

CULTURAL INTELLIGENCE (CQ[®])

RESEARCH OVERVIEW

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Cultural Intelligence Center

 CULTURAL
INTELLIGENCE
CENTER



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CONTENTS

CONCEPTUALIZATION OF CULTURAL INTELLIGENCE (CQ)	4
■ Cultural Intelligence Is.....	4
■ Cultural Intelligence Is Not.....	5
■ You Can Improve Your CQ	5
DEVELOPMENT AND VALIDATION OF THE CULTURAL INTELLIGENCE SCALE (CQS).....	6
■ Distinct from Other Intercultural Assessments.....	6
■ Consistent Predictive Validity.....	6
■ Refinement of the Scale to Include Sub-Dimensions.....	7
PSYCHOMETRIC PROPERTIES OF THE CQS.....	8
■ Scale Reliability	8
■ Factor Structure.....	8
■ Validity	8
OUTCOMES OF CULTURAL INTELLIGENCE	10
■ Proximal Outcomes	10
■ Distal Outcomes.....	10
SPECIFIC CQ RESEARCH STUDIES.....	11
■ Integrative Summaries of Cultural Intelligence Research.....	11
■ Predictors of Cultural Intelligence	12
■ Adaptation Outcomes of CQ (Proximal Outcomes).....	12
■ Performance Outcomes of CQ (Distal Outcomes).....	14
CQ RESEARCH BRIEF.....	17

CONCEPTUALIZATION OF CULTURAL INTELLIGENCE (CQ)

■ CULTURAL INTELLIGENCE IS...

Cultural Intelligence (CQ) is the capability to function effectively in culturally diverse situations.

CQ applies to both global diversity (international diversity across borders) and domestic diversity (diversity within country or culture).

- **International diversity** occurs when people travel to different countries or interact with people from different countries.
- **Domestic diversity** occurs when people interact with people who have different cultural backgrounds or are from a different subgroup (e.g., age, gender, ethnicity, religion, functional background, etc.).

Cultural intelligence is a multi-dimensional construct. Sternberg defined “intelligence” as the capability to function effectively in a particular situation and identified four key factors of “intelligence”— motivation, cognition, metacognition, and behavioral flexibility. Cultural intelligence has four dimensions based on the application of Robert Sternberg's integrative theoretical framework of different "loci" of intelligence. Unlike most measures of intercultural competence, CQ is based on theory.

The dimensions of cultural intelligence represent qualitatively different aspects of the overall capability to function and manage effectively in culturally diverse settings.

Cultural intelligence is comprised of four factors. All four factors are important for overall cultural effectiveness:



CQ DRIVE (MOTIVATION)

Your level of interest, persistence, and confidence during multicultural interactions.



CQ KNOWLEDGE (COGNITION)

Your understanding about how cultures are similar and different.



CQ STRATEGY (METACOGNITION)

Your awareness and ability to plan for multicultural interactions.



CQ ACTION (BEHAVIOR)

Your ability to adapt when relating and working in multicultural contexts.

■ CULTURAL INTELLIGENCE IS NOT...

Cultural intelligence is distinct from individual differences such as personality, which describes what a person typically does across time and across situations. For example, people who are high in the personality trait of agreeableness are typically cooperative and easy to get along with. Individual differences, such as agreeableness, are not based on culture. Instead, the personality trait of agreeableness reflects the person's natural tendency to be agreeable.

Cultural intelligence is also different from emotional intelligence (EQ) because CQ focuses specifically on the capability to read situations and adjust to culturally diverse contexts. Emotional intelligence is culture-bound because cultures differ in the ways they manage and express emotions. An individual may have high EQ in their own cultural setting, but EQ may not transfer easily to other cultural settings.

■ YOU CAN IMPROVE YOUR CQ

Cultural intelligence is a malleable capability that can be enhanced by multicultural experiences, training and self-awareness programs, travel, education, etc.

In sum, cultural intelligence (CQ) is an evidence-based framework of four key capabilities people can apply to make sense of multicultural situations on-the-fly.

