

Do Experiences Studying Abroad Promote Dialectical Thinking?

Authors: Hu, Xiaomeng, Wang, Yang, Liao, Shanhui, Kaiping Peng, Hu, Xiaomeng

Date: 2020-10-19T00:00:00+00:00

Abstract

Our current work seeks to provide direct evidence on whether Chinese international students' experiences studying abroad promote dialectical thinking. We collected behavioral data from 258 Chinese international students studying in multiple regions. We found that when primed with studying abroad (relative to traveling abroad, their hometown culture and a control condition), participants were more likely to show tolerance for contradiction, meaning that they deemed both sides of contradictory scientific statements as convincing and rated them more favorably. Therefore, it is plausible that Chinese international students' experiences studying abroad promote their dialectical thinking regardless of their host culture. More work is needed to further this line of research by 1) extending these effects with other measures of dialectical thinking, 2) adopting differing paradigms to provide more robust findings, and 3) understanding how experiences studying abroad may promote dialectical thinking.

Full Text

Preamble

Do Experiences Studying Abroad Promote Dialectical Thinking? Empirical Evidence from Chinese International Students

Xiaomeng Hu^{1*}, Yang Wang², Shanhui Liao¹, Kaiping Peng²

¹ Department of Psychology, Renmin University of China, Beijing, China

² Department of Psychology, Tsinghua University, Beijing, China

Corresponding Author: Dr. Xiaomeng Hu, xiaomeng825@yeah.net

Abstract: The present study provides direct evidence on whether Chinese international students' experiences studying abroad promote dialectical thinking. We collected behavioral data from 258 Chinese international students across

multiple regions. We found that when primed with studying abroad (relative to traveling abroad, their hometown culture, and a control condition), participants showed greater tolerance for contradiction, meaning they deemed both sides of contradictory scientific statements as convincing and rated them more favorably. These findings suggest that Chinese international students' experiences studying abroad may promote dialectical thinking regardless of their host culture. Future research should extend these effects using other measures of dialectical thinking, adopt differing paradigms to provide more robust findings, and investigate the mechanisms through which studying abroad experiences promote dialectical thinking.

Keywords: Multicultural experiences, dialectical thinking, human universals, cultural differences, Chinese international students

Introduction

International education has flourished for several decades as globalization has broadened and deepened, prompting psychologists to increasingly examine the psychological impact of studying abroad on international students. Prior research argues that studying abroad experiences exert profound psychological effects across multiple domains, including academic life, social life, and personality development (Zimmermann & Neyer, 2013; Gieser, 2015). For instance, previous work suggests that studying abroad positively influences extraversion, openness, and agreeableness while reducing neuroticism (Zimmermann & Neyer, 2013). Researchers have also found that study abroad programs enhance college students' foreign language learning and cultural adaptation self-efficacy (Cubillos & Ilvento, 2012; Milstein, 2005).

According to Open Doors Data from the Institute of International Education, China has become the leading source of international students in Western countries (IIE, 2019). For example, Chinese international students account for 42% of all international students in U.S. universities and colleges (IIE, 2019). Existing research on Chinese international students has primarily focused on three domains. First, given the substantial challenges Chinese international students face, numerous studies have examined their mental health and emotional well-being, including academic stress (Li, Chen, & Duanmu, 2009; Wei et al., 2007), loneliness (Sawir, Marginson, Deumert, Nyland, & Ramia, 2007), stress and coping (Xu, O' Brien, & Chen, 2019), depression and anxiety (Sümer, Poyrazli, & Grahame, 2014), and life satisfaction (Sam, 2001). Second, as most Chinese international students are sojourners who temporarily reside abroad primarily for educational purposes, they inevitably face cultural adaptation issues. Extant research has investigated their acculturation experiences (Smith & Khawaja, 2011; Wang & Mallinckrodt, 2006; Yan & Berliner, 2011; Spencer-Oatey & Xiong, 2006; Kashima & Loh, 2006), cultural identity (Maeder-Qian, 2018), social connectedness (Cao, Meng, & Shang, 2018; Hendrickson, Rosen, & Aune, 2011), social interactions (Trice, 2004; Billedo, Kerkhof, & Finkenauer, 2020), and sense of belonging. Third, as a minority and marginalized group,

Chinese international students also face detrimental consequences from stereotypes and prejudice (Poyrazli & Lopez, 2007; Ruble & Zhang, 2013). Additional research has examined their learning styles (Wong, 2004), migration intentions (Hazen & Alberts, 2006), multicultural personality (Oudenhoven & Zee, 2002), and decision-making processes (María Cubillo, Sánchez, & Cerviño, 2006). Despite the large and rapidly growing population of Chinese international students worldwide, empirical research on the psychological antecedents and consequences of studying abroad—particularly work examining how and why these experiences might reshape psychological processes and behavioral patterns—remains limited. The present study addresses this research gap by investigating whether Chinese international students' studying abroad experiences influence their systems of thought.

