01, SE = 0.08), $t(396.9)$ = 2.00, p = .047, 95% CI [0.003, 0.421]. Results were similar using a continuous rice variable (Table 3). Other ecological accounts did not explain the differences, such as GDP (Model 2), pathogen prevalence (Model 3), and population density (Model 4).

Table 3: Rice Farming Predicts Covert Competition (Chapter 2 Study 3B)

		γ	*SE*	*t*	*p*
Model 1	Percent rice	0.33	0.15	2.15	.032
Model 2	Percent rice	0.36	0.17	2.13	.034

	GDP per capita	-0.10	0.24	-0.40	.687
Model 3	Percent rice	0.33	0.17	1.91	.057
	Pathogen prevalence	0.01	0.10	0.13	.897
Model 4	Percent rice	0.34	0.15	2.18	.030
	Population density	-1.13	2.80	-0.40	.686

Notes. The analysis was a 3-level HLM, with tactics nested within participants, participants nested within provinces. We used the lme4 package (Bates et al., 2015). GDP per capita data are from 1996. Population density data are from 1996. Pathogen data come from a 1975 study (Junshi Chen, Campbell, Junyao, & Peto, 1990) and several provincial statistical yearbooks (more details in Talhelm et al., 2014). All models include the full dataset except for Model 3, which includes 333 participants in 21 provinces where the province pathogen data are available.

Controlling for ethicality. Similar to Study 3A, I examined covertness while accounting for ethicality. I submitted covertness of tactics to a 2 (Culture: rice vs. wheat) × 3 (Ethicality: ethical, gray-area, unethical) multilevel analyses, with tactics nested within participants, participants nested within provinces.

Results showed the same pattern as Study 3A. First, there was the unsurprising finding that people expected other people to hide unethical tactics (M = 2.72, SE = 0.06) more than gray-area (M = 1.33, SE = 0.07) and ethical tactics (M = -1.11, SE = 0.05; ps < .001). There emerged a Culture × Ethicality interaction, $F(2, 3581.0) = 5.03$, $p = .007$, in that when the tactics were clearly unethical or ethical, there was no cultural difference in covertness, ps > .709. However, for tactics in the gray-area, participants from rice areas expected more covertness (M = 1.52, SE = 0.09) than participants from wheat (M = 1.15, SE = 0.10), $t(1743.9) = 2.78$, $p = .006$, 95% CI [0.11, 0.63]. Again, the results indicate that the cultural difference in covertness centers on gray-area tactics.

Discussion

Study 3B replicated the patterns of covert competition in Study 3A: People from China's more collectivistic rice areas expected more covert competition than people from China's more individualistic wheat areas. Testing within the same country helps rule out variables that confound the comparison between China and the US, such as religion, politics, and national differences in corruption.

The results were consistent with the hypothesis that people live in low relational mobility environments expected more covert competition than people live in high relational mobility environments. However, I did not directly test relational mobility. There are other differences between rice and wheat areas in addition to relational mobility. Thus, in Studies 4 and 5, I experimentally manipulated relational mobility and tested if it affects covert competition.

2.5 Study 4: Manipulating Relational Mobility

The main goal for Study 4 was to test whether low relational mobility leads to covert competition. Because covertness and ethicality are closely related, I wanted to test the effect while holding ethicality constant. Therefore, I did a pretest to create competition tactic pairs that are matched on ethicality, but differed in covertness. Second, because covertness may seem at odds with the traditional portrait of collectivism that emphasizes harmony and ingroup identity, I wanted to test whether covertness, harmony, and strong group identity can actually co-exist.

Pretest for Tactic Pairs Matched on Ethicality but Differed in Covertness

Set 1: Covert vs. overt competition tactics. I ran several rounds of pre-testing to create pairs of covert vs. overt competition tactics. The goal was to create tactic pairs that were matched on ethicality ($p > .10$) but differed in covertness ($p < .05$). In each round, participants read a list of behaviors that employees might do when they are competing with coworkers for an opportunity to become a team leader. They rated the tactics on ethicality and covertness.

For instance, one situation describes an employee asking the team leader about selection criteria. The overt tactic is to ask about the criteria in a group meeting, and the covert tactic is to ask in a one-on-one meeting with the team leader. Participants rated items on ethicality ("How ethical or unethical is the behavior?") from 1 (*very unethical*) to 5 (*very ethical*) and covertness ("How covert or overt is the behavior to other coworkers?" 1 = *very overt*, 5 = *very covert*). In the final pretest (65 MTurkers with work experience), I had nine pairs that were matched on ethicality but differed in covertness. The competition pairs cover a wide range of ethicality, ranging from unethical pairs (insult a coworker directly vs. derogate the person behind his/her back) to ethical pairs (work overtime in the workplace vs. at home). See Table 4 for the complete list.

Table 4: Pairs of Covert vs. Overt Competition Tactics (Chapter 2 Study 4).

1	When they are competing against a particular coworker, what will they do? • They openly reject the coworker's request for assistance. (overt) • They privately decide not to offer some resources that would assist the coworker. (covert)
2	When they spot a flaw in a coworker's presentation during a group meeting, what will they do? • They constructively raise the concern during the meeting. (overt) • They express the concern to the team leader privately. (covert)
3	When they want more challenges at work, how will they ask for it? • They ask for it at the team meeting. (overt) • They ask for it in a one-on-one meeting with the team leader. (covert)
4	When their work has made significant progress, what will they do? • They will present the progress during team meetings. (overt) • They will document the progress in weekly emails to their manager. (covert)
5	When they are competing against a particular coworker, what will they do? • They criticize the coworker's performance at a meeting. (overt) • They criticize the coworker's performance to the boss. (covert)

6	They flirt with the boss, how will they do it? • They flirt with the boss in front of the other coworkers. (overt) • They flirt with the boss in private. (covert)
7	When they want to ask the team leader about the criteria for leading the project, when will they ask for it? • They ask the team leader about the criteria in a group meeting. (overt) • They ask the team leader about the criteria in a one-on-one meeting with the team leader. (covert)
8	When a team member disagrees with their proposal at the team meeting, what will they do? • They will start an impassioned debate with the coworker. (overt) • They will thank the coworker and then email the team leader about the advantages of his/her own plan. (covert)
9	When they compete against a particular coworker for the opportunity, what will they do? • They will try to intimidate the person by insulting him or her directly. (overt) • They will derogate the person by saying insulting things behind his or her back. (covert)

Set 2: Covert vs. overt competing conflict styles. Researchers on conflict resolution describe competing as a combination of a high concern for benefit to the self and low concern for benefit to the other person (Pruitt & Rubin, 1986). Researchers describe competing as a dominating conflict resolution style, measured by items such as “They will be generally firm in pursuing their side of the issue” (Rahim, 1983).

I think these items miss the possibility of covert competition, which is also a high concern for self and low concern for other’s benefit. Thus, I designed covert competition items that are matched with the competing measures in the original conflict resolution style scale (Rahim, 1983). For each original item ("Competing Conflict Style", sometimes also called “Dominating Conflict Style”), I created an alternate covert version ("Covert Competing Conflict Style"). For example, I created the covert item, “They will relentlessly work on the quiet to

pursue their side of the issue"). I pre-tested items to find items that were similar on ethicality (p >.10) but different in covertness (p < .05). After several rounds of pre-tests, a final round of testing with 65 MTurkers found five pairs of competing items that met the criteria.

Table 5: Covert and Overt Competing Conflict Styles (Chapter 2 Study 4).

Overt Competing Conflict Styles (from Rahim, 1983) • They will use their influence to get their ideas accepted. • They will use their authority to make a decision in their favor. • They will use their expertise to make a decision in their favor. • They will be generally firm in pursuing their side of the issue. • They will sometimes use their power to win a competitive situation.
Covert Competing Conflict Styles • They will use their influence in low-key ways to get their ideas accepted. • They will use their authority in understated ways to make a decision in their favor. • They will use their expertise without drawing undue attention to make a decision in their favor. • They will relentlessly work on the quiet to pursue their side of the issue. • They will use their power in a subtle way to win a competitive situation.

Methods

Participants. I predetermined a sample size of 120 participants, which would detect a medium effect size (d = 0.60) with 90% power. Accounting for exclusions, I recruited 130 participants, of which 8 failed an attention check item ("Please select the second option from the left"). That left a total of 122 participants (M_{age} = 35.9 years, SD_{age} = 10.9; 68 females; 93 White, 11 Asian, 10 African American, and 8 Hispanic).

Manipulating relational mobility. I asked participants to read a scenario containing job statistics for a hypothetical country named *Myland* (adapted from Jing Chen, Chiu, & Chan, 2009; Wang, Leung, See, & Gao, 2011). Participants were asked to write down what their career and relationships would be like if they lived in this country. In the low-relational-mobility condition, participants learned that most Mylanders work for one or two organizations in their lifetime. And, because of the low turn-over rate, firms usually fill high-level roles with someone from inside the firm.

In the high-relational-mobility condition, participants learned that most Mylanders work for 10-15 different organizations in their lifetime. And, because of the high turn-over rate, firms usually fill high-level roles with an external candidate.