DEVELOPMENT AND VALIDATION OF THE CULTURAL INTELLIGENCE SCALE (CQS)

Ang and Van Dyne (2008) expanded upon Earley and Ang's (2003) original three-factor conceptualization of cultural intelligence (motivation, cognition, and behavior) and advanced a four-factor model (motivation = CQ Drive; cognition = CQ Knowledge; metacognition = CQ Strategy; and behavior = CQ Action).

1

Scale development followed rigorous construct development procedures involving multiple development samples over several years. These samples were used to assess the psychometric properties of the CQ scale.

2

Cross-validation replicated the four-factor structure on different samples (e.g., in different cultural settings).

3

Predictive validity demonstrated that the four factors predict effectiveness in culturally diverse contexts, controlling for general intelligence, personality, experience, and demographic characteristics

The CQS measures four distinct CQ factors (capabilities): CQ Drive, CQ Knowledge, CQ Strategy, and CQ Action.

■ DISTINCT FROM OTHER INTERCULTURAL ASSESSMENTS

Ang and colleagues (*Management and Organization Review*, 2007) described the development and validation of the 20-item Cultural Intelligence Scale (CQS) that measures the four factors. The CQS is the only measure of intercultural competence that is based on theory and has rigorous, published research evidence of construct validity (demonstrating that the measure predicts what it's supposed to predict) using multiple sources of data and predicting multiple cultural effectiveness outcomes (1,360 participants).

■ CONSISTENT PREDICTIVE VALIDITY

Van Dyne and colleagues (*Handbook of Cultural Intelligence*, Chapter 2, 2008) demonstrated the stability of the scale across samples, time, countries, and methods (self- vs observer-ratings) – including convergence of the self-rated and observer-rated versions of the CQS (showing positive correlations between self- and observer-rated versions of the CQS). This demonstrates that participants cannot easily 'game' the instrument (e.g., it is difficult to choose responses just to make yourself look good). They also introduced the 9-item Mini-CQS that measures overall CQ as a higher level and more abstract construct rather than measuring the four factors (204 students in Singapore; 336 students in the U.S.; and 142 managers and their peers in the U.S.)

■ REFINEMENT OF THE SCALE TO INCLUDE SUB-DIMENSIONS

Van Dyne and colleagues (*Social and Personal Psychology Compass*, 2012) refined the conceptualization of CQ capabilities by elaborating on the sub-dimensions of each of the four CQ capabilities:



CQ DRIVE (MOTIVATION)

- Intrinsic Interest
- Extrinsic Interest
- Self-Efficacy



CQ KNOWLEDGE (COGNITION)

- Business
- Values & Norms
- Socio-Linguistic
- Leadership



CQ STRATEGY (METACOGNITION)

- Planning
- Awareness
- Checking



CQ ACTION (BEHAVIOR)

- Speech Acts
- Verbal Behavior
- Nonverbal Behavior

They also summarized the initial psychometric properties of the Expanded Cultural Intelligence Scale (E-CQS) (286 participants from more than 30 countries).

PSYCHOMETRIC PROPERTIES OF THE CQS

■ SCALE RELIABILITY

Internal reliability of the CQS, as measured by Cronbach's Alpha, is strong. Cronbach's Alpha is a statistic that assesses reliability of a scale. It analyzes the internal consistency of the scale items that measure each of the four factors and their respective sub-dimensions. Reliabilities of the four factors and sub-dimensions exceed the standard cut-off of .70. This means the items used to measure each of the four factors correlate with each other. Likewise, the items used to measure each of the sub-dimensions correlate with each other. In sum, the CQ scales are reliable.

■ FACTOR STRUCTURE

Published, peer-reviewed scholarly research shows that the CQS has an excellent factor structure which is stable across samples, time, cultural contexts, and rating sources (self vs observer). This shows the four factors measure four distinct capabilities.