The Psychological Outcomes of Multicultural Experiences. Cultural psychologists contend that the impacts of multicultural experiences on mental processes and behavioral patterns are mixed, paradoxical, and seemingly contradictory. Past research suggests that the breadth and depth of multicultural experiences promote creativity (Leung, Maddux, Galinsky, & Chiu, 2008), cognitive flexibility (Ritter et al., 2012), large-scale cooperation (Buchan et al., 2009), and generalized trust (Cao, Galinsky, & Maddux, 2014). However, multicultural experiences may also increase outgroup prejudice (Sparkman, Eidelman, & Blanchar, 2016), unethical behavior (Lu et al., 2017), and even exacerbate civilizational clashes (Huntington, 1997). A recent review provides a systematic overview and novel theoretical framework for understanding the psychological impacts of multicultural experiences, along with underlying mediators and potential moderators (Maddux, Lu, Affinito, & Galinsky, 2020). We argue that Chinese international students' studying abroad experiences constitute a form of multicultural experience, making the aforementioned effects applicable to this population.

Dialectical Thinking. Since cultural psychologists Kaiping Peng and Richard Nisbett (1999) introduced the concept of dialectical thinking in an influential article published in *American Psychologist* two decades ago, substantial research has advanced this line of inquiry (Ma-Kellams, Spencer-Rodgers, & Peng, 2011; Spencer-Rodgers & Peng, 2017; Wang et al., 2016). Peng and Nisbett (2001) contend that dialectical thinking in Eastern culture differs fundamentally from the Hegelian and Marxian dialectic in Western philosophy.

Dialectical thinking is a cognitive style or frame encompassing a series of closely associated cognitive processes (Spencer-Rodgers, Anderson, Ma-Kellams, Wang, & Peng, 2018). It represents an ideological tradition rooted in Eastern philosophy, particularly the lay epistemology of Taoism. Differences in dialectical thinking exist both between cultures—for example, Singaporeans and Chinese exhibit higher dialectical thinking than North Americans and Western Europeans—and within cultures, such as between liberals and conservatives (Talhelm et al., 2015). Moreover, dialectical thinking is not static but rather domain-specific and context-dependent, influenced by sample characteristics (age, gender, develop-

mental stage, cultural adaptation, etc.), specific domains (self, cognition, emotions, decision-making, intimacy, etc.), and contextual factors (Spencer-Rodgers et al., 2018).

Dialectical thinking comprises three core principles: the principle of change (i.e., reality is a dynamic process), the principle of contradiction (i.e., contradictory elements can coexist), and the principle of holism (i.e., everything is interconnected) (Spencer-Rodgers et al., 2018). First, the expectation of change reflects East Asians' belief that all phenomena and events change cyclically, making change inevitable. Westerners' expectations of change, by contrast, tend to be stable or linear, either gradually increasing or decreasing. Second, tolerance for contradiction means East Asians view contradiction as a natural, intrinsic, and unavoidable feature of all existence. Consequently, East Asians can accept seemingly contradictory phenomena without needing to resolve them, preferring moderation or compromise—similar to the golden mean advocated in Confucian culture. Westerners, however, reject seemingly contradictory phenomena, believing they violate Aristotelian formal logic (Nisbett, Peng, Choi, & Norenzayan, 2001), and therefore must resolve or integrate contradictions. Third, the perception of interconnectedness means East Asians attend more to relationships between wholes and parts, believing all objects, people, systems, and ideas are permanently related. Westerners, conversely, focus more on focal objects while ignoring their specific contexts (Nisbett et al., 2001).

