



Cultural Intelligence

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LAST MODIFIED: 31 JULY 2019

DOI: 10.1093/OBO/9780199846740-0115

Introduction

Cultural intelligence (CQ) is the capability to function effectively in intercultural contexts, as discussed in Earley and Ang 2003 (cited under Conceptualization of Individual-Level CQ). CQ can refer to the capability of an individual, a team, or a firm. CQ is important for most individuals and organizations because the world is diverse, and contemporary organizations recognize the value of bridging cultures for both personal and organizational success. The introduction of CQ represents a marked research shift away from focusing on cultural differences to focusing on how to function effectively in situations characterized by cultural differences. CQ is theoretically precise about what is and is not part of its construct space. Rooted in the multiloci view of intelligence, the conceptualization of CQ comprises four factors: (1) metacognitive CQ (the mental capability to acquire and understand cultural knowledge), (2) cognitive CQ (knowledge about cultures, their similarities and differences), (3) motivational CQ (interest and confidence in functioning effectively in intercultural contexts), and (4) behavioral CQ (the capability to flex behaviors in intercultural interactions). By focusing on four factors, CQ offers a comprehensive and parsimonious framework that describes the domain of intercultural capabilities. While nascent, research on CQ has evolved rapidly along several themes. First, research shows the conceptual distinctiveness of CQ compared to other interpersonal intelligences and intercultural competencies. Research demonstrates that CQ is uniquely relevant to intercultural contexts, rather than monocultural contexts. Research also differentiates CQ from its antecedents, including personality traits and multicultural experiences. Second, a growing body of research documents the positive consequences of CQ for individuals, teams, and firms. In less than twenty years, the accumulating evidence of predictive and incremental validity has pushed CQ from a theoretical concept to a practical framework that organizations in over ninety countries have applied to global selection, training, and development. A third theme considers more complex CQ models. This research sheds light on mediators and moderators in the CQ nomological network. It also positions CQ within multiple levels of analysis. In this article, we review major research studies on each of these important research streams. Some references appear in more than one category because they relate to multiple streams of research.

General Overviews

Several sources provide overviews of CQ. Ang and Van Dyne 2008 provides a concise and comprehensive guide for those interested in CQ research: it discusses the conceptualization, theory, and measurement of CQ, as well as its application across various disciplines. The handbook proposes a nomological network of CQ, describes initial tests of proposed relationships, and points the way forward for future research. Ang, et al. 2011 provides a review and synthesis of early empirical research on CQ and describes encouraging evidence of CQ's construct validity and practical value for intercultural effectiveness outcomes. The authors suggest ways to increase the progress of CQ research. Ng, et al. 2012 provides an updated review of CQ research, including conceptual progress, as well as an insider's view of the joys and pains involved in establishing CQ as a valid and important construct. Based on their experiences, the authors offer best practice recommendations for conducting CQ research. Another review, Ang, et al. 2015, covers the historical background and evolution of CQ research. The authors discuss advances in CQ measurement—development of the multimedia intercultural situational judgement tests (iSJT), a performance-based CQ measure—and call for more research on measurement diversity of CQ, including the differential validity of alternative CQ measures. A more recent review in Fang, et al. 2018 includes a section dedicated to qualitative research on CQ.

Ang, Soon, Linn Van Dyne, and Thomas Rockstuhl. "Cultural Intelligence: Origins, Conceptualization, Evolution and Methodological Diversity." In *Advances in Culture and Psychology*. Vol. 5. Edited by Michelle J. Gelfand, Chi-Yue Chiu, and Ying-Yi Hong, 273–323. New York: Oxford University Press, 2015.

Covers the evolution of CQ research, starting from its roots and initial research on individual-level main effects, to more recent research on complex and multilevel models. Discusses the complementary nature of alternative CQ measures—including self-report, informant-based, and performance-based measures (see also Measurement of CQ).

Ang, Soon, Linn Van Dyne, and Mei Ling Tan. "Cultural Intelligence." In *The Cambridge Handbook of Intelligence*. Edited by Robert J. Sternberg and Scott B. Kaufman, 582–602. New York: Cambridge University Press, 2011.

The first comprehensive review of CQ that integrates empirical research on its correlates, antecedents, consequences, and moderators. Highlights ways to broaden and deepen CQ research, including studies on the multidimensional structure of each primary CQ factor; an expanded CQ nomological network; complementary CQ measures; and dyadic-, team-, and firm-level CQ.

Ang, Soon, and Linn Van Dyne, eds. *Handbook of Cultural Intelligence*. New York: Sharpe, 2008.

An edited volume—comprising twenty-four chapters by a multinational group of authors—that establishes further construct validity for the CQ concept and extends its nomological network. Also discusses the application of CQ in multicultural teams and across disciplines, as well as other constructs that may be related to CQ.

Fang, Fang, Vidar Schei, and Marcus Selart. "Hype or Hope? A New Look at the Research on Cultural Intelligence." *International Journal of Intercultural Relations* 66 (2018): 148–171.

Includes a review of fourteen qualitative studies conducted in different countries—including those in Asia, Europe, the Middle East, and North America—in a range of contexts, including expatriation, offshoring, international service learning, multinational corporations, and peace operations.

Ng, Kok-Yee, Linn Van Dyne, and Soon Ang. "Cultural Intelligence: A Review, Reflections, and Recommendations for Future Research." In *Conducting Multinational Research: Applying Organizational Psychology in the Workplace*. Edited by Ann M. Ryan, Frederick T. L. Leong, and Frederick L. Oswald, 29–58. Washington, DC: American Psychological Association, 2012.

Summarizes the systematic research program that developed CQ from a controversial, theoretical concept to a robust, measurable construct with strong validity evidence. Includes insightful, personal reflections on the rewards and challenges of conducting CQ research, as well as recommendations on best research practices for future CQ research.

Definition and Conceptualization

CQ is defined—in Ang and Van Dyne 2008 and Earley and Ang 2003—as the capability to function effectively in contexts characterized by cultural diversity. As discussed in Van Dyne, et al. 2012, cultural diversity includes diversity in terms of nationality or cultural values, as well as diversity based on subcultures, such as profession, age, gender, and religion. CQ can refer to the capabilities of an individual, team, or firm. Conceptualizations of individual-level CQ—and to a lesser extent, firm-level CQ—are better developed than that of team-level CQ (for conceptualizations of team-level CQ, see Consequences of CQ for Dyads, Teams, and Firms).

Conceptualization of Individual-Level CQ

At the individual level, Ang and Van Dyne 2008 discusses CQ as a form of “real-world,” domain-specific intelligence that goes beyond traditional notions of academic intelligence. Importantly, as noted in Rockstuhl, et al. 2010, CQ refers not only to the capability to

understand cultural differences but also to the capability to bridge those differences. Based on the multiloci framework of intelligence, Earley and Ang 2003 delineated three CQ factors—cognitive, motivational, and behavioral. Subsequently, Ang and Van Dyne 2008 made sharper distinctions between cognitive and metacognitive CQ capabilities and CQ crystallized as a four-factor model (see also Introduction). Van Dyne, et al. 2012 refines the conceptualization of CQ by elaborating on the subdimensions and interrelationships of each of the four primary factors. Using meta-analytic techniques, Rockstuhl and Van Dyne 2018 shows that each of these four primary CQ factors provides both holistic and unique information about an individual's intercultural effectiveness. Thus, CQ is best modeled as a bi-factor model that is a combination of five factors—latent CQ and the four specific CQ factors. The researchers also found moderating effects of metacognitive CQ on the relationships between the other three CQ factors and intercultural effectiveness (see also Chua and Ng 2017, cited under Behavioral and Performance Consequences). Thomas, et al. 2008 advances a different conceptualization and describes CQ as a system of interacting abilities that combine to produce culturally intelligent behavior. Janssens and Cappellen 2008 and Debebe 2008 provide rare qualitative studies that inform context-specific knowledge (a subdimension of cognitive CQ in the model of Van Dyne, et al. 2012). Janssens and Cappellen 2008 examines context-specific knowledge of global managers. Debebe 2008 examines context-specific knowledge, as well as corresponding behavioral CQ (such as effective and ineffective communicative speech acts) in relationships characterized by cultural dissimilarity and power inequality. Offering a more micro perspective, Molinsky 2007 discusses the psychological challenges faced by individuals when enacting cross-cultural code-switching behaviors (i.e., behavioral CQ).

Ang, Soon, and Linn Van Dyne. "Conceptualization of Cultural Intelligence: Definition, Distinctiveness, and Nomological Network." In *Handbook on Cultural Intelligence: Theory, Measurement and Applications*. Edited by Ang Soon and Linn Van Dyne, 3–15. New York: Sharpe, 2008.

Extends Earley and Ang 2003 and establishes CQ as an aggregate multidimensional construct comprising four factors—metacognitive CQ, cognitive CQ, motivational CQ, and behavioral CQ. Includes conceptual clarification of how CQ is distinct from personality, other intelligences, and other intercultural competencies.

Debebe, Gelaye. "Cross-Cultural Competence and Power-Based Rules: A Native American Case Study." *International Journal of Intercultural Relations* 32 (2008): 399–414.

Case study of an Anglo-Navajo interorganizational relationship that informs context-specific cognitive CQ and behavioral CQ in work interactions characterized by cultural dissimilarity and power inequality. Highlights the importance of oft-overlooked historical and sociopolitical dynamics in cross-cultural interactions.

Earley, P. Christopher, and Soon Ang. *Cultural Intelligence: Individual Interactions across Cultures*. Stanford, CA: Stanford University Press, 2003.

Introduces and develops the CQ concept. Draws on Robert Sternberg's multiloci framework of intelligence to describe three facets of CQ—cognitive (which includes cognition and metacognition), motivational, and behavioral. Separate chapters discuss each factor, drawing on classic work in cognitive psychology, motivation, cultural anthropology, and social psychology.

Janssens, Maddy, and Tineke Cappellen. "Contextualizing Cultural Intelligence: The Case of Global Managers." In *Handbook of Cultural Intelligence: Theory, Measurement, and Applications*. Edited by Soon Ang and Linn Van Dyne, 356–371. New York: Sharpe, 2008.

In line with Van Dyne, et al. 2012 and its conceptualization that cognitive CQ has context-specific elements, this study examines and identifies three elements of cognitive CQ specific to the context of global managers.

Molinsky, Andrew. "Cross-Cultural Code-Switching: The Psychological Challenges of Adapting Behavior in Foreign Cultural Interactions." *Academy of Management Review* 32 (2007): 622–640.

Conceptual article that considers emotional challenges and psychological processes underlying the enactment of behavioral CQ. Suggests that individuals require emotional intelligence to benefit from CQ in intercultural interactions that trigger strong negative emotions.

Rockstuhl, Thomas, Ying-Yi Hong, Kok Yee Ng, Soon Ang, and Chi-Yue Chiu. "The Culturally Intelligent Brain: From Detecting to Bridging Cultural Differences." *Journal of Neuroleadership* 3 (2010): 22–36.