Dependent Variables.

***Manipulation check*.** To test whether the manipulation actually influenced people's perceptions of relational mobility, I asked participants to rate four items on the relational mobility of the scenario. Participants rated their expectations about their coworkers at the workplace in Myland. Sample items include: “Even though they want to change jobs, these people often have no choice but to stay” and “They cannot choose who they work with” (both were reverse-coded). I used responses scales from 1 (*very unlikely*) to 7 (*very likely*) unless otherwise noted.

Covert competition tactics. Participants read that there is a chance to lead an important project in their company, and then they selected the tactic that they felt their coworkers in Myland would be more likely to do in the situation. Participants chose from the nine pairs of tactics that I pre-tested. I tallied the total number of covert tactics selected (possible range: 0 - 9).

Covert vs. Overt Competing Conflict Styles. Participants rated their co-workers on both the covert version and the overt version of the Rahim competing style scale (α_{covert} = .92, α_{overt} = .92).

Lastly, I included measures of harmony and ingroup-ness to explore the possibility that covertness, harmony, and strong group identity can actually co-exist.

Harmony. I used seven items adapted from two scales of harmony (Earley, 1993; Hashimoto & Yamagishi, 2013). For example, participants rated the items "They would take actions to maintain the harmony within their team," and "They will not disturb good relations among their coworkers" (α = .75).

Ingroup-ness. I used two items to measure ingroup-ness: "Coworkers have a shared identity," and "Coworkers have shared duties and obligations to each other." The two were highly correlated (r = .72, p < .001). I averaged the two to form an ingroup-ness score.

Results

Manipulation check. As intended, participants in the low-mobility condition perceived lower relational mobility (M = 1.73, SD = 0.73) than participants in the high-mobility condition (M = 4.90, SD = 1.07), $t(120) = 19.14$, p < .001, d = 3.35, 95% CI [-3.50, -2.85].

Covert competition. Participants in the low-relational-mobility condition expected more covert competition, both for the covert competition tactics and for the covert competing style (Table 6). There was no difference in participants' expectation of the overt competing style.

Table 6: Descriptive Statistics and Mean Differences by Relational Mobility Condition (Chapter 2 Study 4).

	Low	High				Correlations			
Variables	*M* (*SD*)	*M* (*SD*)	*t*	*p*	*d*	1	2	3	4
1 Covert tactics	6.84 (2.06)	5.43 (2.57)	3.34	.001	0.60				
2 Covert style	5.61 (1.21)	4.56 (1.53)	4.21	<.001	0.76	.51***			
3 Overt style	5.34 (1.29)	5.47 (1.12)	-0.60	.550	-0.11	.17	.10		
4 Harmony	5.08 (0.94)	3.93 (1.08)	6.27	<.001	1.13	.37***	.52***	-0.15	
5 Ingroup-ness	4.77 (1.46)	3.58 (1.48)	4.43	<.001	0.80	.00	.20*	-0.35***	.55***

* $p < .05$. *** $p < .001$.

Harmony and ingroup-ness. Consistent with the traditional image of collectivism, participants in the low-relational-mobility condition were more likely to expect that people would emphasize harmony. They also reported seeing coworkers as more of an ingroup than participants in the high-relational-mobility condition (Table 6).

Discussion

By manipulating people's perception of relational mobility, I found that people expected more covert competition in a low-relational-mobility society. The results suggest that covert competition can co-exist with harmony and a strong sense of ingroup-ness. It should be noted that because the covert and overt tactics are matched on ethicality, the results cannot be explained by that people in a low relational mobility environment expect more ethical tactics.

2.6 Study 5: Manipulating Relational Mobility—Covert Competition Game

Despite the fact that Study 4 used random assignment, one important weakness is that the measures of covertness were relatively obvious. It's possible that participants read the mobility scenarios and anticipated how I expected them to answer. With that in mind, I designed the last study to manipulate relational mobility and test covertness in people's behavior, rather than asking them. By measuring behavior, I test differences in a way that is less vulnerable to demand characteristics.

To measure covert behavior, I modified the "quiet exit" paradigm of the classic dictator games (Dana, Cain, & Dawes, 2006). Participants first play the role of the dictator, allocating a bonus between the self and a partner. Then they get the option to revoke their choice and receive a secret bonus instead. The secret bonus leaves the partner nothing, but the partner will never know about the bonus or the fact that the primary participant played the dictator game.

Another goal of Study 5 was to resolve an apparent puzzle between my research and some previous work on relational mobility. A previous study found that people in low-mobility groups were more likely to help each other (Oishi, Rothman, et al., 2007). I reason that low relational mobility requires the cloak of covertness only when making competitive moves but not when making cooperative moves. I therefore designed Study 5 to test this boundary condition.

Method

Participants. I predetermined a sample size of 300 participants in the final analysis. Accounting for exclusions (see *Procedure*), I recruited 403 participants from MTurk. Of those participants, 58 failed a qualification test, and 39 failed the manipulation check question, leaving a total of 306 participants in the analysis (M_{age} = 37.2 years, SD_{age} = 12.5; 177 females; 248

White, 21 Asian, 20 African American, 13 Hispanic, and 4 others). The sample size and exclusion criteria were pre-registered.

Procedure. I recruited participants for a study of "online working groups." When participants joined, they learned that they would be working in groups of two people for three rounds. Then they provided a nickname and entered an online waiting room to be matched with another participant. After a few seconds of waiting, they were paired with a (bogus) partner to work together in the first round. To make it more real, I provided a nickname (randomly selected from a pool of names) and MTurk worker ID for the bogus partner.

***Qualification test for bonus*.** In the first round, participants learned that they and their partner would work independently on eight analytical problems. They could earn a bonus of $1.00 if they correctly answered at least three out of eight problems. I chose moderately difficult SAT analytical problems so that 86% of participants passed the test and earned the bonus. Participants who failed the qualification (n = 58) didn't proceed to the next part of the study.

It is worth noting that I had participants earn their bonus, instead of receiving it for nothing. I did this to give participants a plausibly legitimate reason to keep the bonus for themselves. Previous research has found that people feel comfortable taking all the bonus when it was earned, but not when it was a windfall (Cherry, Frykblom, & Shogren, 2002).

Allocation task. After passing the test, participants learned that they had earned a bonus of 100 cents. However, I told them that their partner didn't perform well and therefore didn't receive any bonus in this round. They were then given an opportunity to give some of their earned bonus to their partner. They could either choose to keep all 100 cents for themselves, giving their partner nothing (100¢, 0¢), or they could give half to their partner (50¢, 50¢). In both

options, participants learned that the partner would find out about their bonus and how they split it.

***Manipulating relational mobility*.** After participants chose their option in the dictator's game, I manipulated relational mobility. Participants in the low-relational-mobility condition learned that they would work with the same partner in the next two rounds; participants in the high-relational-mobility condition learned that they would work with different partners in the next two rounds. Previous research has used the same vs. different partners paradigm to manipulate stable vs. unstable relationships (e.g., Oishi, Rothman, et al., 2007). [6]

DV: *Covert option*. After participants learned whether they would be working with the same partner or different partners for the next two rounds, they were given a "secret bonus" option: (90¢, 0¢). Participants could either keep their original choice in the allocation task, or they could opt for the secret bonus. If they chose the secret bonus, their partner would receive nothing. However, their partner would not know about the bonus nor how they split the money.

Manipulation check. Participants completed a manipulation check question at the end of the study: "According to the instructions, were you expecting to work with [insert partner name here] in the next two rounds?" As pre-registered, participants who failed this question (n = 39) were excluded from analysis.

[6] Relational mobility can be manipulated in a better way. It's important to differentiate the potential choice and freedom vs. the actual frequency that people have in forming and ending relationships. Relational mobility refers to a high level of choice and freedom, which doesn't necessarily translate into a high relation turnover. Sometimes, it could be that people have a lot of choice and freedom in who they associate with, but they stay with their partner. This would be a case of high relational mobility but low relation turnover. The manipulation I reported seems more like relation turnover, instead of relational mobility. To manipulate relational mobility more precisely, participants in the high relational mobility condition will learn that "After this round, you and your partner can choose whether you will stay with the same partner. If either of you choose not to, you will be paired with a new partner." Although I don't expect the results to differ, this manipulation will be more closely aligned with the definition of relational mobility.

Prediction and Pre-registration. Before running the study**,** I pre-registered the protocol (http://aspredicted.org/blind.php?x=3p96y7), detailing sample size, exclusion criteria, hypotheses, and data analysis plan. I pre-registered the hypothesis that participants who originally chose the self-interested (100¢, 0¢) option, low relational mobility would cause more participants to take the secret bonus. However, for participants who originally chose the cooperative (50¢, 50¢) option, low relational mobility would cause fewer participants to take the secret bonus.