Research Gap. Previous research has examined whether multicultural experiences—such as living abroad, traveling abroad, or mere exposure to foreign cultures—elicit subtle but profound changes in psychological processes and behavioral patterns. However, extant work has not investigated how Chinese international students' multicultural experiences affect their mental processes and behavioral patterns. Furthermore, substantial evidence indicates that East Asians are more likely to display dialectical thinking, while Westerners are more likely to display analytical thinking, with empirical support including holistic cognition, tolerance for contradiction, and expectations of change in judgments about future stock trends (Ji, Nisbett, & Su, 2001). Despite growing literatures on multicultural experiences, Chinese international students, and dialectical thinking, little research has directly examined whether and how Chinese international students' studying abroad experiences affect their systems of thought and dialectical thinking. The present study directly investigates how Chinese international students' experiences studying abroad in diverse regions promote dialectical thinking.

The Current Research. Our research has two primary objectives. First, we test whether participants show greater tolerance for contradictory scientific statements when primed with studying abroad experiences compared to traveling abroad experiences, hometown experiences, and a control condition. Second, we examine whether this effect varies across different host cultures.

Past research has documented cultural differences in tolerance for contradiction. Peng and Nisbett observed that East Asian individuals (i.e., Chinese, Japanese,

Korean) are more likely to display tolerance and acceptance of conflicting elements or events, asserting that “holistic thinkers tend to engage in reasoning involving contradictions that tolerate opposites, whereas analytic thinkers tend to engage in reasoning involving contradiction that chooses one of two opposing propositions” (Peng & Nisbett, 1999; Spencer-Rodgers et al., 2018). However, little research has examined whether this pattern of thought can be shifted by increasing multicultural experiences or temporarily inducing a host culture among cultural movers. Would individuals with richer multicultural experiences become more dialectical? Do studying abroad experiences enhance dialectical thinking? The present study tests this novel research question.

Given that Chinese international students typically move from China to Western countries such as the U.S., U.K., Canada, Germany, and Australia, it is plausible that they would adopt these cultures’ typical analytical thinking style as the acculturation process broadens and deepens. Conversely, studying abroad experiences might also reinforce dialectical thinking due to the demanding acculturation process. We therefore propose two competing hypotheses:

H1: Studying abroad experiences make Chinese international students more likely to adopt analytical thinking.

H2: Studying abroad experiences make Chinese international students more likely to enhance dialectical thinking.

We argue that H2 is more theoretically plausible. Existing research has found that multicultural experiences can enhance cognitive complexity, increase openness to experience, and reduce outgroup bias. One core feature of dialectical thinking is tolerating contradictions—the notion that two seemingly contradictory viewpoints can coexist and remain compatible. We therefore infer that when individuals encounter or interact with foreign cultural members, their cognitive flexibility and openness to experience likely increase, enhancing their tolerance for contradictions through increased integrative complexity (Tadmor, Galinsky, & Maddux, 2012). The present study provides direct evidence to address this empirical question.

Methods

Participants and Procedures. We recruited 258 Chinese international students currently studying abroad through an online platform. These participants were mainland Chinese students pursuing various degrees (e.g., bachelor’ s, master’ s, Ph.D., postdoctoral) across diverse cultural regions (e.g., United States, U.K., Germany, Australia). The experiment consisted of three parts. The first part involved cultural priming. Based on previous work (Maddux & Galinsky, 2009), we adapted the multicultural experiences paradigm. Participants were randomly assigned to one of four conditions: studying abroad, traveling abroad, hometown, or control. They were then asked to write at least 150 words in five minutes describing their corresponding cultural experiences (see Appendix A for instructions and materials). The second part measured dialectical think-

ing. Using classic measures of dialectical thinking (Peng & Nisbett, 1999), we collected scientific discoveries from natural sciences, social sciences, and humanities published within the previous three years and modified them into pairs of conflicting scientific statements (see Appendix B for all materials). The third part collected demographic variables, including gender, age, education level, socioeconomic status, and current study abroad country.

Results

A total of 265 Chinese international students participated in the experiment. After excluding participants who failed attention check items, 258 participants were included in the analyses.