Highlights CQ's distinctive emphasis on bridging—beyond detecting or understanding—cultural differences by contrasting extant cultural neuroscience research (which focuses on cross-cultural comparisons of neurological processes) with proposed "intercultural neuroscience" research that focuses on neurological processes of intercultural capabilities and its growth.

Rockstuhl, Thomas, and Linn Van Dyne. "A Bi-factor Theory of the Four-Factor Model of Cultural Intelligence: Meta-analysis and Theoretical Extensions." *Organizational Behavior and Human Decision Processes* 148 (2018): 124–144.

Uses meta-analytic techniques to show that CQ is best modeled and conceptualized such that each of the four CQ factors provide both h the four CQ factors have shared variance that is accounted for by a latent CQ factor, as well as orthogonal components that exert unique, incremental effects on different intercultural effectiveness outcomes over and above the latent CQ factor.

Thomas, David C., Efrat Elron, Günter Stahl, et al. "Cultural Intelligence: Domain and Assessment." *International Journal of Cross Cultural Management* 8 (2008): 123–143.

Proposes that CQ is a system of interacting abilities that combine to produce culturally intelligent behavior. Positions cultural metacognition as a linking mechanism that can compensate for other capabilities.

Van Dyne, Linn, Soon Ang, Kok-Yee Ng, Thomas Rockstuhl, Mei Ling Tan, and Christine Koh. "Sub-dimensions of the Four Factor Model of Cultural Intelligence: Expanding the Conceptualization and Measurement of Cultural Intelligence." *Social and Personality Psychology Compass* 6 (2012): 295–313.

Delineates subdimensions for each of the four primary CQ factors: metacognitive CQ (planning, awareness, checking), cognitive CQ (culture-general knowledge, context-specific knowledge), motivational CQ (self-efficacy, intrinsic motivation, extrinsic motivation), and behavioral CQ (verbal behavior, nonverbal behavior, speech acts). Summarizes initial psychometric properties of the E-CQS scale.

Conceptualization of Firm-Level CQ

In the first attempt to conceptualize firm-level CQ, Ang and Inkpen 2008 draws on the resource-based view of the firm to propose three facets of firm-level CQ—managerial CQ, competitive CQ, and structural CQ—as resources that enable firms to manage the complexities of international business ventures successfully. Moon 2010a builds on Ang and Inkpen's model to propose dynamic capabilities—the abilities to acquire, integrate, and reconfigure competencies in response to dynamic business environments—as additional facets of firm-level CQ. While multiple studies provide validity evidence for individual-level CQ, empirical research on firm-level CQ is still at a nascent stage. See also Consequences of CQ for Individuals and Consequences of CQ for Dyads, Teams, and Firms.

Ang, Soon, and Andrew C. Inkpen. "Cultural Intelligence and Offshore Outsourcing Success: A Framework of Firm-Level Intercultural Capability." *Decision Sciences* 39 (2008): 337–358.

Draws on the resource-based view of the firm to develop a firm-level CQ model, comprising three resources: managerial CQ, competitive CQ, and structural CQ. Argues firm-level CQ is critical for successful international business ventures, beyond factors such as legal contract conditions or customer-supplier relationships.

Moon, Taewon. "Organizational Cultural Intelligence: Dynamic Capability Perspective." *Group and Organization Management* 35 (2010a): 456–493.

This second conceptual article on firm-level CQ extends the model in Ang and Inkpen 2008 by introducing dynamic capabilities that emphasize the ability to learn, integrate, and reconfigure internal and external competencies in response to rapid changes in business environments.

Conceptual Distinctiveness of CQ

Research has identified multiple conceptualizations of interpersonal intelligence. There is also an accumulating array of intercultural competence constructs and models. Thus, it is important to consider how CQ differs from other concepts and models.

CQ and Other Interpersonal Intelligences

CQ, emotional intelligence, and social intelligence are different types of interpersonal intelligences. Crowne 2009 explores and formulates propositions on the conceptual distinctiveness of these three intelligences: that social intelligence is a broader concept that includes CQ and emotional intelligence but that CQ and emotional intelligence are related yet distinct. Crowne 2013 offers initial tests of these relationships. Moon 2010b and Lin, et al. 2012 report similar findings for CQ and emotional intelligence: they are correlated but conceptually distinct. For differential predictive validity, empirical studies demonstrate that CQ is a stronger predictor of intercultural effectiveness outcomes than is emotional intelligence (see Rockstuhl, et al. 2011, cited under Unique Relevance of CQ to Intercultural Contexts). Lin, et al. 2012 extends these findings by demonstrating interactive effects such that cross-cultural adjustment is highest when both CQ and emotional intelligence are high. Similar to Alon and Higgins 2005, Lin, et al. 2012 argues that individuals with high emotional intelligence need CQ to accurately detect and appropriately act on emotions of people from cultures with different emotion display rules or norms. See also Molinsky 2007 (cited under Conceptualization of Individual-Level CQ) for conceptual arguments on the interactive effects of CQ and emotional intelligence—in terms of detecting and regulating one's own emotions—on cross-cultural adaptation.

Alon, Ilan, and James M. Higgins. "Global Leadership Success through Emotional and Cultural Intelligences." *Business Horizons* 48 (2005): 501–512.

Conceptual article arguing that geographic/ethnic CQ (i.e., context-specific cognitive CQ) moderates the relationship of emotional intelligence with global leadership success because many emotional cues vary across cultures. Discusses motivational CQ in terms of direction, persistence, and intensity.

Crowne, Kerri A. "The Relationships among Social Intelligence, Emotional Intelligence and Cultural Intelligence." *Organization Management Journal* 6 (2009): 148–163.

Conceptual article proposing that CQ and emotional intelligence are subsets of social intelligence, and that CQ and emotional intelligence have overlapping elements but are also distinct. Identifies situations that call for both CQ and emotional intelligence.

Crowne, Kerri A. "An Empirical Analysis of Three Intelligences." *Canadian Journal of Behavioural Science/Revue Canadienne des Sciences du Comportement* 45 (2013): 105–114.

Exploratory and confirmatory factor analyses support the earlier proposition (see Crowne 2009) that CQ and emotional intelligence have mutually exclusive as well as overlapping elements. Does not show that CQ and emotional intelligence are subsets of social intelligence.

Lin, Yi-Chun, Angela S. -Y. Chen, and Yi-Chen Song. "Does Your Intelligence Help to Survive in a Foreign Jungle? The Effects of Cultural Intelligence and Emotional Intelligence on Cross-Cultural Adjustment." *International Journal of Intercultural Relations* 36 (2012): 541–552.

Confirmatory factor analyses demonstrate discriminant validity of CQ and emotional intelligence. An aggregate measure of emotional intelligence correlates positively with individual CQ factors. CQ and emotional intelligence interact to predict cross-cultural adjustment, with

highest adjustment when CQ and emotional intelligence are both high.

Moon, Taewon. "Emotional Intelligence Correlates of the Four-Factor Model of Cultural Intelligence." *Journal of Managerial Psychology* 25 (2010b): 876–898.

Demonstrates discriminant validity of CQ and emotional intelligence based on confirmatory factor analyses. Reports relationships between four factors of CQ (metacognitive CQ, cognitive CQ, motivational CQ, and behavioral CQ) and four factors of emotional intelligence (self-awareness, self-management, social awareness, relationship management). CQ and emotional intelligence are positively correlated.

CQ and Other Intercultural Competencies

Earley and Ang 2003 (cited under Conceptualization of Individual-Level CQ) argues that CQ adds value to the crowded field of intercultural competence by offering a deductively derived framework that considers the multifaceted nature of intercultural competence in a cohesive, parsimonious, and comprehensive way. Several review articles support this claim. Bückner and Poutsma 2010a deconstructs four intercultural competence models using an organizational behavior framework of behavioral aptitudes, knowledge, skills, abilities, and other personality characteristics (KSAOs) and develops an integrative model of global management competencies (GMC) with seven components. Bückner and Poutsma 2010b compares seven prominent intercultural competence models with the CQ model and concludes that the CQ model is the most comprehensive because it contains five of the seven components proposed for GMC, whereas the other models include only one or two components. They find that the main distinction between the CQ model and other models is its focus on a set of capabilities, rather than on personality or a combination of personality and capabilities, a conclusion also reached in Leung, et al. 2014. Leung, et al. 2014 proposes while personality factors are also components of intercultural competence, they should be seen as antecedents of intercultural capabilities such as CQ, which are more proximal predictors of intercultural effectiveness.

Bückner, Joost, and Erik Poutsma. "Global Management Competencies: A Theoretical Foundation." *Journal of Managerial Psychology* 25 (2010a): 829–844.

Deconstructs existing global management competencies (GMC) models using behavioral aptitudes, knowledge, skills, abilities, and other personality characteristics (KSAOs). Develops an integrative model of GMC using components from existing models. The CQ model uniquely contributes to the metacognitive and behavioral components of the proposed model.

Bückner, Joost, and Erik Poutsma. "How to Assess Global Management Competencies: An Investigation of Existing Instruments." *Management Revue* 21 (2010b): 263–291.

Evaluates twenty-three instruments that measure global management competencies (GMC) and compares them with the integrative model of GMC—comprising seven components—developed in Bückner and Poutsma 2010a. Concludes that the CQ model takes "central position" in the GMC model because it has the most comprehensive coverage of GMC components.

Leung, Kwok, Soon Ang, and Mei Ling Tan. "Intercultural Competence." *Annual Review of Organizational Psychology and Organizational Behavior* 1 (2014): 489–519.

Reviews intercultural competencies models. In contrast to other models that cover intercultural traits, intercultural attitudes/worldviews, or a combination of intercultural traits, attitudes/worldviews, and capabilities, the CQ model focuses on intercultural capabilities. Compared to other models, more extensive research validates the CQ model as a predictor of intercultural effectiveness outcomes.