Results

Among participants who originally chose the self-interested (100¢, 0¢) option, people in the low-relational-mobility condition were more likely to take the secret bonus than people in the high-relational-mobility condition, 28% vs. 15%, $\chi^2(1, N = 174) = 4.48$, $p = .034$, Cramer's V = 0.16 (Figure 3). However, for participants who originally chose the cooperative (50¢, 50¢) option, there was a reversed pattern: those in the low-relational-mobility condition were less likely to take the secret bonus than those in the high-relational-mobility condition, 19% vs. 34%, $\chi^2(1, N = 132) = 3.70$, $p = .055$, Cramer's V = 0.17. A logistic regression found a significant interaction between Relational mobility (high vs. low) × Original choice (100¢ vs. 50¢), $z = 2.82$, $p = .005$.

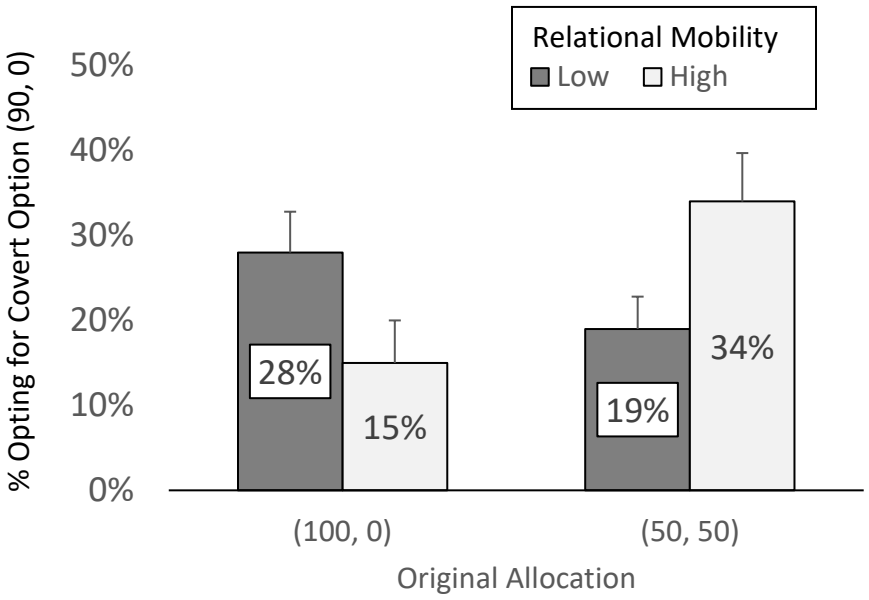


Figure 3: The Percentage of Covert Option by Relational Mobility and Original Allocation (Chapter 2 Study 5). Error bars represent 1 *SE*.

Discussion

Using a behavioral measure of covertness, Study 5 found that, for people who initially pursued their self-interest (first choosing 100/0 option), expecting a low-relational-mobility environment prompted them to hide this behavior. However, for people first demonstrated that they cared about their partner (who originally chose the 50/50 option), expecting a low-relational-mobility environment did not push them to be covertly selfish.

The results indicate that low relational mobility have divergent effects on how people compete and cooperate. In a low-relational-mobility environment, competitive people tend to hide their selfish behaviors. However, for people who are cooperative to begin with, low-relational-mobility encourages them to stay with their original generous acts. Both covert competition and overt cooperation serve the same function—maintaining social relationships.

2.7 General Discussion

These studies document the phenomenon, the mechanism, and the boundary conditions of covert competition in collectivistic cultures. There is more covert competition in collectivistic cultures: Asian and Asian American MBA students hid competition more than European and European American MBA students (Study 1). Chinese college students perceived more covert competition than American college students (Study 2). When asked to come up with competition tactics, working adults in a collectivistic culture (China) imagined more covert tactics than people in an individualistic culture (America; Study 3A). This pattern held even comparing people from China's rice-growing regions versus wheat-growing regions (Study 3B).

The studies also found evidence that low relational mobility can explain covert competition in collectivistic cultures. First, I found that a collectivistic culture with high relational mobility (Latin culture) showed no more covert competition than European American culture (Study 1). Second, relational mobility mediated the difference between the US and China in covert competition (Study 2). Last, manipulating relational mobility caused Americans to expect more covert competition (Study 4) and to act more covertly when they were pursing self-interests (Study 5).

Documenting Diversity in Collectivistic Cultures

The results highlight the need to recognize different forms of collectivism. For instance, although Latin cultures score higher on collectivism (Shkodriani & Gibbons, 1995), students of Latin descent were no more likely to report covert competition (Study 1). This is not the only study to find divergent patterns in Latin American and East Asian cultures. Previous research has shown that Latin culture and East Asian culture show opposite preferences for ideal affect. Latin Americans are more likely to prefer high arousal, expressive positive affect, such as excitement

and enthusiasm, whereas East Asians are more likely to prefer low arousal positive affect, such as calmness (Ruby, Falk, Heine, Villa, & Silberstein, 2012). These findings fit with researchers' call to move beyond the "East-West" dichotomy and to study different variations of collectivism (Miller et al., 2017; Vignoles et al., 2016).

In addition to a more refined taxonomy of collectivism, I also think it's worthwhile to explore the mechanisms that drive different forms of collectivism. For instance, relational mobility provides a promising tool. Latin American cultures such as Mexico and Puerto Rico have the highest relational mobility in the world, whereas Asian cultures have the lowest (Thomson et al., 2018). Studying the socio-cultural conditions of different cultures provides a way to differentiate distinct forms of collectivism.

Relation to Indirect Communication

The findings in this study are related to previous studies on cultural differences in communication. This covertness in competition could be connected to the finding that Asians are more indirect in workplace communication (Holtgraves, 1997) and that bicultural people are flexible in their use of direct and indirect communication with partners from different cultures (A. K.-y. Leung & Chiu, 2011). Covert competitiveness could also be linked to the finding that people from East Asia are more reluctant than North Americans to share personal secrets with friends (Schug et al., 2010). A recent study shows that Asians are reluctant to share even their positive events, fearing that "other people would feel jealous or envious of me" (H. Choi et al., 2019). This findings connect with these previous findings in that covert competition is another non-confrontational strategy designed to avoid open conflict.

Covert Competition vs. Low Levels of Competition

The findings here depart from some prior research arguing that collectivistic cultures have less competition. Prior theories of culture have identified competition as a signature of individualism, not collectivism (Triandis & Gelfand, 1998). The data here suggest that East Asian culture has a different kind of competition, rather than a low level of competition.

Empirical studies have found that collectivism is strongly correlated with zero-sum mindset (Różycka-Tran, Boski, & Wojciszke, 2015), which often triggers competitive behaviors (He, Derfler-Rozin, & Pitesa, 2019; Sirola & Pitesa, 2016). How do people in collectivistic cultures maintain harmony in the midst of high levels of competition? I think the key is to understand the covert nature of competition in these cultures. Covert competition provides a way to pursue self-interest without disrupting relationships.

Implications for Understanding the Tight-Knit Societies

These findings contribute to a more balanced picture of the comforts and discomforts of tight-knit relationships. As cultural psychologist Eunkook Suh puts it, “Living in a culture closely knit with others means not only that you have many friends to seek solace from, but it also implies that there are more people who are jealous of your achievements” (Suh, 2007, p. 1337). The phenomenon of covert competition makes visible the interpersonal tension of competition in collectivistic cultures.

Perhaps one reason that Western researchers have focused on the harmonious side of collectivism is the effort to avoid ethnocentric prejudice. Early anthropology research often described people in other cultures as irrational and uncivilized, which people used to justify colonialism (Said, 1979). Recognizing the positive in other cultures helps counteract this evil, but it also runs the risk of romanticizing other cultures and glossing over the complexity of lived

experience. Some people have even argued that emphasizing non-Western harmony has had insidious political effects, such as justifying the repressions of dissent (Nader, 1990).

Empirical studies have found that East Asian Americans—stereotyped as harmonious—are liked less by their coworkers and are more likely to self-report experiencing racial harassment at work if they behave assertively (Berdahl & Min, 2012). In contrast, people of other races receive fewer penalties for being assertive.

Implications for Conflict Resolution

The findings can provide insight for the research on conflict management. Dual concern theorists traditionally evaluated conflict resolution styles according to how they satisfy people's self-interest and the other party's interest. Researchers have criticized the non-assertive, seemingly low self-concern strategies. For example, one researcher argued that heavy reliance on the accommodating style is masochistic— "self-sacrificing for the sake of their relationship." (Thomas, 1976, p. 901). And heavy reliance on avoiding is a character or intellectual flaw—"an instance of withdrawal, isolation, indifference, ignorance or reliance upon fate" (Thomas, 1976, p. 901).

Given that these non-confrontational styles of resolving conflict are more common in collectivistic cultures, cultural researchers have questioned these narrow evaluations of what traits or goals give rise to them. For example, Leung argued that harmony-preserving conflict styles in East Asia are associated with instrumental motives that go beyond the issue on the table (K. Leung, 1988; K. Leung, Koch, & Lu, 2002). Thus, the non-confrontational styles actually reflect high self-concern in the longer term.