■ VALIDITY

- **Convergent Validity Across Rating Sources:** Self-rated scores are positively correlated with observer-rated scores, and multi-trait, multi-method statistical analysis supports both convergent validity and predictive validity of the self and observer scores. This means that the average self-rated CQ scores are practically equivalent to the average observer-rated CQ scores. Although a specific individual's feedback report might show meaningful differences in the self- versus observer-rated scores, the average self and observer scores are positively correlated in larger samples. This is important because self-ratings are a form of "self-presentation" while observer-ratings reflect an individual's "reputation" and how they are viewed by others. This correlation between self and observer scores provides additional evidence that the self-report version of the assessment is valid.
- **Discriminant Validity:** Cultural Intelligence is distinct from stable individual differences such as personality traits, which describe what a person typically does across time and situations. For example, people who are high in the personality trait of agreeableness are typically cooperative and easy to get along with. Research demonstrates that CQ is distinct from General Mental Ability (IQ) and Emotional Intelligence (EQ). In addition, statistical analysis shows the discriminant validity of the different factors and sub-dimensions of CQ.
- **Incremental Validity:** Scholarly research demonstrates that CQ has predictive validity above and beyond other forms of intelligence (IQ and EQ), as well as above and beyond demographic characteristics (e.g., age, sex, cross-cultural experience, dyadic similarity, leadership experience). CQ also has predictive validity above and beyond personality, communication style, and social desirability (emphasizing positive characteristics and behaviors).

In sum, CQ research has been published in over hundreds of peer-reviewed academic papers, across a wide variety of disciplines (management, psychology, diversity and inclusion, leadership, language studies, counseling psychology, etc.).

The Cultural Intelligence Scales (CQS and E-CQS) provide valid and reliable measures of a person's ability to function effectively in culturally diverse situations.

OUTCOMES OF CULTURAL INTELLIGENCE

Rigorous research demonstrates that cultural intelligence predicts adjustment, well-being, cultural judgment and decision-making, task performance, citizenship performance, adaptive performance, and leadership performance in culturally diverse settings.

Proximal outcomes refer to things that are close, and distal outcomes refer to things that are further away. For example, cultural adaptation is a proximal outcome of CQ and job performance is a distal outcome of CQ. CQ predicts cultural adaptation, and cultural adaptation predicts job performance in culturally diverse settings:



■ PROXIMAL OUTCOMES

CQ predicts a variety of processes and psychological states such as adjustment and adaptation. These proximal outcomes shed light on why CQ predicts more distal outcomes, such as job performance.

Examples of proximal outcomes of CQ include:

Global identity, interpersonal trust, idea sharing, cooperation, interactions with locals, communication patience, integrative negotiations, cultural decision-making, diversity of social networks, homophily of friendship networks, team satisfaction, team cohesion, leader emergence, international executive potential, low emotional exhaustion, plus various forms of psychological and sociocultural adjustment as well as psychological well-being—all in culturally diverse contexts.

■ DISTAL OUTCOMES

CQ also predicts a variety of behaviors, including actual behavior and observer evaluations of behavior. These are referred to as distal outcomes because they are further from CQ. In other words, other processes, such as cultural adaptation connect CQ to these more distal outcomes.

Examples of distal outcomes of CQ include:

Task performance, job performance, cultural sales performance, joint negotiation effectiveness, organizational citizenship behavior, adaptive performance, creative collaboration, team learning, team effectiveness, leader effectiveness, organizational innovation, cost-savings, and profitability—all in situations characterized by cultural diversity.

SPECIFIC CQ RESEARCH STUDIES

■ INTEGRATIVE SUMMARIES OF CULTURAL INTELLIGENCE RESEARCH

- ***Handbook of Cultural Intelligence* (Ang and Van Dyne, 2008)**

An edited volume of research chapters by multinational groups of scholars.

BOOK

- **“Cultural Intelligence” entry in *The Cambridge Handbook of Intelligence* (Ang and colleagues in Sternberg and Kaufman, Eds., 2011)**

Provides the first comprehensive overview of CQ research including correlates, antecedents, consequences, and moderators. It also offers recommendations on future research.

