A Review of Emotional Intelligence and Considerations for EI's Use within Construction Management Programs

Joshua J. Mischung, M.S., Jake B. Smithwick, M.S., Kenneth T. Sullivan, Ph.D., MBA, Dean T. Kashiwagi, Ph.D.

Arizona State University
Tempe, Arizona

Anthony J. Perrenoud, Ph.D. University of Oklahoma Norman. Oklahoma

Over the past two decades researchers have vastly increased the knowledge around emotional intelligence (EI). It has shown to be a significant predictor of academic and professional success. Catching on to that fact organizations in a growing number of industries are embracing emotional intelligence, training their workforce to be more emotionally intelligent, and enjoying the benefits of increased productivity and performance. However, neither the construction industry or construction management programs have displayed the same willingness to embrace the construct. Literature from the last two decades on emotional intelligence was reviewed and organized to provide construction management instructors and practitioners a comprehensive explanation of emotional intelligence, the research findings, and best practices for EI's use with students.

Key Words: Emotional Intelligence, Construction Management, Team Performance, Student Performance, Performance Predictor

Introduction

Many new concepts are being explored for their utility in improving productivity at the workplace. Among these is the construct of emotional intelligence (EI), which is remarkable for its suggested applicability to predicting successful life outcomes and its ability to enhance the management of individuals in the workplace through the recognition that humans are more than just rational actors. Tentatively defined as "the ability to perceive and express emotion, assimilate emotion and thought, understand and reason with emotion, and regulate emotion in the self and others" (Mayer et al., 2000), understanding emotional intelligence potentially has applicability to management in all sections of society. Outside of academia, it is apparent that emotional intelligence is becoming an active part of the modern management language. Notions about emotional intelligence, such as "EI may be the best predictor of life success" (Gibbs, 1995) and, "We've known for years that EI improves results - often by order of magnitude" (Goleman et al., 2013) have prompted both a massive increase in research about emotional intelligence and a huge controversy debating it within the social sciences. While Love et al. (2011) call Emotional intelligence "one of the key developments to cast doubt on the assumption of rationality at work..." with a large body of growing literature, others such as Feyerherm and Rice (2002) caution against embracing the construct too enthusiastically, saying that, "[trainers and managers] should be cautious about making broad claims.... This study points to a less than clear cut answer on the relationship of the two (EI and team performance)". Emotional intelligence as a developing construct has potential for effecting change in many fields, but this is an enthusiasm which must be tempered by caution and a strong consideration for all of the emerging research on the construct. The purpose of this paper is to provide the reader with a fundamental understanding of emotional intelligence derived from several leading authorities in the field, explore Emotional intelligence in several contexts, and provide possible applications within construction management (CM) programs.

Definitions

To define emotional intelligence it is first important to define the concepts which it incorporates, primarily what is meant precisely by both "emotion" and "intelligence" respectively. In his 2014 paper, Cote sourced two useful definitions for these broad and complex ideas. Emotions, the aspect of intelligence explored within the construct of EI, have been defined as a "brief, organized set of responses (including psychological changes, expressive behaviors, action tendencies, and subjective experiences) that optimize how individuals address the challenges and exploit the opportunities that arise in the events that they encounter" (Lazarus 1991). Citing a report by a task force of the American Psychological Association, intelligence was defined as the "ability to understand complex ideas, to adapt effectively to the environment, to learn from experience, to engage in various forms of reasoning, [and] to

overcome obstacles by taking thought" (Neisser et al. 1996). Emotion and intelligence have each been the progenitors of many fields of science, for brevity's sake these concise definitions adequately describe what exactly is meant by emotion and intelligence within this review.

Following these ideas, the concept of Emotional intelligence is based on three premises as outlined by Cherniss (2010), who writes that, "The first is that emotions play an important role in life. Second, people vary in their ability to perceive, understand, use, and manage emotions. And third, these differences affect individual adaptation in a variety of contexts, including the workplace." From this foundation we continue to the broad description provided by Petrides and Furnham (2003), who state that the EI construct "...posits that individuals differ in the extent to which they attend to, process, and utilize affect laden information of an intrapersonal (e.g., managing one's own emotions) or interpersonal (e.g., managing others emotions) nature." From these two basic statements we can arrive at a simple definition of Emotional intelligence. As emotional intelligence is a construct which is being actively developed, several similar yet distinct definitions exist. In her 2010 paper, Cherniss identified two successful definitions. Citing Boyatzis, Cherniss writes that,