Measurement of CQ

With some exceptions (see Gregory, et al. 2009, cited under Consequences of CQ for Dyads, Teams, and Firms; Pless, et al. 2011, cited under Experiential Learning), most empirical studies of CQ are quantitative and conducted in organizations or in international business programs within universities. In most cases, CQ is measured by self-assessment with the Cultural Intelligence Scale (CQS) developed in Ang, et al. 2007. To date, the CQS has been used for research and training in ninety-eight countries. Some studies focus on overall CQ and average the four factors for an overall score, and some examine the effects of each of four CQ factors separately. Still other studies focus on only one of the four factors. Researchers should apply principles of predictor-criterion matching (see Rockstuhl and Van Dyne 2018, cited under Conceptualization of Individual-Level CQ; Leung, et al. 2014, cited under CQ and Other Intercultural Competencies; and Ng, et al. 2012, cited under General Overviews) and consider the breadth of the outcomes in their model and research question when determining which individual CQ factors or subdimensions of CQ factors to use, in addition to latent CQ (see Rockstuhl and Van Dyne 2018). Short-form CQ scales—including the Mini-CQS presented in Van Dyne, et al. 2008 and the SFCQ presented in Thomas, et al. 2015—and the Expanded-Cultural Intelligence Scale (E-CQS) presented in Van Dyne, et al. 2012 are not yet widely used in research. The E-CQS includes subdimensions for each of the four main factors and is especially useful for focusing on specific CQ capabilities (for an example, see Chua, et al. 2012, cited under Behavioral and Performance Consequences). The informant-based version of the CQS presented in Van Dyne, et al. 2008 is based on observer ratings of CQ but is not yet widely used for research. Van Dyne, et al. 2008 and Kim and Van Dyne 2012, however, show convergent validity of the self- and observer-rated scales. Ang, et al. 2015 (cited under General Overviews) argues that different measures capture theoretically distinct aspects of CQ and calls for methodological diversity and triangulation of findings based on alternative measures. Specifically, self-report measures reflect an individual's sense of CQ self-efficacy because this represents self-perceived capabilities, informant-based measures reflect external manifestations of CQ that can be detected by others, and performance-based measures reflect maximal CQ capabilities. Rockstuhl, et al. 2015 describes the development and validation of a performance-based measure of CQ—the intercultural situational judgement test (iSJT)—and demonstrates incremental predictive validity for task performance and interpersonal citizenship behaviors (helping) in intercultural teams. The iSJT should be especially useful in high-stakes selection situations where social desirability and rating biases can be serious concerns.

Ang, Soon, Linn Van Dyne, Christine Koh, et al. “Cultural Intelligence: Its Measurement and Effects on Cultural Judgment and Decision Making, Cultural Adaptation and Task Performance.” *Management and Organization Review* 3 (2007): 335–371.

Describes development and validation of the twenty-item Cultural Intelligence Scale (CQS): metacognitive, cognitive, motivational, and behavioral CQ. The only CQ measure that has rigorous, published research evidence of construct validity using multiple sources of data.

Kim, You Jin, and Linn Van Dyne. “Cultural Intelligence and International Leadership Potential: The Importance of Contact for Members of the Majority.” *Applied Psychology: An International Review* 61 (2012): 272–294.

Shows similar effect sizes for relationships between prior intercultural contact and CQ based on self-report and informant-based measures of CQ.

Rockstuhl, Thomas, Soon Ang, Kok-Yee Ng, Filip Lievens, and Linn Van Dyne. “Putting Judging Situations into Situational Judgment Tests: Evidence from Intercultural Multimedia SJTs.” *Journal of Applied Psychology* 100 (2015): 464–480.

Reports the development and validation of an intercultural situational judgement test (iSJT), which is a performance-based approach for assessing CQ that complements self-reported and informant-provided measures. The iSJT and self-reported CQ predict unique variance in peer-rated task performance in multicultural teams, suggesting complementarity of different measurement approaches in predicting intercultural effectiveness outcomes.

Thomas, David C., Yuan Liao, Zeynep Aycan, et al. “Cultural Intelligence: A Theory-Based, Short Form Measure.” *Journal of International Business Studies* 46 (2015): 1099–1118.

Introduces a short-form CQ scale (SFCQ) with three dimensions (cultural knowledge, cultural skills, cultural metacognition); describes same-source, self-reported relationships across five language groups. Future research is needed to support the postulated reflective structure and proposed interchangeability of the three dimensions as indicators of overall CQ.

Van Dyne, Linn, Soon Ang, and Christine Koh. "Development and Validation of the CQS." In *Handbook of Cultural Intelligence: Theory, Measurement, and Applications*. Edited by Soon Ang and Linn Van Dyne, 16–38. New York: Sharpe, 2008.

Extends Ang, et al. 2007 by providing further validity evidence for the twenty-item CQS. Offers an informant-based version of the twenty-item CQS; shows convergent validity between self and informant measures. Introduces the nine-item Mini-CQS.

Van Dyne, Linn, Soon Ang, Kok-Yee Ng, Thomas Rockstuhl, Mei Ling Tan, and Christine Koh. "Sub-Dimensions of the Four Factor Model of Cultural Intelligence: Expanding the Conceptualization and Measurement of Cultural Intelligence." *Social and Personality Psychology Compass* 6 (2012): 295–313.

Introduces an expanded CQ model—with subdimensions for the four CQ capabilities. Provides a useful framework for identifying CQ strengths and development needs. Provides psychometric evidence for the second-order eleven-factor, thirty-seven-item Expanded Cultural Intelligence Scale (E-CQS).

Unique Relevance of CQ to Intercultural Contexts

CQ has unique relevance to intercultural contexts in two ways. First, CQ has incremental predictive validity beyond typical predictors in intercultural contexts. For example, Groves and Feyerherm 2011 shows that CQ predicts leader performance in culturally diverse teams but that the typical predictors of emotional intelligence and leadership competencies do not. Rockstuhl, et al. 2011 demonstrates that CQ predicts global leadership effectiveness, but emotional intelligence—a typical predictor of leadership effectiveness within culture—does not. Second, CQ has predictive validity only in intercultural contexts, and not in monocultural contexts. In line with principles of predictor-criterion matching, several studies show that CQ makes a difference only in culturally diverse contexts. In culturally homogeneous settings, Chua, et al. 2012 finds no relationship between CQ and dyadic trust; Adair, et al. 2013 finds no relationship between CQ and the emergence of shared team values, and two studies—Groves and Feyerherm 2011 and Rockstuhl, et al. 2011—finds no relationship between CQ and leader effectiveness. Cultural diversity, however, is not synonymous with national diversity because cultural diversity often exists within national boundaries. Jyoti and Kour 2015 (cited under Mediators of CQ) demonstrates the relevance of CQ among Indian nationals who are ethnically and linguistically diverse.

Adair, Wendi L., Ivona Hideg, and Jeffrey R. Spence. "The Culturally Intelligent Team: The Impact of Team Cultural Intelligence and Cultural Heterogeneity on Team Shared Values." *Journal of Cross-Cultural Psychology* 44 (2013): 941–962.

Shows CQ facilitates team-norming processes in culturally diverse teams but not in culturally homogeneous teams. Metacognitive and behavioral CQ promote the development of shared team values in culturally heterogeneous teams, but metacognitive and motivational CQ hinder the emergence of shared team values in culturally homogeneous teams.

Chua, Roy Y. J., Michael W. Morris, and Shira Mor. "Collaborating across Cultures: Cultural Metacognition and Affect-Based Trust in Creative Collaboration." *Organizational Behavior and Human Decision Processes* 118 (2012): 116–131.

Demonstrates metacognitive CQ is positively related to affect-based trust in culturally diverse social networks, and affect-based trust mediates the relationship between metacognitive CQ and new idea sharing with culturally diverse social network contacts. Metacognitive CQ, however, is unrelated to affect-based trust or new idea sharing with culturally similar social network contacts.

Groves, Kevin S., and Ann E. Feyerherm. "Leader Cultural Intelligence in Context: Testing the Moderating Effects of Team Cultural Diversity on Leader and Team Performance." *Group & Organization Management* 36 (2011): 535–566.

Leader's overall CQ has incremental predictive validity on follower perceptions of leader performance and team performance, beyond the effects of leader emotional intelligence and other leadership competencies—but only in teams with high cultural diversity and not those with low cultural diversity.

Rockstuhl, Thomas, Stefan Seiler, Soon Ang, Linn Van Dyne, and Hubert Annen. "Beyond General Intelligence (IQ) and Emotional Intelligence (EQ): The Role of Cultural Intelligence (CQ) on Cross-Border Leadership Effectiveness in a Globalized World." *Journal of Social Issues* 67 (2011): 825–840.

Using multisource data from Swiss military officers, shows that general intelligence (IQ) predicts both domestic and cross-border leadership effectiveness. Emotional intelligence is a stronger predictor of domestic leadership effectiveness, and CQ is a stronger predictor of cross-border leadership effectiveness.

Antecedents of CQ

CQ is conceptualized as a malleable capability that predicts effective functioning in intercultural settings (Ang and Van Dyne 2008; cited under Conceptualization of Individual-Level CQ). CQ is distinct from stable personality traits that predict CQ capabilities. Ang, et al. 2006 shows that of the Big Five personality traits, openness to experience has the strongest relationship with CQ. Extending Ang, et al. 2006 to the virtual context, Presbitero 2016 reports relationships for openness to experience and extraversion with CQ. Prior intercultural contact and international experiences also shape CQ capabilities but individuals do not benefit equally from intercultural experiences (see also Li 2017, cited under Experiential Learning). First, the nature of international experience makes a difference. Moon, et al. 2012 finds that nonwork experiences—such as personal and language study trips—have stronger effects on CQ than do work experiences. Perhaps this is because individuals can pay more attention to gaining cultural knowledge and experiences during nonwork experiences as their attention is less constrained by work-related goals. Second, individual characteristics influence engagement levels and cognitive processing of social cues in novel cultures and consequently, the effects of experience on CQ (see Fischer 2011, cited under Classroom Learning and Şahin, et al. 2014, cited under Experiential Learning). Li, et al. 2013 shows that experiential learning style moderates the relationship between prior international experience and CQ, while Moon, et al. 2012 and Tay, et al. 2008 show moderating effects of goal orientation and need for control respectively. Chao, et al. 2017 shows that holding implicit beliefs that cultural attributes are fixed increases intercultural rejection sensitivity, which in turn, reduces cross-cultural adjustment and CQ. Third, majority versus minority status also matters. Kim and Van Dyne 2012 shows a stronger relationship between intercultural contact and CQ for individuals of majority status than for those of minority status. This is consistent with distinctiveness theory—which suggests that those of majority status process intercultural contact more thoroughly because it is novel—and it is consistent with prior research that shows stronger contact effects for those of majority status. See also Ng, et al. 2009 (cited under CQ as a Moderator), which posits that those with high are CQ are more likely to use all four experiential learning modes to translate international experiences into learning.

Ang, Soon, Linn Van Dyne, and Christine Koh. "Personality Correlates of the Four-Factor Model of Cultural Intelligence." *Group and Organization Management* 31 (2006): 100–123.

Reports relationships between Big Five personality traits and CQ factors. Openness to experience is significantly related to all four CQ factors, extraversion is significantly related to all CQ factors except metacognitive CQ, conscientiousness is significantly related to metacognitive CQ, and agreeableness and emotional stability are significantly related to behavioral CQ.

Chao, Melody M., Riki Takeuchi, and Jiing-Lih Farh. "Enhancing Cultural Intelligence: The Roles of Implicit Culture Beliefs and Adjustment." *Personnel Psychology* 70 (2017): 257–292.

Shows how implicit culture beliefs affect the impact of international experiences on CQ development among students in an international exchange program. Sojourners with stronger entity culture beliefs (i.e., beliefs that cultural attributes are fixed) have higher levels of intercultural rejection sensitivity, which in turn reduces their levels of cross-cultural adjustment and CQ, compared to sojourners who hold beliefs that cultural attributes can be malleable.

Kim, You Jin, and Linn Van Dyne. "Cultural Intelligence and International Leadership Potential: The Importance of Contact for Members of the Majority." *Applied Psychology: An International Review* 61 (2012): 272–294.