ARTICLE

- **“Intercultural Competence” in the *Annual Review of Organizational Psychology and Organizational Behavior* (Leung and colleagues, 2014)**

Reviews intercultural competency models and concludes that more research supports CQ as a predictor of intercultural effectiveness than other approaches such as intercultural traits, intercultural attitudes/worldviews, or combinations of traits, attitudes, and capabilities.

ARTICLE

- **“The Oxford Bibliography of Cultural Intelligence” (Van Dyne and colleagues, 2019)**

Provides a comprehensive overview of CQ research—including conceptualization, antecedents, consequences, more complex models with mediators and moderators, developing CQ, and publications for practitioners.

ARTICLE

- **“A Bi-Factor Theory of the Four-Factor Model of Cultural Intelligence” in *Organizational Behavior and Human Decision Processes* (Rockstuhl and Van Dyne, 2018)**

Includes a meta-analysis of all the research (44,155 participants from 199 samples) that used the CQS. Results replicate the basic findings from the initial construct validity study (Ang and colleagues, 2007). Each of the four CQ capabilities has different relationships with different performance outcomes, including task performance, citizenship performance, adaptive performance, and leadership performance.

ARTICLE

■ PREDICTORS OF CULTURAL INTELLIGENCE

— Personality and CQ

Ang and colleagues (*Group and Organization Management*, 2006) showed relationships between personality traits and cultural intelligence (338 business students). Openness to experience predicts all four CQ capabilities, Extraversion predicts all CQ capabilities except CQ Strategy, Conscientiousness predicts CQ Strategy, and Agreeableness and Emotional Stability predict CQ Action.

ARTICLE

— Prior Intercultural Contact

Kim and Van Dyne (*Applied Psychology: An International Review*, 2012) showed that prior intercultural contact predicts CQ and international leadership potential for members of the majority.

ARTICLE

— Self-Efficacy

McNab and Worthley (*International Journal of Intercultural Relations*, 2012) showed that general self-efficacy predicts development of CQ in an experiential learning setting.

— International Non-Work Experience

Moon and colleagues (*Human Resource Development Quarterly*, 2012) showed that international non-work experience more strongly predicts CQ than work experiences.

— Implicit Culture Beliefs

Chao and colleagues (*Personnel Psychology*, 2017) showed that implicit culture beliefs (the degree to which one perceives cultural attributes as fixed) negatively predict cultural adjustment and the development of CQ in an international student exchange program.

ARTICLE

■ ADAPTATION OUTCOMES OF CQ (PROXIMAL OUTCOMES)

— Cultural Adaptation | CQ predicts the degree to which people adjust to unfamiliar situations and norms

Ang and colleagues (*Management and Organization Review*, 2007) conducted three substantive studies (794 participants in field and educational settings) and showed that CQ Drive and CQ Action predict cultural adaptation.

ARTICLE

– **Mental Well-Being | CQ predicts psychological well-being in diverse contexts**

Peng and colleagues (*Journal of Management Education*, 2014) showed that students with high CQ Drive have greater increases in psychological well-being in intercultural settings based on study abroad (109 study abroad students; T1-T2). Those with especially strong cultural identity and low CQ Drive benefited less from study abroad.

ARTICLE

– **Trust | CQ predicts the degree to which people develop affective-based trust in intercultural interactions and relationships**

Chua and colleagues (*Organizational Behavior and Human Decision Processes*, 2012) showed that CQ Strategy predicts affect-based trust in culturally diverse social networks, but not in homogeneous networks (43 mid-level managers and their peers; 60 managers of diverse cultural backgrounds; 236 student experiment).

ARTICLE

– **Leadership Potential | CQ predicts international leadership potential**

Kim and Van Dyne (*Applied Psychology: An International Review*, 2012) showed that CQ predicts peer-rated international leadership potential, but only for individuals of majority status and not for those of minority status (two samples of working adults; 441 and 181 with matched peers).