My research takes this notion further by revealing that, although collectivists preserve harmony on the surface, they continue to compete covertly. Covert competition involves

pursuing one's interests without making assertive demands from the counterpart. Covert competition is like avoiding and accommodating in its lack of assertive bargaining, but it is more like competing in its goal of self-interest. This points to the need for a new model of conflict styles in which overtness of bargaining is not conflated with self-concern.

Chapter 3: Ingroup Vigilance

Based on the analysis in Chapter 1, I propose two hypotheses:

H1: People in East Asia collectivistic cultures are more vigilant against ingroup members than people in individualistic cultures.

H2: Perceived competition (zero-sum belief) within groups explains cultural differences in ingroup vigilance.

3.1 Study 1: Ingroup Vigilance in American and Chinese Working Adults[7]

Methods

Study 1 tests whether there are cultural differences (H1) by comparing working adults in the U.S. and China. I chose these two countries because a meta-analysis study showed that people in China were more collectivistic than Americans and that the country difference was particularly large in their emphasis on social harmony (Oyserman, Coon, & Kemmelmeier, 2002). One caveat is that collectivism is a complex concept and there is heterogeneity within countries (Oyserman et al., 2002). A limitation of Study 1 is that I did not measure participants' collectivism and instead used country as a proxy for culture.

Participants. Because I was studying a phenomenon without much prior research and were uncertain about effect size, I followed the suggestion of recruiting at least 50 participants in each culture (Simmons, Nelson, & Simonsohn, 2013). Given the study design, the sample was large enough to detect a small effect (Cramer's V = .11) at 80% power. I recruited 52 American participants from MTurk (www.mturk.com) and 66 Chinese participants from a Chinese crowdsource market similar to MTurk (www.zbj.com) to participate in "a study of daily life."

[7] This chapter has been published at the Proceedings of the National Academy of Science (Liu et al., 2019). I thank my coauthors (Michael Morris, Thomas Talhelm, and Qian Yang), the editor, Steven Heine, and three anonymous reviewers for their feedback.

Although these platforms do not provide nationally representative samples, studies have found that MTurk participants are more diverse and closer to being a reflection of the cross-section of society than college student samples (Buhrmester, Kwang, & Gosling, 2011). Previous research has used samples from these two platforms to study cultural differences and found that the Chinese and American samples are similar in terms of education levels and SES in their society (Wu, Garcia, & Kopelman, 2017). The American participants were 27 males and 25 females (M_{age} = 35.4 years, *SD* = 11.1; 47 Whites, 3 African Americans, 1 Asian, and 1 Hispanic). Chinese participants were 35 males and 31 females (M_{age} = 26.8 years, *SD* = 5.5).

Materials. Participants read four scenarios of within-group competition and indicated what people around them will do in the situation. Participants were asked to imagine two or three possible behaviors for each competition scenario, such as actresses competing for a lead role, company employees competing for a bonus, students competing for scholarships, and officials competing for promotions. I created two versions featuring male protagonists and female protagonists. Participants were randomly assigned to these two versions. Gender of the protagonists did not significantly influence ingroup vigilance. All vignettes and instructions were generated through the standard back-translation practice in cultural psychology. Here is the actress scenario:

> Mary [Chinese version: Wang Li] is an actress in a drama troupe. There is a new play in preparation. Mary wants to become the leading actress but there are other actresses who also want the position. In order to become the leading actress, what are some things that Mary might do?

Coding ingroup vigilance. Two bilingual research assistants (native Chinese speakers, fluent in English, having lived in the U.S. for more than a year) coded participants' responses.

They coded the responses in the participants' original language without translation. To minimize possible demand characteristics, I recruited new research assistants on the basis that they had not taken cultural psychology classes and had not participated our lab meetings. In addition, they were told that the purpose of the coding was to explore possible cultural differences, but no hypothesis was mentioned.

Research assistants categorized the behaviors into the following categories: (1) ethical (e.g., "do research on the role"); (2) unethical (e.g., "poison other actresses' food," "have sex with the producer"); or (3) gray area, which is not clearly ethical or unethical (e.g., "become buddy-buddy with the director"). Ten behaviors (0.9% of total behaviors, China: 7, US: 3) were so unclear that they could not be coded and were excluded from analysis. The categorizations of the two coders demonstrated high inter-rater reliability, ICC = 0.943 [95% CI: 0.936, 0.949]; disagreements were solved by discussion. Because unethical and gray-area behaviors by ingroup members are more threatening than ethical behaviors, unethical and gray-area behaviors indicate vigilance, whereas ethical behaviors indicate no vigilance.

To validate research assistants' coding, I also had participants themselves rated their generated behaviors (Item: "Mary's behavior is moral;" Response scale: -3 = *strongly disagree* to 3 = *strongly agree*). Participants' ratings were highly correlated with research assistants' coding (-1 = *unethical*, 0 = *gray*, 1 = *ethical*), suggesting the latter's validity (r = .74, p <.001). The results on ingroup vigilance were similar when I used participants' ratings in the analysis.

Results

Ingroup vigilance. When expecting ingroup competition, Chinese participants imagined fewer ethical behaviors (China 62% vs. US 84%) and more unethical (20% vs. 11%) and gray area behaviors (18% vs. 5%). A two-way Culture (2: China vs. US) × Ethicality (3: unethical vs.

gray area vs. ethical) Pearson's chi-square test of independence showed a significant cultural difference, $\chi^2(2, N = 1150) = 71.80$, $p < .001$, Cramer's V = .25.

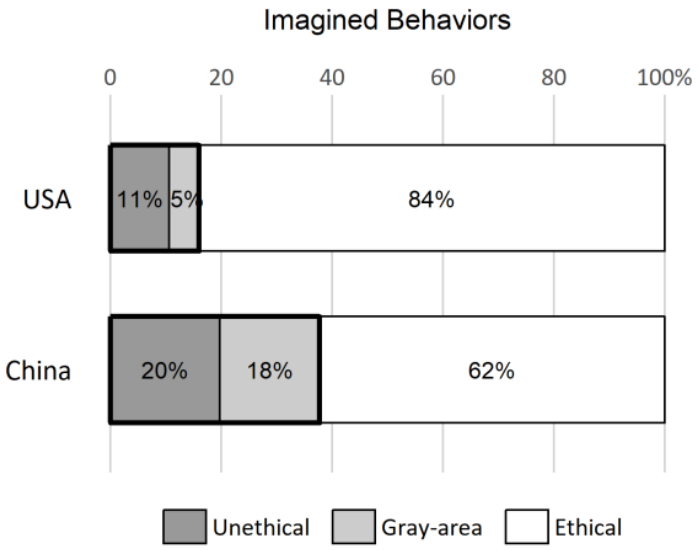


Figure 4: Ingroup Vigilance by Culture (Chapter 3 Study 1)

Is it just bribery? One alternative account is that this difference is *just* a cultural difference in one particular type of unethical behavior, bribery. Studies have found that there is more bribery in collectivistic societies (Mazar & Aggarwal, 2011). If bribery is more common in China, perhaps the difference in imagined unethicality is solely a reflection of expected bribery. To test this question, another two bilingual RAs coded if the decision maker was involved in the behaviors, since bribery involves the decision maker (e.g., "have sex with the producer"; 90% agreement; disagreements solved by discussion). Cultural differences remained strong after excluding all behaviors that involved the decision maker, $\chi^2(2, N = 979) = 68.45$, $p < .001$, Cramer's V = .26. This suggests that ingroup vigilance in collectivistic culture is not just an expectation about bribery.

Is it just *guanxi*? Another alternative account is that the result reflects Chinese focus on *guanxi*—expecting to seek success through personal connections (X.-P. Chen & Chen, 2004).

Guanxi and bribery are similar in that they both work through the decision maker. However, the cultural difference in ingroup vigilance remained strong after excluding all behaviors involving the decision maker. Hence, ingroup vigilance in collectivistic culture is also not just expectation about *guanxi*.

Maybe coworkers and classmates are not ingroups in China? Finally, a skeptic might argue that people in China have a more focused ingroup, which doesn't include classmates and coworkers. If so, the result might merely reflect their distrust of outgroup members (Yamagishi, 1988). To test this possibility, I sampled 117 Chinese and 109 American participants from the same platforms. I asked how much they perceive coworkers and classmates as ingroups, using two items for each relationship: "The company [school] often emphasizes that the company [school] is like a big family"; "I have a shared identity with my coworkers [classmates]" (1 = *strongly disagree*, 5 = *strongly agree*).

Chinese participants judged coworkers to be ingroups (M = 4.06, SD = 0.70) more strongly than Americans (M = 3.61, SD = 0.81), $t(214.2) = 4.47$, $p < .001$, $d = 0.60$. They also saw classmates as ingroup members (M = 4.12, SD = 0.67) more strongly than Americans (M = 3.11, SD = 1.07), $t(186.2) = 8.73$, $p < .001$, $d = 1.16$. Because people tend to trust ingroups more than outgroups (29), the difference in ingroup boundaries might make this a more conservative test of the collectivism ingroup-vigilance hypothesis.