Following Peng and Nisbett (1999), two scores represented the degree of tolerance for contradiction: convincingness ($M=3.55$, $SD=0.76$) and likeability ($M=3.75$, $SD=0.83$). We conducted an ANOVA analysis. Results indicated that participants showed greater tolerance for contradictory scientific statements under the studying abroad priming condition compared to the hometown culture, traveling abroad priming, or control conditions, $F(1,151) = 4.23$, $p < .05$, $\eta^2 = .03$. In other words, when participants mentally simulated their host culture where they were currently studying, their dialectical thinking increased, at least temporarily. Specifically, they reported that two seemingly conflicting statements could coexist without contradiction. When participants mentally simulated their hometown culture or traveling experiences, their dialectical thinking did not increase; they reported that the two seemingly conflicting views were indeed incompatible (see Figure 1 [Figure 1: see original paper] and Figure 2 [Figure 2: see original paper]).

Figure 1 Caption: Tolerance for contradiction as measured by the convincingness of both statements across four priming conditions

Figure 2 Caption: Tolerance for contradiction as measured by the likeability of both statements across four priming conditions

Discussion

The present study is among the first to provide direct evidence that Chinese international students' studying abroad experiences promote dialectical thinking. Our data indicate that Chinese international students are more likely to accept contradictory scientific statements when primed with studying abroad experiences. This finding holds regardless of host culture (e.g., North America, Western Europe, East Asia). We observed consistent evidence across two indicators of tolerance for contradiction: convincingness and likeability, indicating that Chinese international students were more likely to believe that two seemingly conflicting scientific statements are both persuasive and rate them favorably.

Why would priming studying abroad experiences enhance dialectical thinking?

Previous work demonstrated that priming European Americans with the yin-yang symbol led them to anticipate more changes in judgments and behaviors (Alter & Kwan, 2009), suggesting that temporarily priming cultural experiences can shift participants' dialectical thinking. Our results indicate that when participants recalled their studying abroad experiences in their respective host countries (e.g., United States, U.K., Germany, Australia), they showed greater tolerance for contradiction. We offer one possible interpretation: Why would intensive foreign cultural experiences (i.e., studying abroad) rather than superficial foreign cultural experiences (i.e., traveling abroad) alter international students' systems of thought? The underlying processes may be partially explained by integrative complexity (Tadmor et al., 2012). Integrative complexity is an information-processing style representing the ability to integrate differing perspectives or establish conceptual connections among differentiated dimensions (Suedfeld & Bluck, 1993). With richer and deeper foreign experiences, particularly in markedly distinct cultural contexts, participants are more likely to encounter multiple perspectives (e.g., Western vs. Eastern cultural traditions), incorporate complex or even competing systems of thought (e.g., holistic vs. analytical thinking), and differing value systems (e.g., individual rights vs. collective duties). They must therefore reconcile contradictory viewpoints or competing thought patterns. These demanding processes may promote greater tolerance for contradiction among Chinese international students, manifested in endorsing competing scientific statements across various domains (i.e., natural sciences, humanities, and social sciences). As Chinese international students experience cultural shock, conflict, and integration throughout cultural adaptation, their cognitive complexity may increase as they become more adept at reconciling competing perspectives and cultural differences. This theoretical account awaits validation in future research.

Contributions and Implications. Our work makes several important contributions to the literature. First, previous research has not examined whether multicultural experiences can affect ways of thinking. Our findings are among the first to demonstrate that studying abroad experiences impact Chinese international students' dialectical thinking, specifically tolerance for contradiction. Second, our work adds to the growing literature showing that the psychological outcomes of Chinese international students' studying abroad experiences extend beyond academic achievement and mental health to include profound changes in cognitive, emotional, motivational, and behavioral domains. Third, although cultural differences in dialectical thinking are well-documented, dialectical thinking is a dynamic, flexible, and malleable construct that can be shifted even by subtle experimental manipulations. Our work sheds new light on this research area. As we live in an era of globalization, more research is needed to probe the important question: how and why does studying abroad reshape international students' systems of thought?

Limitations and Future Directions. Several limitations apply to our work. First, due to data collection difficulties during the COVID-19 outbreak, our limited sample size reduced statistical power. Future replication efforts should

use larger samples to detect these relatively small effects.

Second, since we examined only one of three indicators of dialectical thinking, future research should determine whether Chinese international students' expectations of change and perceptions of interconnectedness are also altered by studying abroad experiences. Third, because human behavior results from complex interactions between personal dispositions and contextual factors, future work should examine whether Chinese international students' personality characteristics moderate the effects of multicultural experiences on their systems of thought.