Demonstrates that prior intercultural contact predicts CQ, which in turn predicts international leadership potential. This mediated relationship, however, holds only for individuals of majority status and not those of minority status.

Li, Ming, William H. Mobley, and Aidan Kelly. "When Do Global Leaders Learn Best to Develop Cultural Intelligence? An Investigation of the Moderating Role of Experiential Learning Style." *Academy of Management Learning and Education* 12 (2013): 32–50.

Shows that a divergent learning style—which emphasizes concrete experience and reflective observation—strengthens the positive relationship between length of overseas experience and CQ in a sample of international executives and graduate business students in China and Ireland. By contrast, assimilative, convergent, and accommodative learning styles do not.

MacNab, Brent R., and Reginald Worthley. "Individual Characteristics as Predictors of Cultural Intelligence Development: The Relevance of Self-Efficacy." *International Journal of Intercultural Relations* 36 (2012): 62–71.

General self-efficacy predicts CQ development in an experiential/educational learning setting but prior international, work, and management experience do not.

Moon, Hyoung Koo, Byoung Kwon Choi, and Jae Shik Jung. "Previous International Experience, Cross-Cultural Training, and Expatriates' Cross-Cultural Adjustment: Effects of Cultural Intelligence and Goal Orientation." *Human Resource Development Quarterly* 23 (2012): 285–330.

Finds that international nonwork experience—such as personal and language study trips—has a stronger influence on CQ than does work experience. Comprehensiveness of cross-cultural training has a stronger influence on CQ than does length of cross-cultural training. The effects of international experience and cross-cultural training on CQ are moderated by goal orientation.

Presbitero, Alfred. "Cultural Intelligence (CQ) in Virtual, Cross-Cultural Interactions: Generalizability of Measure and Links to Personality Dimensions and Task Performance." *International Journal of Intercultural Relations* 50 (2016): 29–38.

In a virtual context, this article shows that personality traits of openness to experience and extraversion are positively related to all four CQ factors.

Tay, Cheryl, Mina Westman, and Audrey Chia. "Antecedents and Consequences of Cultural Intelligence among Short-Term Business Travelers." In *Handbook of Cultural Intelligence: Theory, Measurement, and Applications*. Edited by Soon Ang and Linn Van Dyne, 126–144. New York: Sharpe, 2008.

Reports a positive relationship between multicultural experiences and CQ for short-term business travelers with low need for control, but no relationship for those with high need for control. Individuals with high need for control, however, have higher CQ than those with low need for control.

Consequences of CQ for Individuals

Research shows that CQ predicts a range of psychological, behavioral, and performance outcomes for individuals in intercultural settings. This includes expatriates, foreign laborers, and international students. More importantly, studies show that CQ has incremental predictive validity above and beyond traditional predictors and other individual difference variables, providing additional validation evidence for the CQ model.

Psychological Consequences

Research on the psychological consequences of CQ typically takes a “neutralizing the negative” perspective (see Leung, et al. 2014, cited under CQ and Other Intercultural Competencies) and examines how CQ alleviates psychological stresses associated with working in culturally different contexts. Such research shows the incremental predictive validity of CQ for cultural adaptation, beyond the effects of established predictors, such as Big Five personality traits, international experience, and host language proficiency. Tay, et al. 2008 shows that CQ has incremental predictive validity for (lower) burnout of short-term business travelers. Ang, et al. 2007 and Peng, et al. 2014 show the incremental validity of CQ for psychological well-being. A number of studies—Ang, et al. 2007; Huff, et al. 2014; Templer 2006; and Wu and Ang 2011—find incremental validity of CQ for cultural adaptation of international students, expatriates, and other global professionals. A smaller group of studies adopts a “positive psychology perspective” (see Leung, et al. 2014, cited under CQ and Other Intercultural Competencies) and positions CQ as predicting approach goals in intercultural settings. For example, Wu and Ang 2011 examines whether CQ predicts expatriate intentions to complete their assignments. Focusing on individual CQ factors rather than aggregate CQ (see Measurement of CQ), motivational CQ has the strongest effect on psychological outcomes (see Rockstuhl and Van Dyne 2018, cited under Conceptualization of Individual-Level CQ). Motivational CQ, however, is positively related to interactional adjustment in some studies, including Ang, et al. 2007 and Huff, et al. 2014, but not in others, including Templer 2006 and Wu and Ang 2011. See also Moderators of CQ Relationships.

Ang, Soon, Linn Van Dyne, Christine Koh, et al. “Cultural Intelligence: Its Measurement and Effects on Cultural Judgment and Decision Making, Cultural Adaptation and Task Performance.” *Management and Organization Review* 3 (2007): 335–371.

Shows motivational and behavioral CQ are positively related to self-reported cultural adaptation, controlling for effects of general mental ability, Big Five personality traits, cross-cultural experience, and demographics. Also shows positive relationships of motivational and behavioral CQ with supervisor assessment of cultural adaptation.

Huff, Kyle C., Pingping Song, and Eric B. Gresch. “Cultural Intelligence, Personality, and Cross-Cultural Adjustment: A Study of Expatriates in Japan.” *International Journal of Intercultural Relations* 38 (2014): 151–157.

Motivational CQ is positively related to general, interactional, and work adjustment in a sample of self-initiated expatriates working in Japan, controlling for the effects of Big Five personality traits, cultural distance, Japanese language ability, length of stay in Japan, and demographic variables.

Peng, Ann C., Linn Van Dyne, and Kyoungjo Oh. “The Influence of Motivational Cultural Intelligence on Cultural Effectiveness Based on Study Abroad: The Moderating Role of Participant’s Cultural Identity.” *Journal of Management Education* 39 (2014): 572–596.

Students with high initial motivational CQ have greater increases in T2 psychological well-being in intercultural settings based on study abroad experiences. The effect is moderated by cultural identity and does not apply to those with low motivational CQ and strong cultural identity.

Tay, Cheryl, Mina Westman, and Audrey Chia. “Antecedents and Consequences of Cultural Intelligence among Short-Term Business Travelers.” In *Handbook of Cultural Intelligence: Theory, Measurement, and Applications*. Edited by Soon Ang and Linn Van Dyne, 126–144. New York: Sharpe, 2008.

Metacognitive, motivational, and behavioral CQ negatively predict burnout of short-term business travelers, controlling for multicultural experiences, need for control, work-life conflict, schedule autonomy, and demographics.

Templer, Klaus J. “Motivational Cultural Intelligence, Realistic Job Preview, Realistic Living Conditions Preview, and Cross-Cultural Adjustment.” *Group and Organization Management* 31(2006): 154–173.

Motivational CQ predicts work and general adjustment of global professionals, beyond effects of realistic previews of job and living conditions, prior international experience, and demographic variables.

Wu, Pei-Chuan, and Siah H. Ang. "The Impact of Expatriate Supporting Practices and Cultural Intelligence on Cross-Cultural Adjustment and Performance of Expatriates in Singapore." *International Journal of Human Resource Management* 22 (2011): 2683–2702.

Motivational CQ predicts expatriate's general adjustment and intention to complete their assignment, beyond effects of other established predictors, such as cultural distance, language fluency, previous assignments, and goal orientation.

Behavioral and Performance Consequences

A growing body of research is demonstrating the incremental predictive validity of CQ for performance-related intercultural effectiveness outcomes. Ang, et al. 2007 provides the earliest predictive validity evidence of CQ for performance outcomes of global professionals. Rockstuhl, et al. 2015 shows that individuals with higher CQ perform more effectively in multicultural work teams. Rockstuhl and Van Dyne 2018 presents more fine-grained findings—the four CQ factors have differential effects for different performance outcomes, including task performance, citizenship performance, adaptive performance, and leadership performance. (Note, however, that the effect of CQ on performance outcomes is weakened under some conditions; see Moderators of CQ Relationships.) Other-oriented behaviors explain some of these performance outcomes. Mor, et al. 2013 shows that metacognitive CQ predicts perspective taking and leads to more effective cooperative working relationships. Chua, et al. 2012 reports that those with high metacognitive CQ share more ideas with and have greater affect-based trust toward their intercultural ties, and this leads to more successful creative collaborations. Groves, et al. 2015 demonstrates that those with high CQ display more interest-based negotiation behaviors, which in turn, results in better negotiation performance. However, having "too much" CQ may not always lead to positive outcomes—Chua and Ng 2017 finds that people with high levels of cognitive CQ demonstrate poorer creativity in resolving cross-cultural dilemmas unless they also have high levels of metacognitive CQ. Other behaviors demonstrated by high CQ individuals include faster learning of cultural norms (Morris, et al. 2019). A nonempirical article, Brislin, et al. 2006, describes culturally intelligent behaviors across a range of work, school, and social settings. Another nonempirical article, Brett 2018, describes culturally intelligent behaviors for managers whose team members are caught in conflicts arising from the collision of dignity, face, and honor cultures.

Ang, Soon, Linn Van Dyne, Christine Koh, et al. "Cultural Intelligence: Its Measurement and Effects on Cultural Judgment and Decision Making, Cultural Adaptation and Task Performance." *Management and Organization Review* 3 (2007): 335–371.

Metacognitive and behavioral CQ (self-rated) predict peer- and supervisor-rated task performance, beyond the effects of multiple controls, including prior cross-cultural experience.

Brett, Jeanne. "Intercultural Challenges in Managing Workplace Conflict—a Call for Research." *Cross Cultural & Strategic Management* 25 (2018): 32–52.

Describes the differences in triggers of and responses to conflict between dignity, face, and honor cultures. Also offers propositions on when and how culturally intelligent managers should intervene when conflicts arise from such differences, in terms of timing and type of third-party intervention, directness of confrontation, and the type and expression of negative emotion.

Brislin, Richard, Reginald Worthley, and Brent MacNab. "Cultural Intelligence: Understanding Behaviors that Serve People's Goals." *Group and Organization Management* 31 (2006): 40–55.

Describes behaviors and higher-order thought processes that culturally intelligent individuals should embody. Provides examples from work, school, and social settings.

Chua, Roy Y. J., Michael W. Morris, and Shira Mor. "Collaborating across Cultures: Cultural Metacognition and Affect-Based Trust in Creative Collaboration." *Organizational Behavior and Human Decision Processes* 118 (2012): 116–131.

Metacognitive CQ predicts idea sharing and creative collaboration with intercultural ties. Affect-based trust mediates the effect of metacognitive CQ on creative collaboration.

Chua, Roy Y. J., and Kok Yee Ng. "Not Just How Much You Know: Interactional Effect of Cultural Knowledge and Metacognition on Creativity in a Global Context." *Management and Organizational Review* 13 (2017): 281–300.

One of the first papers to highlight a potential "dark side" of CQ—whereby people with high cognitive CQ may be hindered by cognitive overload and cognitive entrenchment when working on a creativity task unless they also have high levels of metacognitive CQ to facilitate the processing of a large amount of cultural knowledge.

Groves, Kevin S., Ann Feyerherm, and Minhua Gu. "Examining Cultural Intelligence and Cross-Cultural Negotiation Effectiveness." *Journal of Management Education* 39 (2015): 209–243.