Discussion

Study 1 found that people from a collectivistic culture (China) have greater ingroup vigilance than people from an individualistic culture (US). Study 1 also ruled out alternative explanations of ingroup vigilance such as cultural differences in bribery, *guanxi*, and ingroup boundary.

However, there are many differences between the US and China besides collectivism—history, language, religion, and political system to name a few. For example, greater ingroup vigilance in China may be a legacy of the Cultural Revolution, which put neighbors on guard against each other (Frolic, 1980). To address this concern, I conducted Study 2—comparing cultures within China.

3.2 Study 2: Ingroup Vigilance in China's Rice versus Wheat Regions

While China has a strong national identity, it is not culturally monolithic. Different ecologies in the north and south have historically given rise to different patterns of social life. Research has shown that people in the traditionally rice-farming regions of southern China are more collectivistic than those in the wheat-farming regions of northern China (Talhelm et al., 2014). If ingroup vigilance is more common in collectivistic cultures, then there would be more ingroup vigilance in China's rice regions than its wheat regions. Because the regions are within the same country, this test can rule out between-country alternative explanations.

China's collectivistic rice provinces are also wealthier on average than the wheat provinces (Talhelm et al., 2014). In the US-China comparison, one could easily argue that people are more wary of others in China because China is much poorer than the US, and poverty makes people compete over resources. The rice-wheat comparison provides a test case where collectivism is not confounded with economic scarcity.

Another goal of Study 2 was to test the mediating role of perceived competition in explaining ingroup vigilance. I predicted that people from the rice region would perceive more competition within their social groups than people from the wheat region, which could explain why people in the rice area have more ingroup vigilance. This test is counter-intuitive because rice regions are more collectivistic. Traditional rice farmers had to share labor and work together

on irrigation systems (Talhelm et al., 2014). Thus, it would be intuitive to predict that China's rice region should be less wary of ingroup members. We predict that nonetheless there should be more ingroup vigilance in rice than wheat regions.

Methods

Participants. A total of 450 college students from three universities in China participated in the study. Following previous research (Talhelm et al., 2014), we excluded non-Han Chinese students (n = 34) and Han students from the historically herding provinces of Tibet, Inner Mongolia, and Xinjiang (n = 16). Two participants typed nonsensical answers and were further excluded, leaving a total of 398 participants (M_{age} = 20.3 years, SD = 2.7; 231 female).

Materials. I used the same within-group competition scenarios as in Study 1 and asked participants to imagine two or three possible behaviors for each scenario. As in the previous study, participants were randomly assigned to read about male or female protagonists. Gender of the protagonists did not significantly influence ingroup vigilance.

***DV: Ingroup Vigilance*.** After listing the behaviors, participants coded them as unethical, gray-area, or ethical. Using participants' own coding is appropriate because vigilance is essentially a subjective experience. Further, it rules out the possibility that greater vigilance in collectivistic culture was only in the eyes of the outside observers. Participants also indicated if the decision maker was involved in the behavior. This allows me to test the alternative explanations from bribery and *guanxi*.

IV: Rice vs. wheat. Participants indicated where they primarily grew up. Following previous research (Talhelm et al., 2014), rice provinces are defined as > 50% farmland devoted to rice paddies and wheat provinces as < 50%. In addition to the categorical variable, the main hierarchical linear model (HLM) analyses use continuous rice percentage.

Mediator: Perceived zero-sum competition within groups. I adapted items from the Perceived Competition Scale (S. T. Fiske, Cuddy, Glick, & Xu, 2002) to measure students' perceived competition with their classmates. The items measure to which extent the students see their classmates as constraints to personal success. Items were: "The more resources a classmate gets from my school, the less I will get"; "My situation would turn worse if another classmate's turns better"; and "Another classmate might take away things that my school gives me right now" (1 = *strongly disagree*, 7 = *strongly agree*; Cronbach's $\alpha = .75$).

Control variable: Socioeconomic status (SES). Previous research has found that SES is a significant predictor of perceived competition. People with higher social status will perceive less competition (Różycka-Tran et al., 2015). Given the importance of SES, I asked participants to report their status using the social ladder task from 1 (*bottom*) to 10 (*top*) (Adler, Epel, Castellazzo, & Ickovics, 2000) and used it as a control variable in the HLM analysis. One limitation of Study 1 is that I didn't measure SES, although previous research has shown that the Chinese and American samples recruited from the same platforms are similar in terms of SES in their society (Wu et al., 2017).

Preregistration. Because it is common to see collectivistic cultures as harmonious, the main predictions may be counterintuitive. Thus, I preregistered the hypotheses (https://aspredicted.org/blind.php?x=m5qh2e), indicating that for ethicality: rice < wheat, and that for perceived competition (zero-sum belief): rice > wheat.

Results

Replicating Study 1. I used an analysis parallel to Study 1, replacing the China vs. US comparison with the rice vs. wheat comparison. For overall vigilance, a 2 Culture (rice vs. wheat) × 3 Ethicality (unethical vs. gray area vs. ethical) chi-square test was significant, $\chi^2(2, N$

= 3668) = 8.88, p = .012, Cramer's V = .05. The effect size was small according to Cohen's definition (J. Cohen, 1988). Compared to the wheat region, people from the rice region came up with a lower percentage of ethical behaviors (59.8% vs. 64.5%) and slightly more unethical (17.7% vs. 16.3%) and gray-area behaviors (22.5% vs. 19.2%). This suggests that people in the rice region exhibit higher ingroup vigilance. Like in Study 1, to rule out the possibility that what I observed is just a cultural difference in bribery and *guanxi*, I excluded all behaviors that involve the decision maker and did the same analysis. The results were similar, $\chi^2(2, N = 2518) = 13.79$, p = .001, Cramer's V = .07.

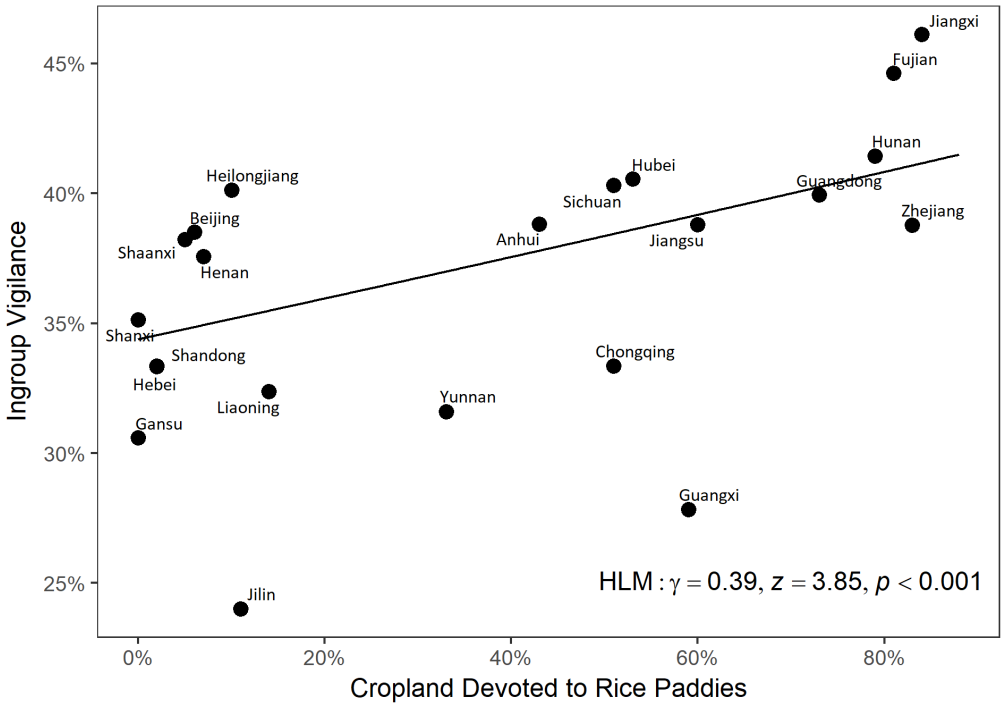


Figure 5: Ingroup Vigilance by Rice Cultivation (Study 2).

HLM rice analysis. I next did HLM analyses to account for that participants (level 1) are nested within provinces (level 2) using the same methods as in the original rice theory paper (Talhelm et al., 2014). To focus on the difference between vigilance and lack thereof, I coded

imagined ethical behaviors as 0 (no vigilance) and imagined gray-area and unethical behaviors as 1 (vigilance). Results were similar when I used cumulative link mixed models to further account for the difference between unethical and gray-area behaviors.

The results in Table 7 show that rice farming predicts ingroup vigilance (Model 1). The effect became stronger after I accounted for SES (Model 2). I also tested other possible sources of ingroup vigilance. I included GDP per capita as a measure modernization (Model 3) and pathogen prevalence (Model 4) measures to test alternative theories. The modernization theory argues that as societies become wealthier and more developed, they become less collectivistic (Greenfield, 2016). The pathogen prevalence theory argues that in areas with high prevalence of communicable diseases, it is dangerous to deal with strangers, therefore those areas become more insular and collectivistic (Fincher et al., 2008). The original rice paper finds that in China, rice farming is a better predictor of regional differences in collectivism than modernization or pathogen prevalence (Talhelm et al., 2014). I found a similar pattern here—rice farming explained regional differences in ingroup vigilance, whereas the other two did not.