Conclusion

Using a cultural priming experiment, we observed that Chinese international students showed greater tolerance for contradiction when primed with their host culture rather than their home culture or brief travels. Future research should examine the psychological underpinnings of this effect, which we hope will encourage researchers, educators, and policymakers to facilitate both basic and applied work in international education.

References

- Alter, A. L., & Kwan, V. S. Y. (2009). Cultural sharing in a global village: Evidence for extracultural cognition in European Americans. *Journal of Personality and Social Psychology*, *96*(4), 742-760. <https://doi.org/10.1037/a0014036>
- Billedo, C. J., Kerkhof, P., & Finkenauer, C. (2020). More facebook, less homesick? Investigating the short-term and long-term reciprocal relations of interactions, homesickness, and adjustment among international students. *International Journal of Intercultural Relations*, *75*, 118-131. <https://doi.org/10.1016/j.ijintrel.2020.01.004>
- Buchan, N. R., Grimalda, G., Wilson, R., Brewer, M., Fatas, E., & Foddy, M. (2009). Globalization and human cooperation. *Proceedings of the National Academy of Sciences*, *106*(11), 4138-4142. <https://doi.org/10.1073/pnas.0809522106>
- Cao, C., Meng, Q., & Shang, L. (2018). How can Chinese international students' host-national contact contribute to social connectedness, social support and reduced prejudice in the mainstream society? Testing a moderated mediation model. *International Journal of Intercultural Relations*, *63*, 43-52. <https://doi.org/10.1016/j.ijintrel.2017.12.002>
- Cao, J., Galinsky, A. D., & Maddux, W. W. (2014). Does travel broaden the mind? Breadth of foreign experiences increases generalized trust. *Social Psychological and Personality Science*, *5*(5), 517-525. <https://doi.org/10.1177/1948550613514456>
- Choy, Y., & Alon, Z. (2018). The Comprehensive Mental Health Treatment of Chinese International Students: A Case Report. *Journal of College Student*

Psychotherapy, 1-20. <https://doi.org/10.1080/87568225.2018.1427513>

Cubillos, J. H., & Ilvento, T. (2012). The impact of study abroad on students' self-efficacy perceptions. *Foreign Language Annals*, 45(4), 494-511. <https://doi.org/10.1111/j.1944-9720.2013.12002.x>

Gieser, J. D. (2015). A sociocultural investigation of identity: How students navigate the study abroad experience. *Journal of College Student Development*, 56(6), 637-643. <https://doi.org/10.1353/csd.2015.0060>

Hazen, H. D., & Alberts, H. C. (2006). Visitors or Immigrants? International Students in the United States. *Population Space & Place*, 12(3), 201-216. <https://doi.org/10.1002/psp.409>

Hendrickson, B., Rosen, D., & Aune, R. K. (2011). An analysis of friendship networks, social connectedness, homesickness, and satisfaction levels of international students. *International Journal of Intercultural Relations*, 35(3), 281-295. <https://doi.org/10.1016/j.ijintrel.2010.08.001>

Huntington, S. P. (1997). *The clash of civilizations and the remaking of world order*. Penguin Books India.

Ji, L.-J., Nisbett, R. E., & Su, Y. (2001). Culture, change, and prediction. *Psychological Science*, 12(6), 450-456. <https://doi.org/10.1111/1467-9280.00384>

Kashima, E. S., & Loh, E. (2006). International students' acculturation: Effects of international, conational, and local ties and need for closure. *International Journal of Intercultural Relations*, 30(4), 471-485. <https://doi.org/10.1016/j.ijintrel.2005.12.003>

Leung, A. K.-y., Maddux, W. W., Galinsky, A. D., & Chiu, C.-y. (2008). Multicultural experience enhances creativity: the when and how. *American Psychologist*, 63(3), 169. <https://doi.org/10.1037/0003-066X.63.3.169>

Li, G., Chen, W., & Duanmu, J. L. (2010). Determinants of international students' academic performance: A comparison between Chinese and other international students. *Journal of Studies in International Education*, 14(4), 389-405. <https://doi.org/10.1177/1028315309331490>

Liu, M. (2009). Addressing the Mental Health Problems of Chinese International College Students in the United States. *Advances in Social Work*, 10(1). <https://doi.org/10.18060/164>