Aggregate CQ predicts negotiation performance. This relationship is partially mediated by interest-based negotiation (IBN) behaviors, which include exploring the other party's interests, creatively seeking options for resolution, relying on objective third-party criteria, and separating people from negotiation issues.

Mor, Shira, Michael W. Morris, and Johann Joh. "Identifying and Training Adaptive Cross-Cultural Management Skills: The Crucial Role of Cultural Metacognition." *Academy of Management Learning and Education* 12 (2013): 453–475.

Metacognitive CQ of MBA students predicts cooperation in international teams. The relationship is mediated by cultural perspective-taking.

Morris, Michael W., Krishna Savani, and Katrina Fincher. "Metacognition Fosters Cultural Learning: Evidence from Individual Differences and Situational Prompts." *Journal of Personality and Social Psychology* 116 (2019): 46–68.

Through a series of five experiments with simulated interpersonal situations in new cultures, the authors show that people higher in metacognitive CQ learned new cultural norms faster from experiential feedback than those with lower metacognitive CQ. The learning is largely based on spontaneous error monitoring and reactive error-based updating.

Rockstuhl, Thomas, Soon Ang, Kok-Yee Ng, Filip Lievens, and Linn Van Dyne. "Putting Judging Situations into Situational Judgment Tests: Evidence from Intercultural Multimedia SJTs." *Journal of Applied Psychology* 100 (2015): 464–480.

This study introduces a performance-based measure of CQ and shows that CQ predicts peer-rated task performance in multicultural teams, above and beyond the Big Five personality traits, cognitive ability, international experience, work experience, and number of languages spoken.

Rockstuhl, Thomas, and Linn Van Dyne. "A Bi-factor Theory of the Four-Factor Model of Cultural Intelligence: Meta-analysis and Theoretical Extensions." *Organizational Behavior and Human Decision Processes* 148 (2018): 124–144.

Shows incremental effects of specific CQ factors, over and above latent CQ, on four different performance outcomes. Behavioral CQ has incremental effects for task and citizenship performance. Motivational CQ has incremental effects for leadership performance. However, specific CQ factors do not explain incremental variance for adaptive performance.

Consequences of CQ for Dyads, Teams, and Firms

While there is agreement that CQ capabilities exist within individuals and within dyads, teams, and firms, there is less agreement on how these higher levels of CQ should be conceptualized and measured. Researchers have applied different composition models. Some use a

selected score model: Groves and Feyerherm 2011 shows that team leader CQ predicts team performance; Elenkov and Manev 2009 examines the effect of a senior expatriate CQ on organizational innovation; Rosenaur, et al. 2016 studies the effect of leaders' CQ on team performance and diversity climate; and Chua, et al. 2012 finds that the maximum level of CQ in a dyad predicts creative collaboration, while Imai and Gelfand 2010 finds that the minimum level of CQ predicts joint profits in negotiations. Adair, et al. 2013 and Gregory, et al. 2009 use a summary index model based on average CQ of team members. Janssens and Brett 2006 advances an alternative view of team CQ based on structural interventions and processes instead of individual CQ scores. Their fusion model of team collaboration, structured on culturally intelligent principles, posits that "value-in-diversity" enhances creative team solutions. More research is needed to refine the definition and measurement of dyadic-, team-, and firm-level CQ. Most likely, team composition, type of team, and type of task qualify the effects of CQ on team outcomes.

Adair, Wendi L., Ivona Hideg, and Jeffrey R. Spence. "The Culturally Intelligent Team: The Impact of Team Cultural Intelligence and Cultural Heterogeneity on Team Shared Values." *Journal of Cross-Cultural Psychology* 44 (2013): 941–962.

Team member metacognitive and behavioral CQ promote shared team values in early stages of team development for multicultural teams.

Chua, Roy Y. J., Michael W. Morris, and Shira Mor. "Collaborating across Cultures: Cultural Metacognition and Affect-Based Trust in Creative Collaboration." *Organizational Behavior and Human Decision Processes* 118 (2012): 116–131.

In an experimental study, dyads with higher metacognitive CQ and who engaged in a personal conversation prior to the task show more idea and information sharing, view their partners as more effective, and perform better on a joint creativity task. Affect-based trust mediates these relationships.

Elenkov, Detelin S., and Ivan M. Manev. "Senior Expatriate Leadership's Effects on Innovation and the Role of Cultural Intelligence." *Journal of World Business* 44 (2009): 357–369.

Shows a positive relationship between senior expatriate's CQ and their organization's rate of innovation adoption. Senior expatriate's CQ strengthens the relationship between visionary-transformational leadership and adoption of organizational innovation.

Gregory, Robert, Michael Prifling, and Roman Beck. "The Role of Cultural Intelligence for the Emergence of Negotiated Culture in IT Offshore Outsourcing Projects." *Information Technology and People* 22 (2009): 223–241.

A rare qualitative case study on CQ. Based on an interpretive, in-depth single-case study involving thirty-one qualitative interviews, describes cognitive, motivational, and behavioral CQ as important drivers of negotiated culture in IT offshore outsourcing projects, which are characterized by trust-based interpersonal relationships, shared understanding, and the effective resolution of conflicts.

Groves, Kevin S., and Ann E. Feyerherm. "Leader Cultural Intelligence in Context: Testing the Moderating Effects of Team Cultural Diversity on Leader and Team Performance." *Group and Organization Management* 36 (2011): 535–566.

Leader's overall CQ predicts multicultural team performance, above and beyond the effects of leader emotional intelligence and other leadership competencies.

Imai, Lynn, and Michele J. Gelfand. "The Culturally Intelligent Negotiator: The Impact of Cultural Intelligence (CQ) on Negotiation Sequences and Outcomes." *Organizational Behavior and Human Decision Processes* 112 (2010): 83–98.

Cross-cultural dyads with higher motivational CQ engage in complementary sequences of integrative information behaviors during negotiation, which is associated with higher joint profits. Minimum CQ drives these results, suggesting that intercultural negotiation effectiveness requires both parties to have high motivational CQ.

Janssens, Maddy, and Jeanne M. Brett. "Cultural Intelligence in Global Teams: A Fusion Model of Collaboration." *Group and Organization Management* 31 (2006): 124–153.

Posits that culturally intelligent structures, rather than team member CQ, is the basis of team CQ. Presents a fusion model of collaboration—emphasizing extraction of unique perspectives for decision making and interventions to counterbalance unequal power—that facilitates creative and realistic decisions.

Rosenaur, Doris, Astrid C. Homan, Christiane A. L. Horstmeier, and Sven C. Voelpel. "Managing Nationality Diversity: The Interactive Effect of Leaders' Cultural Intelligence and Task Interdependence." *British Journal of Management* 27 (2016) 628–645.

Shows that nationality diversity is more consequential when task interdependence and leaders' CQ are higher: multisource data from sixty-three work teams and their supervisors shows a three-way interaction between nationality diversity, task interdependence, and CQ on team performance and diversity climate.

Models of CQ

Researchers have begun to refine our understanding of CQ by examining its intervening processes (mediators) and boundary conditions (moderators), including cross-level moderators. In addition, research positions CQ as a mediator that links more distal predictors such as personality and international experience with intercultural effectiveness, as moderated by contextual factors. This research has produced a richer understanding of the nomological networks of CQ and intercultural effectiveness.

Mediators of CQ

Extending the expatriate adjustment research (see Psychological Consequences), studies have examined cultural adjustment as an underlying mechanism that explains the effect of CQ on job performance. Chen, et al. 2010 argues that individuals with high CQ are capable of managing psychological stresses associated with crossing cultures and hence have more personal resources to devote to job performance. There is some ambiguity, however, on which CQ capabilities and which aspects of cultural adjustment are critical to performance outcomes. Chen, et al. 2010 shows that motivational CQ predicts expatriate job performance via work adjustment. Jyoti and Kour 2015 shows that aggregate CQ—comprising all four factors—predicts task performance of Indian managers working outside their home state, as mediated by an aggregate measure of cultural adjustment, comprising work, general, and interactional adjustment. Individuals with high CQ also achieve better outcomes in intercultural settings because they actively seek to understand the perspectives of other cultures. Mor, et al. 2013 shows that multicultural team members with high metacognitive CQ engage in cultural perspective taking and thus cooperate better with culturally different team members. Xu and Chen 2017 finds that expatriates with higher metacognitive CQ and motivational CQ engage in more cultural learning, which in turn increases their job creativity.

Chen, Gilad, Bradley L. Kirkman, Kwanghyun Kim, Crystal I. C. Farh, and Subrahmaniam Tangirala. "When Does Cross-Cultural Motivation Enhance Expatriate Effectiveness? A Multilevel Investigation of the Moderating Roles of Subsidiary Support and Cultural Distance." *Academy of Management Journal* 53 (2010): 1110–1130.

Work adjustment mediates the relationship between motivational CQ and task performance in a sample of expatriates working in thirty-one different host countries, but this mediated relationship is moderated by cultural distance and subsidiary support.

Jyoti, Jeevan, and Sumeet Kour. "Assessing the Cultural Intelligence and Task Performance Equation: Mediating Role of Cultural Adjustment." *Cross Cultural Management* 22 (2015): 236–258.

Shows that CQ is applicable to cultural diversity within national boundaries in a sample of Indian managers working within India but outside their home state. Cultural adjustment—comprising general, interactive, and work adjustment—fully mediates the relationship between CQ and task performance.

Mor, Shira, Michael W. Morris, and Johann Joh. “Identifying and Training Adaptive Cross-Cultural Management Skills: The Crucial Role of Cultural Metacognition.” *Academy of Management Learning and Education* 12 (2013): 453–475.

Cultural perspective taking partially mediates the relationship between individual’s metacognitive CQ and cooperation in international MBA teams.

Xu, Xiao-Jun, and Xiao-Ping Chen. “Unlocking Expatriates’ Job Creativity: The Role of Cultural Learning, and Metacognitive and Motivational Cultural Intelligence.” *Management and Organization Review* 13 (2017): 767–794.

Shows that cultural learning fully mediates the relationship between expatriates’ metacognitive CQ and job creativity and partially mediates the relationship between their motivational CQ and job creativity.

Moderators of CQ Relationships

Contextual factors and individual differences can amplify or attenuate the effects of CQ on psychological, behavioral, and performance outcomes. Chen, et al. 2010 focuses on two contextual moderators: subsidiary support and cultural distance. The moderating effect of subsidiary support is based on trait activation theory: such that low subsidiary support activates the expression of motivational CQ and amplifies its effects on work adjustment. When subsidiary support is high, expatriates do not need to draw on their motivational CQ to adjust, and this attenuates the influence of motivational CQ on work adjustment. The moderating effect of cultural distance is based on resource allocation theory. When cultural distance is high, effort toward adjusting to work norms in the host country based on high motivational CQ does not predict work adjustment because these expatriates are less familiar with appropriate work norms. Chen 2015 shows, in the case of foreign laborers, that perceived effectiveness of their pre-departure cultural training enhances the effect of their aggregate CQ on work adjustment. Consistent with the argument that expatriates with low CQ but more international experience may have a false sense of competence (i.e., unconscious incompetence) and thus have little motivation to adapt to their new cultural environments, Lee and Sukoco 2010 finds that cultural adjustment and cultural effectiveness (relational and communication ability) are lowest for expatriates with low CQ and more prior international work and travel experience and highest for those with high CQ and more prior international experience. Peng, et al. 2014 shows that cultural identity—the extent to which one’s self-identity is defined by norms and values of the home culture—changes the relationship of motivational CQ with suitability for overseas work, with a weaker relationship (higher suitability) for those with weak cultural identities. This is because a weak cultural identity results in less rigidity and more openness toward unfamiliar cultures.