ARTICLE

– **Shared Team Values | CQ predicts the degree to which diverse teams develop aligned expectations and norms for working together**

Adair and colleagues (*Journal of Cross-Cultural Psychology*, 2013) showed that CQ Strategy and CQ Action predict shared team values (such as group norms) in culturally diverse teams, but not in homogeneous teams (203 students and their peers in Canada).

ARTICLE

– **Cooperation on Multicultural Teams | CQ predicts the level of collaboration on diverse teams**

Mor and colleagues (*Academy of Management Learning and Education*, 2013) showed that CQ Strategy predicts cooperation in international teams (200 managers and their peers in diverse teams; 107 working adult experiment; 57 manager experiment; 76 manager experiment; 76 working adult experiment).

ARTICLE

■ PERFORMANCE OUTCOMES OF CQ (DISTAL OUTCOMES)

- **Judgment and Decision-Making | CQ predicts the degree to which people make effective decisions in different cultural contexts**

Ang and colleagues (*Management and Organization Review*, 2007) conducted three substantive studies (794 participants in field and educational settings) and showed CQ Strategy and CQ Knowledge predict cultural judgment and decision-making.

[ARTICLE](#)

- **Task Performance | CQ predicts the extent to which people use their technical proficiency (e.g., accounting, programming, teaching, managing, etc.) to perform effectively in unfamiliar cultural contexts**

Ang and colleagues (*Management and Organization Review*, 2007) conducted three substantive studies (794 participants in field and educational settings) and showed CQ Drive and CQ Action predict peer-rated and supervisor-rated task performance.

[ARTICLE](#)

G. Chen and colleagues (*Academy of Management Journal*, 2010) showed that CQ Drive predicts expatriate task performance (556 expatriates and their leaders from 31 foreign subsidiaries; T1-T2).

[ARTICLE](#)

Rockstuhl and colleagues (*Journal of Applied Psychology*, 2015) described the development and validation of a performance-based measure of CQ – the intercultural situational judgement test (iSJT) and showed that CQ predicts peer-rated task performance in multicultural teams, controlling for the Big Five personality traits, cognitive ability, international experience, work experience, and number of languages spoken (12 managers for verbal protocols; 132 students in diverse teams, T1-T3; 89 students in diverse teams, T1-T2).

[ARTICLE](#)

- **Intercultural Sales | CQ predicts effectiveness selling into diverse markets**

X.P. Chen and colleagues (*Journal of Applied Psychology*, 2012) showed that CQ Drive predicts intercultural sales when firm-level CQ Drive is high (305 real estate agents and organizational records).

- **Cultural Learning and Job Creativity | CQ predicts the degree to which expatriates learn about the host culture and demonstrate creativity on the job**

Xu and X.P. Chen (*Management and Organization Review*, 2017) showed expatriate CQ Drive and CQ Strategy predict cultural learning (defined as learning about the host country values, norms, and schema and job creativity (defined as exhibiting creativity on the job) (219 expatriate-supervisor dyads from 36 Chinese multinational organizations).

— **Idea Sharing and Creative Collaboration | CQ predicts the degree to which people speak up, collaborate, and innovate in multicultural contexts**

Chua and colleagues (*Organizational Behavior and Human Decision Processes*, 2012) showed that CQ Strategy predicts idea sharing and creative collaboration in culturally diverse social networks, but not in homogeneous networks (43 mid-level managers and their peers; 60 managers of diverse cultural backgrounds; 236 student experiment).

ARTICLE

Rockstuhl and colleagues (*Journal of Applied Psychology*, 2015) described the development and validation of a performance-based measure of CQ – the intercultural situational judgement test (iSJT) and showed that CQ predicts interpersonal helping in multicultural teams, controlling for the Big Five personality traits, cognitive ability, international experience, work experience, and number of languages spoken (12 managers for verbal protocols; 132 students in diverse teams, T1-T3; 89 students in diverse teams, T1-T2).