Model 5 tested the effect of population density, since densely populated places could be more competitive (Sng et al., 2017). Density was marginally significant in the "right" direction, $\gamma = 3.34$, $SE = 1.80$, $p = .063$. Importantly, after accounting for population density, the effect of rice was still significant, $\gamma = 0.40$, $SE = 0.10$, $p < .001$. This suggests that regional differences in ingroup vigilance cannot be fully attributed to population density. Finally, Model 6 tested measures of government efficiency and anticorruption. These measures tested whether regional differences in bribery and corruption could explain ingroup vigilance. Results showed that neither of these measures did, ps $> .68$.

Table 7: Rice Farming Predicts Ingroup Vigilance (Chapter 3 Study 2).

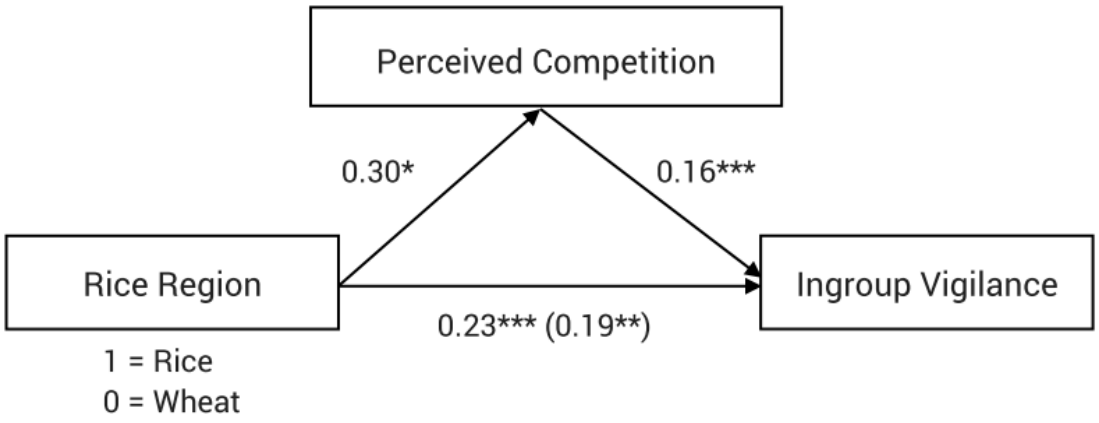
		B/γ	*SE*	*z*	*p*
Model 1	Percent rice	0.34	0.13	2.58	.010
Model 2	Percent rice	0.39	0.10	3.85	< .001
	Subjective SES	-0.06	0.02	-2.98	.003
Model 3	Percent rice	0.37	0.11	3.39	< .001
	Subjective SES	-0.06	0.02	-2.97	.003
Modernization	Province GDP per capita	0.07	0.16	0.47	.640
Model 4	Percent rice	0.38	0.11	3.34	< .001
	Subjective SES	-0.06	0.02	-2.33	.020
Pathogen	Province pathogen prevalence	0.02	0.07	0.36	.720
Model 5	Percent rice	0.40	0.10	3.87	< .001
	Subjective SES	-0.07	0.02	-3.27	.001
Population density	Province population density	3.34	1.80	1.86	.063
Model 6	Percent rice	0.37	0.12	3.02	.003
	Subjective SES	-0.06	0.02	-2.90	.004
Political institution	Government efficiency	-0.00	0.17	-0.01	.995
Political institution	Government anticorruption effort	-0.02	0.06	-0.41	.681

Notes. Participants are grouped at the province level. I used generalized linear mixed models (GLMM) with a binomial distribution in R with the lme4 package (Bates et al., 2015). GDP per capita and population density data are from the 1996 Statistical Yearbook—same as the rice data, consistent with the original rice paper (Talhelm et al., 2014). Political institution variables are from a 2009 study (M. A. Cole, Elliott, & Zhang, 2009). Pathogen data come from a 1975 study (Junshi Chen et al., 1990) and several provincial statistical yearbooks used in the original rice theory paper (Talhelm et al., 2014). All models include the full dataset except for Model 4, which includes 333 participants in 21 provinces where the province pathogen data are available.

The mediating role of perceived competition. I used HLM with participants grouped at the province level. First, consistent with past findings, I found that people with higher SES perceived less competition: B = -0.13, SE = 0.04, t(394.7) = -3.32, p < .001. Next, I put rice (1 = Rice, 0 = Wheat) and SES into the model. Results showed significant effects of SES (B = -0.14, SE = 0.04, t(394.0) = -3.54, p <.001) and rice (B = 0.39, SE = 0.17, t(14.3) = 2.23, p = .043) on

perceived competition. Students from rice-cultivating provinces perceived more competition with their classmates than students from wheat provinces: M_{rice} = 3.35, SE_{rice} = 0.13, M_{wheat} = 2.97, SE_{wheat} = 0.12, $t(14.3) = 2.23$, $p = .043$, 95% CI for the mean difference [0.015, 0.756].

I next tested whether perceived competition mediated the relationship between rice and ingroup vigilance. I nested participants within provinces and controlled for SES using the *mediation* package in R (Tingley, Yamamoto, Hirose, Keele, & Imai, 2014). Results showed that perceived competition predicted ingroup vigilance, $b = 0.16$, $se = 0.04$, $z = 4.69$, $p < .001$, and that there was a significant indirect effect in the proposed path of Rice → Perceived Competition → Ingroup Vigilance, 95% CI [0.0013, 0.0236] (simulation = 5000).



*p < 0.05. **p < 0.01. ***p < 0.001.

Figure 6: Mediation Model (Chapter 3 Study 2). Values are standardized regression coefficients.

Discussion. Study 2 replicated the patterns of ingroup vigilance within China. It also extended Study 1 by finding that perceived competition within groups mediates the link between collectivistic culture and ingroup vigilance. By testing within the same country, Study 2 rules out between-country alternative explanations for the US-China differences in Study 1.

The result also suggests that ingroup vigilance may come from collectivism itself and not just from economic scarcity. China's collectivistic rice provinces are wealthier than the wheat provinces on average (Talhelm et al., 2014). Yet there is still more ingroup vigilance in rice regions. When I directly tested collectivism (rice farming) against measures of economic resources (GDP), only rice farming explained ingroup vigilance. The results suggest that East Asia's history of rice farming is one possible source of its ingroup vigilance.

3.3 Study 3: Vigilance against Friendly Behaviors

Study 3 sought to advance the understanding of ingroup vigilance in three ways: locate causality, test alternative interpretations, and identify boundary conditions. Although it is useful to test the mediation effect of perceived competition between collectivism and ingroup vigilance, the mediation analysis doesn't prove causality (Spencer, Zanna, & Fong, 2005). Therefore, I manipulated perceived competition and tested whether it increased ingroup vigilance.

Alternative Interpretations about Ingroup Relationships

To test alternative interpretations about ingroup relationships in collectivistic culture, I identified that the key difference between the Harm-in-Harmony view of collectivism and the standard view is the role of within-group competition. The standard view emphasizes that collectivistic culture features cooperation and good intentions among ingroup members. My hypothesis posits that people in collectivistic cultures can also perceive more competition within groups than people in individualistic cultures, whereas the more traditional view of collectivism does not make that argument (Markus & Kitayama, 1991). In fact, some theories and scales classify competition as a defining feature of individualism, rather than collectivism (Triandis, 1988; Triandis & Gelfand, 1998).

In this study, I designed everyday vignettes about a friendly behavior by a peer at work or school, such as offering to help proofread important documents. Critically, I designed the friendly behaviors so that they could also be sabotage in disguise. For example, a malicious peer could tamper with the document to undermine the colleague. If collectivistic cultures primarily foster cooperation and good intentions among ingroup members, then the friendly behavior from the peer should be accepted at face value. Therefore, people from collectivistic cultures would not be more likely to imagine sabotage.

But if collectivism tends to come with more perceived competition, then people from collectivistic cultures would be more vigilant against possible sabotage, even though the peer appears friendly. This contrasts with other explanations of cultural differences. Researchers studying cultural differences in helping have argued that collectivists sometimes decline help because they are afraid of burdening others (Taylor et al., 2004) or because they are worried about having to return the favor (Miller et al., 2017). These explanations are compatible with the standard view of collectivism, and neither of them assume that the helper has negative intentions. However, vigilance of sabotage is different in that it involves imputing negative intentions to ingroup peers, which is incompatible with the standard view and is better explained by perceived competition.

Boundary Conditions

Study 3 also tested boundary conditions. Previous research has found that differences in social cognition tend to be larger in ambiguous situations where people have to draw inferences to guide their interpretations and actions (Dodge, 1980). Therefore, when the objective level of competition (i.e., the precise payoff structure with the peer) is ambiguous, people from

collectivistic cultures will make their habitual inference of competition, and larger cultural differences in ingroup vigilance would ensue.