Lu, J. G., Quidbach, J., Gino, F., Chakroff, A., Maddux, W. W., & Galinsky, A. D. (2017). The dark side of going abroad: How broad foreign experiences increase immoral behavior. *Journal of Personality and Social Psychology*, 112(1), 1. <https://doi.org/10.1037/pspa0000068>

Ma-Kellams, C., Spencer-Rodgers, J., & Peng, K. (2011). I am against us? Unpacking cultural differences in ingroup favoritism via dialecticism. *Personality and Social Psychology Bulletin*, 37(1), 15-27. <https://doi.org/10.1177/0146167210388193>

- Maddux, D. W. W. M., Lu, D. J. G., Affinito, M. S. J., & Galinsky, P. A. D. (2020). Multicultural Experiences: A Systematic Review and New Theoretical Framework. *Academy of Management Annals*. <https://doi.org/10.5465/annals.2019.0138>
- Maddux, W. W., & Galinsky, A. D. (2009). Cultural borders and mental barriers: The relationship between living abroad and creativity. *Journal of Personality and Social Psychology*, *96*(5), 1047. <https://doi.org/10.1037/a0014861>
- Maeder-Qian, J. (2018). Intercultural experiences and cultural identity reconstruction of multilingual Chinese international students in Germany. *Journal of Multilingual and Multicultural Development*, *39*(7), 576-589. <https://doi.org/10.1080/01434632.2017.1410161>
- María Cubillo, J., Sánchez, J., & Cerviño, J. (2006). International students' decision-making process. *International Journal of Educational Management*, *20*(2), 101-115. <https://doi.org/10.1108/09513540610646091>
- Milstein, T. (2005). Transformation abroad: Sojourning and the perceived enhancement of self-efficacy. *International Journal of Intercultural Relations*, *29*(2), 217-238. <https://doi.org/10.1080/01434632.2017.1410161>
- Mori, S. C. (2011). Addressing the Mental Health Concerns of International Students. *Journal of Counseling & Development*, *78*(2), 137-144. <https://doi.org/10.1002/j.1556-6676.2000.tb02571.x>
- Nisbett, R. E., Peng, K., Choi, I., & Norenzayan, A. (2001). Culture and systems of thought: holistic versus analytic cognition. *Psychological Review*, *108*(2), 291. <https://doi.org/10.1037/0033-295X.108.2.291>
- Oudenhoven, J. P. V., & Zee, K. I. V. D. (2002). Predicting multicultural effectiveness of international students: the Multicultural Personality Questionnaire. *International Journal of Intercultural Relations*, *26*(6), 679-694. [https://doi.org/10.1016/S0147-1767\(02\)00041-X](https://doi.org/10.1016/S0147-1767(02)00041-X)
- Peng, K., & Nisbett, R. E. (1999). Culture, dialectics, and reasoning about contradiction. *American Psychologist*, *54*(9), 741-754. <https://doi.org/10.1037/0003-066X.54.9.741>
- Poyrazli, S., & Lopez, M. D. (2007). An Exploratory Study of Perceived Discrimination and Homesickness: A Comparison of International Students and American Students. *Journal of Psychology*, *141*(3), 263-280. <https://doi.org/10.3200/JRLP.141.3.263-280>
- Ritter, S. M., Damian, R. I., Simonton, D. K., van Baaren, R. B., Strick, M., Derks, J., & Dijksterhuis, A. (2012). Diversifying experiences enhance cognitive flexibility. *Journal of Experimental Social Psychology*, *48*(4), 961-964. <https://doi.org/10.1016/j.jesp.2012.02.009>
- Ruble, R. A., & Zhang, Y. B. (2013). Stereotypes of Chinese international students held by Americans. *International Journal of Intercultural Relations*,

37(2), 202-211. <https://doi.org/10.1016/j.ijintrel.2012.12.004>

Sam, D. L. (2001). Satisfaction with Life among International Students: An Exploratory Study. *Social Indicators Research*, 53(3), 315-337. <https://doi.org/10.1023/A:1007108614571>

Sawir, E., Marginson, S., Deumert, A., Nyland, C., & Ramia, G. (2007). Loneliness and International Students: An Australian Study. *Journal of Studies in International Education*, 12(2), 148-180. <https://doi.org/10.1177/1028315307299699>

Smith, R. A., & Khawaja, N. G. (2011). A review of the acculturation experiences of international students. *International Journal of Intercultural Relations*, 35(6), 699-713. <https://doi.org/10.1016/j.ijintrel.2011.08.004>