Chen, Angela S. -Y. “CQ at Work and the Impact of Intercultural Training: An Empirical Test among Foreign Laborers.” *International Journal of Intercultural Relations* 47 (2015): 101–112.

Reports that perceived effectiveness of predeparture intercultural training strengthens the positive relationship between aggregate CQ and the foreign laborer’s work adjustment. However, training and CQ have additive, not interactive, effects for general and interaction adjustment.

Chen, Gilad, Bradley L. Kirkman, Kwanghyun Kim, Crystal I. C. Farh, and Subrahmaniam Tangirala. “When Does Cross-Cultural Motivation Enhance Expatriate Effectiveness? A Multilevel Investigation of the Moderating Roles of Subsidiary Support and Cultural Distance.” *Academy of Management Journal* 53 (2010): 1110–1130.

Shows two contextual factors—high cultural distance (between the subsidiary culture and the expatriate’s home culture) and weak subsidiary support—that weaken the positive relationship between motivational CQ and expatriate job performance via work adjustment.

Lee, Li-Yueh, and Badri M. Sukoco. “The Effects of Cultural Intelligence on Expatriate Performance: The Moderating Effects of International Experience.” *International Journal of Human Resources Management* 21 (2010): 963–981.

Reports moderating roles for international work experience and international travel experience as boundary conditions that influence the relationships of self-reported CQ with cultural adjustment and cultural effectiveness for expatriates in a Taiwan MNC.

Peng, Ann C., Linn Van Dyne, and Kyoungjo Oh. "The Influence of Motivational Cultural Intelligence on Cultural Effectiveness Based on Study Abroad: The Moderating Role of Participant's Cultural Identity." *Journal of Management Education* 39 (2014): 572–596.

Cultural identity—the extent to which one's self-identity is tied to the norms and values of one's native culture—moderates the effect of motivational CQ on peer-rated suitability for overseas work, such that suitability is lowest for individuals with low motivational CQ and strong cultural identity.

CQ as a Mediator

Research also examines CQ as a mediator that links more distal antecedents such as dispositional traits and international experience with intercultural effectiveness. Barbuto, et al. 2015 examines CQ as a mediator of core self-evaluation and ethnocentrism. Ward and Fischer 2008 examines CQ as a mediator of multicultural personality. Kim and Van Dyne 2012 and Moon, et al. 2012 examine CQ as a mediator of intercultural contact. Moon, et al. 2012 also examines CQ as a mediator linking cross-cultural training and cross-cultural adjustment.

Barbuto, John E., Jr., Gerard Beenen, and Han Tran. "The Role of Core Self-Evaluation, Ethnocentrism, and Cultural Intelligence in Study Abroad Success." *International Journal of Management Education* 13 (2015): 268–277.

Motivational CQ partially mediates the effects of core self-evaluation and ethnocentrism on subjective success of study abroad experiences, as assessed by enjoyment, personal growth, and general success.

Kim, You Jin, and Linn Van Dyne. "Cultural Intelligence and International Leadership Potential: The Importance of Contact for Members of the Majority." *Applied Psychology: An International Review* 61 (2012): 272–294.

Shows CQ fully mediates the effect of prior intercultural contact on peer-rated international leadership potential but only for individuals of majority status.

Moon, Hyoung Koo, Byoung Kwon Choi, and Jae Shik Jung. "Previous International Experience, Cross-Cultural Training, and Expatriates' Cross-Cultural Adjustment: Effects of Cultural Intelligence and Goal Orientation." *Human Resource Development Quarterly* 23 (2012): 285–330.

Shows CQ mediates relationships of prior international experience and cross-cultural training with cross-cultural adjustment. Motivational CQ is the strongest mediator among the four CQ factors.

Ward, Colleen, and Ronald Fischer. "Personality, Cultural Intelligence and Cross-Cultural Adaptation: A Test of Mediation Hypothesis." In *Handbook of Cultural Intelligence: Theory, Measurement, and Applications*. Edited by Soon Ang and Linn Van Dyne, 159–173. New York: Sharpe, 2008.

Shows motivational CQ mediates the effect of the flexibility dimension of multicultural personality—which includes dimensions of cultural empathy, open-mindedness, flexibility, social initiative, and emotional stability—on general adjustment.

CQ as a Moderator

Research uses two primary approaches for positioning CQ as a moderator. First, CQ can influence the extent to which individuals proactively and effectively adapt to differences in new cultural environments. Second, CQ can influence the efficacy of interventions aimed at enhancing intercultural effectiveness. In line with the first approach, Magnusson, et al. 2013 reports that export managers with high motivational CQ implement marketing-mix adaptations when they perceive differences in home market and export markets and those with high metacognitive CQ implement those adaptations effectively. Magnusson, et al. 2014 shows that teams with high motivational CQ exert greater team effort when they expect challenges stemming from perceived psychic distance among team members. Ng, et al. 2019 finds that individuals with high CQ are less likely to withhold voice behavior when there is a large cultural distance between them and their teammates or supervisors. Volpone, et al. 2018 shows that international students with higher CQ have greater improvement in host country acculturation when they have stronger perceptions of minority status in their home country. Malik, et al. 2014 proposes that recent immigrant newcomers with higher CQ use a wider range of adjustment strategies when they perceive higher levels of organizational diversity in the new workplace. Ng, et al. 2009 proposes that those with high CQ engage in all four stages of experiential learning during international assignments, thereby growing their global leadership competencies. Studies reflecting the second approach show that interventions that provide structure for navigating challenging intercultural landscapes tend to benefit those with low CQ more than those with high CQ. Wu and Ang 2011 shows that expatriate support practices have weaker effects on cultural adjustment of expatriates with high CQ (see also Chen, et al. 2010, cited under Moderators of CQ Relationships, for interactions between CQ and expatriate support). Salmon, et al. 2013—an experimental study of intercultural dispute resolution outcomes—reports that manipulative mediation tactics were effective for “difficult” disputants who had low motivational CQ but not for those with high motivational CQ.

Magnusson, Peter, Anja Schuster, and Vas Taras. “A Process-Based Explanation of the Psychic Distance Paradox: Evidence from Global Virtual Teams.” *Management International Review* 54 (2014): 283–306.

Sheds light on the “psychic distance paradox”—the counterintuitive positive relationship between psychic distance and multicultural team performance. Results show when perceived psychic distance is high, expectations of challenges lead to greater team effort—motivational CQ strengthens this relationship—which in turn is related to higher team performance.

Magnusson, Peter, Stanford A. Westjohn, Alexey V. Semenov, Arilova A. Randrianasolo, and Srđan Zdravkovic. “The Role of Cultural Intelligence Marketing and Export Performance.” *Journal of International Marketing* 21 (2013): 44–61.

Shows motivational CQ of export managers positively moderates the relationship of perceived environmental differences between US market and export market with marketing-mix adaptations and metacognitive CQ positively moderates the relationship between marketing-mix adaptations and export performance.

Malik, Amina, Helena D. Cooper-Thomas, and Jelena Zikic. “The Neglected Role of Cultural Intelligence in Recent Immigrant Newcomers’ Socialization.” *International Journal of Cross-Cultural Management* 14 (2014): 195–213.

This conceptual article integrates literatures on CQ, immigrants, and socialization to open the “black box” of work-based cultural adjustment. Proposes that CQ of recent immigrant newcomers moderates the positive relationship between social and functional organizational diversity with variety of adjustment strategies used by newcomers.

Ng, Kok-Yee, Linn Van Dyne, and Soon Ang. “From Experience to Experiential Learning: Cultural Intelligence as a Learning Capability for Global Leader Development.” *Academy of Management Learning and Education* 8 (2009): 511–526.

Integrates CQ research with experiential learning theory and proposes a process model where CQ—as a moderator—increases the likelihood that those on international assignments actively engage in the four stages of experiential learning, which in turn leads to growth in global leadership capabilities.

Ng, Kok-Yee, Linn Van Dyne, and Soon Ang. “Speaking Out and Speaking Up in Multicultural Settings: A Two-Study Examination of Cultural Intelligence and Voice Behavior.” *Organizational Behavior and Human Decision Processes* 151 (2019) 150–159.

Finds a negative effect of cultural distance on voice behavior that is mediated by perceived voice instrumentality and moderated by CQ in the first stage. The negative effect is stronger at lower levels of CQ.

Salmon, Elizabeth D., Michele J. Gelfand, Ayşe B. Çelik, Sarit Kraus, Jonathan Wilkenfeld, and Molly Inman. "Cultural Contingencies of Mediation: Effectiveness of Mediator Styles in Intercultural Disputes." *Journal of Organizational Behavior* 34 (2013): 887–909.

This experimental study of culturally intelligent mediators shows that manipulative mediation tactics facilitate higher-quality outcomes for intercultural dyads with lower motivational CQ, but detract from outcomes for dyads with higher motivational CQ.

Volpone, Sabrina D., Dennis J. Marquardt, Wendy J. Casper, and Derek R. Avery. "Minimizing Cross-Cultural Maladaptation: How Minority Status Facilitates Change in International Acculturation." *Journal of Applied Psychology* 103 (2018) 249–269.

Shows an indirect effect of self-perceived minority status in home country and intent to leave host country that is mediated by changes in host country acculturation and moderated by CQ in the first stage. The negative indirect effect is stronger at higher levels of CQ.

Wu, Pei-Chuan, and Siah H. Ang. "The Impact of Expatriate Supporting Practices and Cultural Intelligence on Cross-Cultural Adjustment and Performance of Expatriates in Singapore." *International Journal of Human Resource Management* 22 (2011): 2683–2702.

Shows that metacognitive CQ weakens the positive relationship between expatriate support practices and work adjustment and that cognitive CQ weakens the positive relationship between expatriate support practices and interaction adjustment.

Multilevel Models

Multilevel studies that examine CQ at different levels of analyses are relatively rare. Ramsey, et al. 2014 examines the additive effects of individual-level CQ and classroom CQ climate as predictors of commitment to the study of international business. Chen, et al. 2012 examines the interactive effects of individual-level and firm-level motivational CQ as predictors of intercultural real estate sales. Ng, et al. 2011 is a conceptual paper that considers ways that firm-level CQ shapes individual-level CQ and proposes that firms with high organizational CQ (global culture capital with values and routines that encourage global leadership development) develop employee CQ through situated learning processes.