However, when the objective level of competition is spelled out explicitly, there is less room for projection and cultural differences in vigilance would be smaller. Thus, when competition is objectively high (a win-lose payoff with the peer, see *materials*), both groups would expect competition and exhibit vigilance; when competition is objectively low (a win-win payoff with the peer, see *materials*), both groups would expect low competition and therefore be less vigilant. I tested these conditions in Study 3, which features a 2 Culture (China vs. USA) by 3 Competition (win-lose, ambiguous, win-win) between-subjects design.

Methods

Participants. I recruited 239 American participants (127 females) from MTurk and 219 Chinese participants (110 females) from www.zbj.com for a study that they were told would require them to "read short stories and tell what is going to happen next." I collected at least 70 participants per culture for each condition. With 80% power, the sample size allowed me to use chi-square tests to detect small effect sizes for testing the cultural differences in each condition (Cramer's V = .14) and for testing the causal effect of competition in both cultures (Cramer's V = .12). American participants were 28.4 years old on average (*SD* = 4.8; 182 Whites, 17 African Americans, 20 Asians, and 20 others). Chinese participants were 27.1 years old on average (*SD* = 4.7). One limitation of this study (and Study 1) is that they were conducted before Study 2, so I did not measure which region of China participants were from.

Materials. Participants read the beginnings of three stories and then completed the stories. The stories were about an accountant, a car salesman, and a student. All protagonists in the stories were male. Depending on which situation condition participants were in, they read

one of the following versions of the stories. For instance, the three versions of the accountant story were:

Adam works for an accounting company.

[Ambiguous condition] *He and a friend in the workplace have worked together on some projects in the past and their collaboration has been smooth. (No mention of the payoff structure).*

[Win-lose condition] *Recently, there is a chance for promotion in his department. Promotion is based on his boss's rating of performance. Adam's rating was stellar last year and one of his coworker friends' was similar. Either of them has a good chance of being promoted. Adam and the friend worked together on some projects in the past and their collaboration has been smooth.*

[Win-win condition] *Recently, there is a chance that his team will be promoted—all members of the best performing team will be promoted, based on his boss's rating of performance. Adam and a friend who is on his team worked together on some projects in the past and their collaboration has been smooth.*

Last week, Adam started to work on a complex and important project. His friend offered to informally check over some technical parts that Adam was not sure if he designed correctly.

Participants were asked to write at least 10 sentences for each story and another sentence explaining the intention of the friend's behavior.

Coding for ingroup vigilance. Two bilingual research assistants, blind to the purpose and expectations of the study, independently coded all the stories for narratives of ingroup vigilance of possible sabotage behaviors. Coders were trained to recognize descriptions of behavior by the peer that are intentional, covert, and that harm one's chances of getting the

reward. Seventeen stories were so unclear that they were unable to be coded (1.2% of total stories, USA: 6, China: 11) and were excluded from analysis. The two coders showed high inter-rater reliability (ICC = 0.931 [95% CI: 0.923, 0.938]); disagreements were solved by discussion. Here is an example of ingroup vigilance from a participant:

> Adam's friend started to look over the project and erased some parts of the design….It was small changes, so Adam couldn't notice. He [the friend] also noticed that some parts were designed wrong but did not put any corrections. The friend also "accidentally" threw some of the pages into the trash….His friend did not want to see Adam be successful and be promoted.

Results and Discussion

I examined the percentage of ingroup vigilance narratives by culture and competition using Pearson's chi-square test of independence. Results were similar when I used mixed effects logistic regressions to account for the differences between stories, nesting stories within individuals, and controlling for age and gender.

Locating causality. To examine the causal role of competition on ingroup vigilance, I did chi-square tests on competition (win-lose, ambiguous, win-win) within each culture. Competition led to more ingroup vigilance both in China, $\chi^2(2, N = 646) = 46.54$, $p < .001$, Cramer's V = .27, and in the US: $\chi^2(2, N = 711) = 66.83$, $p < .001$, Cramer's V = .31 (Figure 7).

Testing alternative interpretations. We tested the two alternative interpretations about ingroup relationships in collectivistic culture by comparing the cultural difference in ingroup vigilance in the ambiguous situation. Would people perceive an overtly friendly peer as sincerely helping, or would they suspect that the friendliness might just be sabotage in disguise? Results showed people in China were more than five times (21%) as likely to be vigilant against their

peers than Americans (4%), perceiving the friendly gesture as sabotage in disguise, $\chi^2(1, N = 462) = 32.88$, $p < .001$, Cramer's V = .27. This result cannot be easily explained by the standard view that collectivistic culture primarily fosters cooperation and good intentions among ingroup members. It lends supports to the view that people in collectivistic cultures tend to perceive more competition.

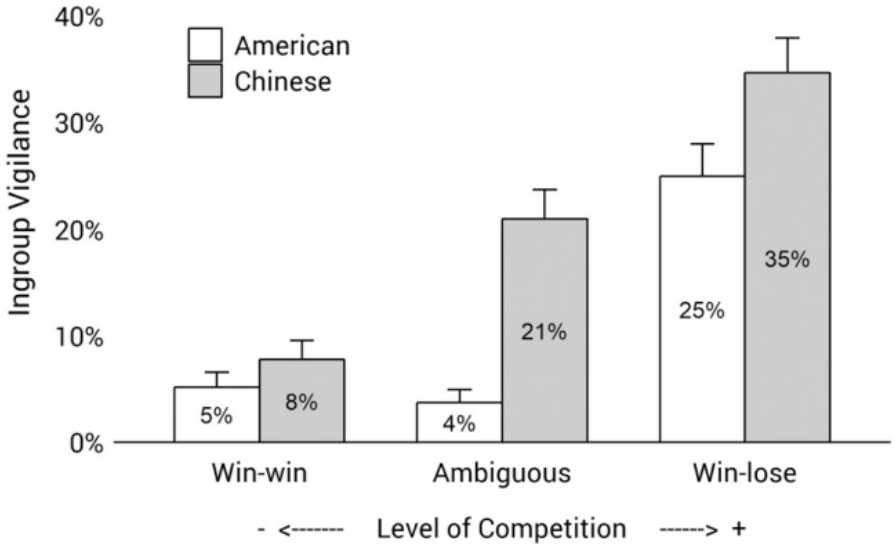


Figure 7: Ingroup Vigilance by Culture and Competition (Chapter 3 Study 3). Error bars represent 1 SE.

Identifying boundary conditions. Next, I examined situations that I expected would reduce cultural differences in vigilance. In the win-lose condition, people in China were still more vigilant (35%) than Americans (25%), $\chi^2(1, N = 424) = 4.69$, $p = .030$, Cramer's V = .11. Although the cultural difference was not fully eliminated in this situation, there was a significant Culture × Competition (win-lose vs. ambiguous) interaction (Mantel-Haenszel test, $M^2 = 25.58$, $df = 1$, $p < .001$, OR = 2.46, 95% CI [1.73, 3.49]). The interaction indicated a substantial reduction of cultural difference from the ambiguous condition, mainly driven by a large increase of vigilance by Americans (from 4% to 25%).

In the win-win condition, Chinese and Americans were similarly vigilant (8% vs 5%), $\chi^2(1, N = 471) = 0.79$, $p = .248$, Cramer's V = .05. There was a significant Culture × Competition (win-win vs. ambiguous) interaction (Mantel-Haenszel test, $M^2 = 26.44$, $df = 1$, $p < .001$, OR = 3.57, 95% CI [2.16, 5.89]). The interaction indicated a substantial reduction of cultural difference from the ambiguous condition, mainly driven by a large decrease of vigilance in China (from 21% to 8%).

Culture as a difference in default assumptions. Analyzing the cultures separately gave a clear picture of each culture's default assumption. For Americans, vigilance in the ambiguous condition was not so different from the win-win situation, $\chi^2(1, N = 495) = 0.62$, $p = .432$, Cramer's V = .04. This suggests that Americans' default assumption within groups are on the cooperative side. It's only when the situation becomes extremely competitive (an explicit win-lose payoff structure with the peer) that Americans develop vigilance against their peers, $\chi^2(1, N = 459) = 43.80$, $p < .001$, Cramer's V = .31.

But in China, ingroup vigilance in the ambiguous condition was significantly different from the win-win situation, $\chi^2(1, N = 438) = 15.59$, $p < .001$, Cramer's V = .19, and the win-lose condition, $\chi^2(1, N = 427) = 9.9$, $p = .002$, Cramer's V = .15. This suggests that Chinese participants' default assumption within groups is more ambivalent, somewhere in between cooperation and competition.

3.4 General Discussion

Three studies explored the phenomenon, the mechanism, and the boundary conditions of ingroup vigilance in East Asia collectivistic culture. Collectivistic cultures harbored more ingroup vigilance than individualistic cultures, both in the between-country comparisons (China vs. the US) and the within-country comparison (rice vs. wheat regions within China). The results

suggested that ingroup vigilance is partially caused by stronger perceived within-group competition in collectivistic cultures. Finally, the cultural difference in ingroup vigilance between the US and China can be reduced in two situations: an explicit win-lose situation where Americans develop vigilance or an explicit win-win situation where Chinese people relax their vigilance.