Sparkman, D. J., Eidelman, S., & Blanchar, J. C. (2016). Multicultural experiences reduce prejudice through personality shifts in Openness to Experience. *European Journal of Social Psychology*, 46(7), 840-853. <https://doi.org/10.1002/ejsp.2189>

Spencer-Oatey, H., & Xiong, Z. (2006). Chinese students' psychological and sociocultural adjustments to Britain: an empirical study. *Language Culture & Curriculum*, 19(1), 37-53. <https://doi.org/10.1080/07908310608668753>

Spencer-Rodgers, J., Anderson, E., Ma-Kellams, C., Wang, C., & Peng, K. (2018). What is dialectical thinking? Conceptualization and measurement. In J. Spencer-Rodgers & K. Peng (Eds.), *The psychological and cultural foundations of East Asian cognition: Contradiction, change, and holism* (p. 1-34). Oxford University Press.

Suedfeld, P., & Bluck, S. (1993). Changes in integrative complexity accompanying significant life events: Historical evidence. *Journal of Personality and Social Psychology*, 64(1), 124-130. <https://doi.org/10.1037/0022-3514.64.1.124>

Tadmor, C. T., Galinsky, A. D., & Maddux, W. W. (2012). Getting the most out of living abroad: Biculturalism and integrative complexity as key drivers of creative and professional success. *Journal of Personality and Social Psychology*, 103(3), 520-542. <https://doi.org/10.1037/a0029360>

Talhelm, T., Haidt, J., Oishi, S., Zhang, X., Miao, F. F., & Chen, S. (2015). Liberals think more analytically (more "WEIRD") than conservatives. *Personality and Social Psychology Bulletin*, 41(2), 250-267. <https://doi.org/10.1177/0146167214563672>

Trice, A. G. (2004). Mixing It Up: International Graduate Students' Social Interactions With American Students. *Journal of College Student Development*, 45(6), 671-687. <https://doi.org/10.1353/csd.2004.0074>

Wang, C.-C. D. C., & Mallinckrodt, B. (2006). Acculturation, attachment, and psychosocial adjustment of Chinese/Taiwanese international students. *Journal of Counseling Psychology*, 53(4), 422-433. <https://doi.org/10.1037/0022-0167.53.4.422>

- Wang, F., Peng, K., Bai, Y., Li, R., Zhu, Y., Sun, P., . . . Sui, J. (2016). The dorsal anterior cingulate cortex modulates dialectical self-thinking. *Frontiers in Psychology, 7*, 152. <https://doi.org/10.3389/fpsyg.2016.00152>
- Wei, M., Heppner, P. P., Mallen, M. J., Ku, T.-Y., Liao, K. Y.-H., & Wu, T.-F. (2007). Acculturative stress, perfectionism, years in the United States, and depression among Chinese international students. *Journal of Counseling Psychology, 54*(4), 385-394. <https://doi.org/10.1037/0022-0167.54.4.385>
- Wong, K. K. (2004). Are the Learning Styles of Asian International Students Culturally or Contextually Based? *International Education Journal, 4*(4), 154-166.
- Xu, H., O'Brien, W. H., & Chen, Y. (2019). Chinese international student stress and coping: A pilot study of acceptance and commitment therapy. *Journal of Contextual Behavioral Science*. <https://doi.org/10.1016/j.jcbs.2019.12.010>
- Yan, K., & Berliner, D. C. (2011). Chinese international students in the United States: Demographic trends, motivations, acculturation features and adjustment challenges. *Asia Pacific Education Review, 12*(2), 173-184. <https://doi.org/10.1007/s12564-010-9117-x>
- Zhuang, X. Y., Wong, D. F. K., Ng, T. K., & Poon, A. (2019). Effectiveness of Mental Health First Aid for Chinese-Speaking International Students in Melbourne. *Research on Social Work Practice*. <https://doi.org/10.1177/1049731519890398>
- Zimmermann, J., & Neyer, F. J. (2013). Do we become a different person when hitting the road? Personality development of sojourners. *Journal of Personality and Social Psychology, 105*(3), 515-530. <https://doi.org/10.1037/a0033019>
- Note: Figure translations are in progress. See original paper for figures.*
- Source: ChinaXiv – Machine translation. Verify with original.*