Chen, Xiao-Ping, Dong Liu, and Rebecca Portnoy. "A Multilevel Investigation of Motivational Cultural Intelligence, Organizational Diversity Climate, and Cultural Sales: Evidence from U.S. Real Estate Firms." *Journal of Applied Psychology* 97 (2012): 93–106.

This rare empirical study of firm-level CQ shows that firm-level motivational CQ (based on a referent-shift model) strengthens the positive relationship between individual-level motivational CQ and the intercultural sales of real estate agents.

Ng, Kok-Yee, Mei Ling Tan, and Soon Ang. "Global Culture Capital and Cosmopolitan Human Capital: The Effects of Global Mindset and Organizational Routines on Cultural Intelligence and International Experience." In *The Oxford Handbook of Human Capital*. Edited by Alan Burton-Jones and John-Christopher Spender, 96–119. New York: Oxford University Press, 2011.

Drawing on the sociological concept of cultural capital, this conceptual piece proposes a multilevel model, in which organizations with "global culture capital" and values and routines that foster global leadership development facilitate employee CQ through situated learning processes.

Ramsey, Jase R., Livia L. Barakat, and Amine A. Aad. "Commitment to the Study of International Business and Cultural Intelligence: A Multilevel Model." *Journal of Teaching in International Business* 25 (2014): 267–282.

Shows classroom CQ climate explains incremental variance in commitment to the study of international business, above and beyond effects of individual-level metacognitive and motivational CQ.

Critiques of CQ

There are a few critiques of cultural intelligence, but most of these focus on ways to refine the concept rather than to suggest abandoning of the concept. Hampden-Turner and Trompenaars 2006 describes three common objections to the concept of CQ and at the same time, provides counterarguments to these objections. Blasco, et al. 2012 adopts a semiotic perspective, raises and challenges some assumptions underlying CQ, and warns that we should treat CQ as a hypothesis rather than a well-proven construct until more rigorous scientific evidence emerges. Ward, et al. 2009 questions the utility of self-reported CQ measures for predicting cultural adaptation.

Blasco, Maribel, Liv E. Feldt, and Michael Jakobsen. "If Only Cultural Chameleons Could Fly Too: A Critical Discussion of the Concept of Cultural Intelligence." *International Journal of Cross Cultural Management* 12 (2012): 229–245.

Provides a critique of CQ based on a semiotic perspective and offers caution about the value of short-term training interventions.

Hampden-Turner, Charles, and Fons Trompenaars. "Cultural Intelligence: Is Such a Capacity Credible?" *Group and Organization Management* 31 (2006): 56–63.

Describes commonly raised objections to the concept of CQ and contests these objections with three hypotheses: the synergy, complementarity, and latency hypotheses.

Ward, Colleen, Ronald Fischer, Fara S. Z. Lam, and Leonie Hall. "The Convergent, Discriminant, and Incremental Validity of Scores on a Self-Report Measure of Cultural Intelligence." *Education and Psychological Measurement* 69 (2009): 85–105.

Demonstrates support for the four-factor model of CQ and shows discriminant validity of CQ with a test of general mental ability. Fails to demonstrate incremental validity of CQ beyond EQ or the MPQ measure of personality as a predictor of cultural adaptation in student, self-reported samples. (See Psychological Consequences for other studies that demonstrate incremental validity of CQ beyond individual traits and biodata for cultural adaptation.)

Developing CQ

Given the increasing evidence that demonstrates the importance of CQ for intercultural effectiveness, researchers have started to focus on understanding how to develop CQ. Emerging evidence is encouraging and shows that CQ can be developed through educational, experiential, and training interventions, including but not limited to those described in Triandis 2006. CQ interventions, however, vary in effectiveness. McCrea and Yin 2012 analyzes the relative effectiveness of classroom-based interventions and international study tour interventions. Preliminary findings suggest that classroom-based interventions may be more effective for developing a breadth of cognitive and metacognitive CQ (knowledge of multiple cultures) and that international study tours may be more effective for developing a depth of cognitive and metacognitive CQ (knowledge of one culture) as well as motivational and behavioral CQ. This suggests that classroom-based and experiential learning interventions are complementary and that both contribute to holistic development of CQ. Raver and Van Dyne 2017 reviews CQ development studies and presents a similar conclusion that CQ interventions should be domain-matched to specific CQ factors. Many studies rely on pre- and post-intervention self-report measures of CQ. While most researchers interpret increases in self-reported CQ as an indication of CQ development, Fischer 2011 (cited under Classroom Learning) suggests that a decrease in self-reported CQ can also indicate CQ development because it shows progress from unconscious incompetence to conscious incompetence.

McCrea, Elizabeth A., and Jason Z. Yin. "Developing Cultural Intelligence: An Undergraduate Course Assessment Framework." *Organization Management Journal* 9 (2012): 104–111.

Considers the relative effectiveness of on-campus global business courses (GBC) versus international study tours (IST) for developing CQ. Using preliminary findings, this article proposes that GBC develop breadth—while IST develop depth—of cognitive and metacognitive CQ and that IST develop motivational and behavioral CQ to a greater extent than do GBC.

Raver, Jana L., and Linn Van Dyne. "Developing Cultural Intelligence." In *The Cambridge Handbook of Workplace Training and Employee Development*. Edited by Kenneth G. Brown, 407–440. New York: Cambridge University Press, 2017.

Reviews methodological designs and findings from twenty-eight CQ training and development studies. Results show that CQ can indeed be developed with systematic interventions, especially for cognitive and metacognitive CQ. However, the authors call for improvement in methodological rigor, matching of CQ dimensions to developmental interventions, linking of interventions with indicators of intercultural effectiveness, and accounting for cultural boundary conditions of training participants.

Triandis, Harry C. "Cultural Intelligence in Organizations." *Group and Organization Management* 31 (2006): 20–26.

Describes interventions for developing CQ and elaborates on metacognitive aspects of CQ.

Classroom Learning

Classroom training interventions typically include one or more of the following: academic lessons or lectures on cultures and cultural differences, intercultural simulations, and behavioral role-play exercises. According to McCrea and Yin 2012 (cited under Developing CQ), classroom interventions that have a strong cognitive focus, such as described in Buchtel 2014; Eisenberg, et al. 2013; and Rehg, et al. 2012, may have greater impact on the growth of cognitive and metacognitive CQ than on the growth of motivational or behavioral CQ. By contrast, when classroom training interventions incorporate intercultural simulations and behavioral role-play exercises—such as those described in Bückler and Korzilius 2015; Fischer 2011; and Van Dyne, et al. 2008—participants may also experience growth in behavioral CQ. As argued in Earley and Peterson 2004, this has important implications for CQ educators and trainers because it shows the importance of supplementing didactic teaching with purposefully designed experiential learning interventions and/or overseas cross-cultural experiences to support the development of motivational and behavioral CQ, in addition to cognitive aspects of CQ (see also Experiential Learning). Another approach, described in Hernández-Pozas 2017, is to leverage on social media tools to provide cultural exposure and experiential learning opportunities within the classroom setting.

Buchtel, Emma E. "Cultural Sensitivity or Cultural Stereotyping? Positive and Negative Effects of a Cultural Psychology Class." *International Journal of Intercultural Relations* 39 (2014): 40–52.

Shows that students in a cultural psychology course increase in metacognitive CQ, compared to those in a control group psychology course. The authors, however, caution educators to address stereotyping because low-performing students in the cultural psychology course show greater inaccurate stereotyping, compared to high-performing students.

Bückler, Joost J. L. E., and Hubert Korzilius. "Developing Cultural Intelligence: Assessing the Effect of the Ecotonos Cultural Simulation Game for International Business Students." *International Journal of Human Resource Management* 26 (2015): 1995–2014.

Examines effectiveness of Ecotonos—a cross-cultural simulation where trainees are put in lifelike social situations with representatives from other "created" cultures—as a CQ intervention. Shows that Ecotonos supports the development of all four factors of CQ, but it does not develop communication effectiveness.

Earley, P. Christopher, and Randall S. Peterson. “The Elusive Cultural Chameleon: Cultural Intelligence as a New Approach to Intercultural Training for the Global Manager.” *Academy of Management Learning and Education* 3 (2004): 100–115.

Argues that the CQ approach provides a theoretical framework to design customized intercultural training programs. Recommends training with metacognitive, motivational, and behavioral interventions as more effective than traditional approaches that emphasize cognitive learning about cultural values.

Eisenberg, Jacob, Hyun-Jung Lee, Frank Brück, et al. “Can Business Schools Make Students Culturally Competent? Effects of Cross-Cultural Management Courses on Cultural Intelligence.” *Academy of Management Learning and Education* 12 (2013): 603–621.

Shows that cross-cultural management courses have stronger effects on metacognitive and cognitive CQ than on motivational and behavioral CQ in two multinational longitudinal studies in academic cross-cultural management courses.

Fischer, Ronald. “Cross-Cultural Training Effects on Cultural Essentialism Beliefs and Cultural Intelligence.” *International Journal of Intercultural Relations* 35 (2011): 767–775.

Self-rated cognitive and metacognitive CQ scores of university students decrease after an eight-session intercultural training program with lectures, a simulation game, and a behavior modification session. Suggests decreased CQ scores represent intercultural competence development: progress from unconscious incompetence to conscious incompetence. Open-minded students report higher increases in motivational CQ.

Hernández-Pozas, Olivia. “Developing Cultural Intelligence Using Social Media.” In *The Palgrave Handbook of Experiential Learning in International Business*. Edited by Vas Taras and Maria A. Gonzalez-Perez, 418–434. Basingstoke, UK: Palgrave Macmillan, 2017.

Describes a set of classroom exercises, based on principles of Kolb’s experiential learning theory (ELT) and Bandura’s social learning theory, that leverages social media tools—including Twitter, Facebook, blogs, and YouTube—to provide experiential learning opportunities and activities for developing the CQ of international business students.

Rehg, Michael T., Michael J. Gundlach, and Reza A. Grigorian. “Examining the Influence of Cross-Cultural Training on Cultural Intelligence and Specific Self-Efficacy.” *Cross Cultural Management: An International Journal* 19 (2012): 215–232.

A nine-day, lecture-based training course for US military and government contractors that emphasized knowledge of cultural differences between the United States and Iraq shows improvement in cognitive CQ and behavioral CQ, based on self-rated pre- and post-training scores.

Van Dyne, Linn, Soon Ang, and Christine Koh. “Development and Validation of the CQS.” In *Handbook of Cultural Intelligence: Theory, Measurement, and Applications*. Edited by Soon Ang and Linn Van Dyne, 16–38. New York: Sharpe, 2008.

Demonstrates significant increases in cognitive CQ and behavioral CQ over four months based on coursework that emphasized cognitive knowledge of cultural values and participation in experiential role-play exercises.