ARTICLE

Ng and colleagues (*Organizational Behavior and Human Decision Processes*, 2019) showed a negative relationship between cultural distance and speaking up with suggestions for change when CQ is low (325 students and their peers in diverse teams in Singapore, T1-T3; 205 employees, 126 supervisors, and 522 peers in a global organization, with respondents from 43 countries).

ARTICLE

— **Negotiation Effectiveness | CQ predicts the degree to which people effectively negotiate with individuals who have different cultural backgrounds**

Imai and Gelfand (*Organizational Behavior and Human Decision Processes*, 2010) showed that cross-cultural dyads where both parties had high CQ Drive were more effective in negotiating (124 American and East Asian negotiators).

ARTICLE

Groves and colleagues (*Journal of Management Education*, 2015) showed that CQ predicts negotiation effectiveness (133 managers with diverse backgrounds; 3 expert assessors; T1-T3).

— **Leadership Effectiveness | CQ predicts the degree to which people effectively lead individuals and projects that involve different cultural contexts**

Rockstuhl and colleagues (*Journal of Social Issues*, 2011) showed that general intelligence (IQ) predicts both domestic leadership effectiveness and cross-border leadership effectiveness (126 Swiss military officers and their peers). Emotional intelligence (EQ) is a stronger predictor of domestic leadership effectiveness, and CQ is a stronger predictor of cross-border leadership effectiveness.

ARTICLE

— **Multicultural Team Performance | Leader's CQ predicts performance of diverse teams**

Groves and Feyerherm (*Group and Organization Management*, 2011) showed that leader's CQ predicts multicultural team performance, controlling for leader emotional intelligence and other leadership competencies (99 culturally diverse leaders and 231 followers).

Visit www.culturalQ.com/research for more information.

CQ RESEARCH BRIEF



Rapid growth of research over the past 20 years



Researchers from **47 countries**
Participants from **168 countries**



Samples include students, executives, managers, nonprofit leaders, individual contributors, military personnel, etc.

WITHOUT CQ

- **Homogeneous teams** outperform diverse teams
- **International travel** can reinforce and perpetuate ethnocentrism
- **Study abroad students** tend to spend time with people like themselves
- **Cultural knowledge** may lead to arrogance and missteps
- **Unconscious bias training** has little impact and may increase discrimination

SOLUTION

CQ provides a mental model for understanding and responding to complex multicultural situations.

Rather than memorize stereotypes of different cultures, the four CQ capabilities provide a framework for making sense of cultural situations on the fly. CQ recognizes and values diversity within cultures.

Measure CQ: Assessments are valid and reliable ways to predict multicultural effectiveness.

Develop CQ: CQ is malleable and can be enhanced by:

- Direct experience (travel, multicultural interactions, etc.)
- Experiential learning
- Academic study
- Role-play exercises
- Working on concrete goals
- Journaling and reflection

IMPACT WITH CQ

Hundreds of peer-reviewed studies demonstrate that CQ predicts the following in culturally diverse situations:

- Creativity and Innovation
- Idea Sharing
- Adjustment and Wellbeing
- Quality Decision-Making
- Employee Effectiveness
- Task Performance
- Citizenship Performance
- Leader Performance
- Adaptive Performance

“CQ HAS THE MOST PROMISING EVIDENCE FOR ASSESSING CROSS-CULTURAL COMPETENCE.”

— *Matsumoto & Hwang’s critical review of ten cultural competence measures*
Journal of Cross-Cultural Psychology, July 2013

ABOUT THE CULTURAL INTELLIGENCE CENTER

The Cultural Intelligence Center is an innovative, research-based training and consulting firm that draws upon empirical findings to help organizations and individuals around the world assess and improve cultural intelligence (CQ)—the ability to work effectively with people from different nationalities, ethnicities, age groups, and more. We provide you with innovative solutions that improve multicultural performance based on rigorous academic research. More information about the Cultural Intelligence Center can be found on [our website](#).

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