Theoretical Implications

This research reveals a type of interpersonal tension in East Asia collectivistic cultures that diverges from some prior research. Theory and research on ingroup interactions in collectivistic cultures have often focused on its harmonious, cooperative side. Here, I highlight a less harmonious side. In particular, I argue that past accounts have a hard time explaining ingroup vigilance—especially expectations of possible sabotage from peers. Explaining vigilance becomes easier with an account of collectivism that attends to the downsides of interdependence as well as the upsides.

These findings contribute to research on culture and social cognition. First, the results are consistent with the enduring effect of traditional ecologies and institutions on current-day social cognition (D. Cohen, 1998; Talhelm et al., 2014). In Study 2, participants were college students; most of them grew up in cities. It is safe to say none have ever farmed for a living. Yet people from rice areas were more vigilant than people from wheat areas, suggesting the lasting effect of rice legacy despite China's rapid change in recent decades.

Second, the results highlight the idea that ambiguous situations are where culture can fill in the details. In Study 3, the largest cultural difference was in the ambiguous condition, where participants had to project their expectations onto the ambiguous situation. Daily life is filled with ambiguity, which means cultural default assumptions can often fill in the details of people's

experience. The results suggest that culture is carried by patterns of social cognition rather than the objective structure of people's immediate situation. Hence the findings support a subjectivist rather than strictly structuralist account of cultural patterns.

Finally, my proposal is compatible with another contrarian argument about collectivism by Yamagishi and colleagues. They argued that the finding that East Asian participants conformed more than Americans wasn't actually a preference for conformity, but rather a strategy to avoid sanctions and negative evaluations (Yamagishi et al., 2008). They argued that sanctioning plays an important role in maintaining cooperation in East Asian culture.

My findings connect with the findings of Yamagishi and colleagues in that ingroup vigilance is another aspect of ingroup regulation that seems to be more common in East Asian collectivistic cultures. However, vigilance differs from sanctioning because vigilance applies to a wider range of behaviors. In Study 3, Chinese participants were much more likely than Americans to be vigilant against a peer's friendly gesture, fearing that the friendliness might be sabotage in disguise. Friendly behaviors would not get sanctioned because they are not anti-social, but they are still scrutinized proactively as part of ingroup vigilance.

Open Questions

There is still much to be done. For example, because I didn't study people's actual behaviors in competition, one open question is whether ingroup vigilance is an accurate reflection of reality. Are people more vigilant because sabotage and unethical competition are objectively more common, or is this anticipation unfounded? Although the answer to that question is beyond the scope of this study, it would be interesting to know whether people's perceptions of competition align with reality.

A second open question is whether the ingroup vigilance at work and school also occurs at home. There should be less competition within a family because families are tighter ingroups than coworkers and classmates and resources within a family are shared largely according to need. Though family interactions were not my focus for this reason, it would be valuable to investigate vigilance in family settings.

Conclusion

The Harm-in-Harmony Theory has laid out a new perspective for understanding Collectivism in East Asia. This approach has not denied the importance of harmony in East Asian cultures. Rather, it highlights how harmony is intimately intertwined with conflict in these societies.

The model begins with the originating ecological conditions that created the foundation for East Asian Collectivism—limited relational mobility in agricultural communities. Limited relational mobility created both the need for cooperation and the potential for conflict within a social group. The co-existence of cooperation and conflict then drives conflict underground. Covert competition and conflict creates the need for a highly sensitive threat detection system—ingroup vigilance—a heightened readiness to judge ingroup members as hostile and threatening. The Harm-in-Harmony Theory captures the interplay of harmony and conflict and provides a deeper understanding of the East Asian experience.

Relation to Other Cultural Theories

The Harm-in-Harmony perspective extends and challenges a number of existing theories.

Socio-Ecological Theories. This perspective builds upon socio-ecological theories of culture. The starting points of the analysis—limited relational mobility—have been addressed in cultural psychology, including work on social embeddedness (Adams, 2005), open vs. closed societies (Yamagishi, 2011b), residential mobility (Oishi, 2010; Oishi, Lun, & Sherman, 2007) and relational mobility (Schug et al., 2010; Thomson et al., 2018; Yuki et al., 2007), and tightness-looseness of social norms (Gelfand et al., 2011). The Harm-in-Harmony perspective elaborates and integrates these theories to explain how ecological conditions in East Asia produced patterns of covert conflict that ultimately engendered vigilant social cognition.

Interdependence at the Intersection of Agency and Structure. In their seminal work, Markus and Kitayama (1991) identified self-construal as the focal point for understanding culture, and highlighted how a variety of phenomena—motivational, emotional, and cognitive—are consequences of these different self-construals. This approach—assuming the self to be culturally shaped, but also primary and causative—has become a central premise in studying culture. For instance, efforts aimed at updating our understanding of culture still adopt this premise and propose new models of selfhood (e.g., Vignoles et al., 2016).

One consequence of this approach is that, intentionally or not, it tends to encourage an understanding of cultural processes focusing on personal agency. Consider some of the original language from Markus and Kitayama (1991) describing the interdependent self: "Individuals persevere to fulfill the expectations of significant others…" (p. 241); "Acts of fitting in and accommodating are often intrinsically rewarding…" (p. 246); "The person with an interdependent view of self should be motivated to those actions that enhance or foster one's relatedness or connection to others" (pp. 230-231). This type of volitional language (persevere, intrinsically rewarding, enhance, foster) places the self as the locus of causality that organizes personal goals and interpersonal processes (Markus & Kitayama, 1991). While the focus on self-construal provides an important analytic tool, it tends to emphasize personal agency at the analytic expense of situational and structural constraints. Some researchers go so far as to say that this approach to culture represents a fundamental attribution error (Takano & Osaka, 1999).

Ultimately both individual agency and situational/structural forces need to be recognized to understand human behavior (Giddens, 1984; Yamagishi, Hashimoto, & Schug, 2008). This research program reveals cultural patterns that arise from situational and structural constraints. Tendencies that have been labeled as aspects of the interdependent self—i.e., more attentive and

responsive to others—can come from situational affordances and constraints (i.e., coexistence of cooperation and conflict, harsh sanctions and covert conflict). This analysis integrates many recent calls in the literature to attend more to the important role of situational and structural forces in studying culture.

Culture as Values. My analysis of East Asian Collectivism reinforces recent challenges to value-based views on culture (Morris, 2014; Yamagishi, 2011a). Early seminal work by Hofstede (1980) and Schwartz (1994) studied culture as shared values. But as scholars have recently noted, Collectivism in East Asia is not solely a value-based system to which individuals give uncritical assent. Instead, the appearance of harmony in East Asian Collectivism may represent the management of conflict, one achieved through harsh sanctions and covert conflicts.

Cultural psychologists have proposed alternative approaches to studying culture, focusing on broad socio-ecological factors (Gelfand et al., 2011; Oishi, 2014), situational affordances and recurrent patterns of practice (M. Cole, 1996; Gelfand et al., 2011; Kitayama, Park, Sevincer, Karasawa, & Uskul, 2009), and shared beliefs, cognitions and perceptions (Chiu, Gelfand, Yamagishi, Shteynberg, & Wan, 2010; Ishii et al., 2011; K. Leung & Bond, 2004; Shteynberg, 2015). I have integrated and extended these approaches: broad socio-ecological factors (limited relational mobility) give rise to situational affordances (the co-existence of cooperation and competition) to produce patterns of practice (covert conflict) which then create shared beliefs, cognitions and perceptions (ingroup vigilance). By bringing together these diverse elements, the Harm-in-Harmony account treats East Asian Collectivism as an "organic whole" that manifests and reinforces itself across different levels of analysis.

How Covert Competition and Ingroup Vigilance Influence Each Other

In this dissertation, I identified two signature patterns of East Asian collectivism that departs from the traditional view of interpersonal harmony. The two signature patterns—covert competition and ingroup vigilance—are intertwined.

On one hand, covert competition within the social group leads to ingroup vigilance. Covert competition can be dissected into two parts, one part is about competition in general; and the other part is about the covertness of competition. In Chapter 3, I examined how competition in general (e.g., high vs. low competition) leads to ingroup vigilance. Future research can examine how covert (vs. overt) competition leads to ingroup vigilance.

On the other hand, ingroup vigilance may lead to more covert competition. If one is vigilant against peers about possible sabotage and undermining, it's possible that when this person competes for resources or has conflicts with others, he or she may be covert so as not to disrupt the relationships. In Chapter 2, I only examined how low relational mobility leads to covert competition, it would be interesting to directly examine how ingroup vigilance leads to covert competition.

Coda

The narrative of collectivistic culture has long focused on the surface of harmony. The danger of a single narrative, as African novelist Chimamanda Adichie (2009) puts it, "is not that they are untrue, but that they are incomplete. They make one story become the only story." I hope this research advances a more balanced view of East Asian collectivism, a view that not only emphasizes harmony and cooperation, but also recognizes tension and competition.

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