Experiential Learning

While classroom training emphasizes the objectivist model of learning (transfer of knowledge from expert to learner), the experiential learning approach is based on the constructivist model of learning (knowledge is constructed by the learner through experience, self-discovery, and interactions with other learners), as discussed in Erez, et al. 2013. Li 2017 proposes a model to maximize autonomous or self-directed learning from international experiences. However, most other studies report on instructor- or employer-initiated experiential

learning interventions. These interventions can take many forms—including cross-cultural contact (MacNab and Worthley 2012, Alexandra 2018a, and Alexandra 2018b), participation in virtual multicultural team projects (Erez, et al. 2013), short- and long-term study abroad academic programs (Varela and Gatlin-Watts 2014 and Wang, et al. 2015), service programs (Engle and Crowne 2013 and Pless, et al. 2011), and international assignments (Şahin, et al. 2014). Research demonstrates benefits of both domestic and overseas interventions for CQ development. Erez, et al. 2013 (virtual multicultural team project) and Pless, et al. 2011 (international service program) also report sustained effects for CQ development. However, the extent of CQ development can be strengthened by individual traits and situational factors. Şahin, et al. 2014 finds that extraversion and openness to experience strengthen the extent of CQ development in an international assignment setting. In instructor-led experiential settings, MacNab and Worthley 2012 shows that general self-efficacy is related to greater CQ development and Alexandra 2018a shows that a lower social dominance orientation increases the propensity to change stereotypes, which increases the extent of CQ development. Erez, et al. 2013 finds that the magnitude of CQ development is greater when there is higher team trust. Alexandra 2018b explores the interaction of individual differences (social complexity belief) and situational factors (Allport's optimal contact conditions) on CQ development. Researchers have used theoretically driven designs to maximize experiential learning outcomes. For example, the interventions in Engle and Crowne 2013 draw on Allport's optimal conditions for intercultural contact, while Pless, et al. 2011 and Erez, et al. 2013 draw on experiential learning theory to inform their interventions. A key mechanism that underlies CQ development via experiential learning is the opportunity for expectancy disconfirmation and refinement of mental models about other cultures, as shown in Alexandra 2018a; Alexandra 2018b; and Pless, et al. 2011. See also Ng, et al. 2011 (cited under Multilevel Models) for a discussion on how firms can provide developmental, experiential learning opportunities for their employees.

Alexandra, Valerie. "Predicting CQ Development in the Context of Experiential Cross-Cultural Training: The Role of Social Dominance Orientation and the Propensity to Change Stereotypes." *Academy of Management Learning & Education* 17 (2018a): 62–78.

In an experiential cross-cultural training program similar to that described in MacNab and Worthley 2012, postgraduate students with higher social dominance orientation—an individual difference in support of social group-based hierarchies and domination of certain groups over others—show a lower propensity to change stereotypes, which in turn reduces the extent of their CQ development following the training.

Alexandra, Valerie. "The Roles of Social Complexity Belief and Perceived Contact Characteristics in Cultural Intelligence Development among Individuals Receiving Contact-Based Training." *Journal of Cross-Cultural Psychology* 49 (2018b): 1283–1301.

Explores person-situation interaction—specifically the interaction of social complexity beliefs and Allport's optimal contact conditions—in predicting CQ development within the context of contact-based cross-cultural training. One finding is the positive effect of social complexity belief on the perception of disconfirmation during cross-cultural experiences, which is in turn positively related to CQ development, but only when participants report weaker perceptions of common goals with their culturally different contact partners.

Engle, Robert L., and Kerri A. Crowne. "The Impact of International Experience on Cultural Intelligence: An Application of Contact Theory in a Structured Short-Term Programme." *Human Resource Development International* 17 (2013): 30–46.

Shows a seven-to-twelve-day study-abroad service program that included six hours of predeparture training, structured to provide Allport's four optimal conditions increases overall CQ for most students but no changes in CQ of those in the control group.

Erez, Miriam, Alon Lisak, Raveh Harush, Ella Glikson, Rikki Nouri, and Elfrat Shokef. "Going Global: Developing Management Students' Cultural Intelligence and Global Identity in Culturally Diverse Virtual Teams." *Academy of Management Learning and Education* 12 (2013): 330–355.

Shows an increase in overall CQ after an online, four-week virtual multicultural team project, and this effect continues six months after the project ended. Team trust moderates the effect of the project on CQ development, with significant effects for moderate to high trust but not low trust.

Li, Ming. “Developing Cultural Intelligence through Autonomous Learning from Cultural Exposure.” In *Autonomous Learning in the Workplace*. Edited by Jill E. Ellingson and Raymond A. Noe, 38–55. New York: Routledge, 2017.

Proposes a model—drawing on principles of Kolb’s experiential learning theory (ELT)—that depicts conditions conducive for autonomous learning of CQ, that is, self-initiation of developmental activities and independent learning in an informal manner. In this model, with international experience in cultural contexts that facilitate the four learning modes, the experiential learning cycle offers favorable conditions for autonomous learning, especially for individuals with specific characteristics, such as foreign language proficiency.

MacNab, Brent R., and Reginald Worthley. “Individual Characteristics as Predictors of Cultural Intelligence Development: The Relevance of Self-Efficacy.” *International Journal of Intercultural Relations* 36 (2012): 62–71.

Shows that general self-efficacy predicts development of CQ based on experiential learning. In contrast, prior international, work, and management experience do not predict CQ development.

Pless, Nicola M., Thomas Maak, and Günter K. Stahl. “Developing Responsible Global Leaders through International Service-Learning Programs: The Ulysses Experience.” *Academy of Management Learning and Education* 10 (2011): 237–260.

Content analyses of post-program interviews shows development of metacognitive and cognitive CQ, sustained after two years, based on an integrated international service learning program administered by PricewaterhouseCooper’s Global Talent Development Unit. Firm partners worked in multinational teams on humanitarian projects in developing countries for eight weeks.

Rosenblatt, Valerie, Reginald Worthley, and Brent MacNab. “From Contact to Development in Experiential Cultural Intelligence Education: The Mediating Influence of Expectancy Disconfirmation.” *Academy of Management Learning and Education* 12 (2013): 356–379.

Describes a seven-stage intervention—similar to that described in MacNab and Worthley 2012—built on experiential learning principles where participants engaged with members of an unfamiliar cultural group in accordance with Allport’s optimal contact conditions. Participants perceiving higher levels of optimal cross-cultural contact experience expectancy disconfirmation and this predicts development of all four CQ capabilities.

Şahin, Faruk, Sait Gurbuz, and Onur Köksal. “Cultural Intelligence (CQ) in Action: The Effects of Personality and International Assignment on the Development of CQ.” *International Journal of Intercultural Relations* 39 (2014): 152–163.

Shows that a six-month international assignment for military personnel develops all four factors of CQ. Extraversion strengthens the effect of the international assignment on metacognitive and behavioral CQ, while openness to experience strengthens the effects on motivational CQ.

Varela, Otmar E., and Rebecca Gatlin-Watts. “The Development of the Global Manager: An Empirical Study on the Role of Academic International Sojourns.” *Academy of Management Learning & Education* 13 (2014): 187–207.

Shows increases in self-reported metacognitive and cognitive CQ—but not motivational and behavioral CQ—for business students who took one semester of coursework in a non-native language in a university abroad. Cross-validates these findings with a cultural knowledge quiz on cognitive CQ and a multiple-choice cultural assimilator assessment.

Wang, Kenneth T., Puncky P. Heppner, Lei Wang, and Fengkan Zhu. “Cultural Intelligence Trajectories in New International Students: Implications for the Development of Cross-Cultural Competence.” *International Perspectives in Psychology: Research, Practice, Consultation* 4 (2015): 51–65.

Identifies four types of CQ growth trajectories for international students, based on self-reported CQ measured at four time points. Identifies connectedness with mainstream society, anxiety, perceived language discrimination, and coping with family support as predictors of CQ trajectories; identifies positive affect and life satisfaction as correlates of CQ trajectories.

Publications for Practitioners

Earley, et al. 2006 describes how CQ provides global managers with a clear framework for sense making and managing cultural differences in intercultural work settings. Using critical incidents, Thomas and Inkson 2009 describes ways to apply and demonstrate CQ in global contexts. Livermore and Van Dyne 2015 provides a practitioner-oriented overview of CQ, including information on the business case for CQ, how cultural differences are expressed at the workplace, and how to build culturally intelligent organizations and teams. Livermore 2015; Livermore, et al. 2012; and Van Dyne, et al. 2010 describe strategies for enhancing CQ in leaders and employees. Adopting a “positive psychology perspective” (see Leung, et al. 2014, cited under CQ and Other Intercultural Competencies), Livermore 2016 introduces strategies for applying CQ to leverage cultural differences to facilitate innovation.

Earley, P. Christopher, Soon Ang, and Tan Joo Seng. *CQ: Developing Cultural Intelligence at Work*. Stanford, CA: Stanford University Press, 2006.

Describes practical applicability of CQ to work contexts.

Livermore, David. *Leading with Cultural Intelligence: The New Secret to Success*. 2d ed. New York: AMACOM, 2015.

Applies CQ research specifically to leaders and leadership, with numerous examples of how to use the four CQ factors to improve CQ.

Livermore, David. *Driven by Difference: How Great Companies Fuel Innovation through Diversity*. New York: AMACOM, 2016.

Draws on the latest research on cultural intelligence to explain how to leverage cultural differences in ways that facilitate innovation. Emphasizes practical application, examples, and case studies from different cultural contexts. Describes how to create a strategy for culturally intelligent innovation.

Livermore, David, and Linn Van Dyne. *Cultural Intelligence: The Essential Intelligence for the 21st Century*. SHRM Foundation Effective Practice Guideline Series. Alexandria, VA: SHRM Foundation, 2015.

Focuses on the practical application of CQ in organizational contexts. Includes material on making the business case for CQ, the role of culture and cultural differences at work, and research-based advice on how to build culturally intelligent teams and organizations.

Livermore, David, Linn Van Dyne, and Soon Ang. “Cultural Intelligence: Why Every Leader Needs It.” *Intercultural Management Quarterly* 13 (2012): 18–21.

Describes the benefits of assessing the four CQ capabilities and creating personal goals to develop CQ capabilities as opposed to relying on habits that most likely will not work effectively in intercultural contexts. Offers suggestions for ways to enhance CQ of employees and organizations.

Thomas, David C., and Kerr Inkson. *Cultural Intelligence: Living and Working Globally*. San Francisco: Berrett-Koehler, 2009.

Uses critical incidents to illustrate cultural differences across nationalities. Provides practical tips for navigating foreign cultures.

Van Dyne, Linn, Soon Ang, and David Livermore. "Cultural Intelligence: A Pathway for Leading in a Rapidly Globalizing World." In *Leading across Differences*. Edited by Kelly M. Hannum, Belinda B. McFeeters, and Lize Booyesen, 131–138. San Francisco: Pfeiffer, 2010.

Offers an applied perspective on CQ that describes the research-based implications of CQ for becoming a more effective leader in culturally diverse settings. Emphasizes the importance of all four factors of CQ as an overall repertoire of cultural capabilities and describes specific strategies for enhancing overall CQ.

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