"Boyatzis has defined "emotional intelligence competency" as "an ability to recognize, understand, and use emotional information about oneself that leads to or causes effective or superior performance."" (Cherniss, 2010)

Continuing on, Cherniss cites Mayer-Salovey-Caruso,

"EI has been defined as "the ability to perceive and express emotion, assimilate emotion and thought, understand and reason with emotion, and regulate emotion in the self and others."" (Cherniss, 2010)

The definition of Mayer et al. has undergone further development, as cited by Cote in 2014:

"A more recent review defined EI as "the ability to carry out accurate reasoning about emotions and the ability to use emotions and emotional knowledge to enhance thought"".

While there are many examples of a definition for EI and no total agreement exists as yet, a consensus seems to be developing that supports the Mayer et al. (2000) definition as the common definition. Ashkanasy and Daus (2005) have proposed the Mayer-Salovey-Caruso model as a universal definition for emotional intelligence. In a 2002 paper analyzing the available data, it was found that Mayer and Salovey's construct was supported based on their four testable factors appraising emotional intelligence in individuals (Jordan et al., 2002). Cote (2014) later mirrored this support for the Mayer & Salovey model, describing it as the most prevalent model of EI.

While numerous models and appraisals of emotional intelligence exist three models are prevalent in the literature; Bar-On, Boyatzis and Goleman, and Mayer and Salovey. The summary of these three models comes from two summary papers from Cherniss (2010) and Cote (2014), two leading authorities in the direct field of emotional intelligence. If the reader is interested in beginning their own comprehensive review of emotional intelligence, these two papers are recommend by the authors as an excellent starting point for a deeper analysis of this growing field.

Bar-On Model

In 1988, Bar-On developed a model which he now calls "emotional and social intelligence". This model contains five main components: interpersonal skills, intrapersonal skills, adaptability stress management, and general mood (Cherniss, 2010). These components informed Bar-On's definition of emotional intelligence, as "an array of noncognitive capabilities, competencies and skills that influence one's ability to succeed in coping with environmental demands and pressures. (Newsome et al., 2000)"

Bar-On used this definition to construct the Emotional Quotient Inventory (EQ-i), a tool for assessing EI. The EQ-I is a 133 item self-report inventory that provides information on the five main components of Bar-On's model. From the five main components fifteen subscales are also assessed: emotional self-awareness, assertiveness, self-regard, self-actualization, independence, empathy, interpersonal relationships, social responsibility, problem solving, reality testing, flexibility, stress tolerance, impulse control, happiness, and optimism (Cherniss, 2010).

Boyatzis and Goleman Model

While inspired by the earlier work of Mayer, Salovey, and Caruso, the Boyatazis and Goleman model was designed to focus on social and emotional competencies that are linked to outstanding performance in the workplace. Organized into the four categories of self-awareness, self-management, social awareness, and relationship management, the model assesses a number of specific competencies to construct the two primary measures associated with the model, the emotional competence inventory (ECI) and the emotional and social competence inventory (ESCI) (Cherniss, 2010). Goleman has recently distinguished between Emotional intelligence and "social intelligence", proposing that social awareness and what he now calls social facility, be considered components of Social Intelligence (Cherniss, 2010).

Mayer-Salovey Model

Mayer and Salovey came to the topic with an interest in the psychology of emotions, personality theory, and mental abilities. They sought to explore a new and distinct facet of intelligence (Cherniss, 2010). The Mayer-Salovey model has four components: the ability to perceive emotions, the ability to use emotions to facilitate thought, the ability to understand emotions, and the ability to manage emotions (Cherniss, 2010). Mayer and Salovey have stated that measures of EI must assess actual abilities, not self-reports, regarding constructs such as optimism and motivation, stipulating that EI cannot be demonstrated to exist by asking people to report their own level of EI (Newsome et al., 2000). In their more recent writings they have deviated somewhat from their original definition. Their 2008 definition describes EI as "the ability to carry out accurate reasoning about emotions and the ability to use emotions and emotional knowledge to enhance thought." As it now stands, "The most popular performance-based measure is the Mayer-Salovey-Caruso Emotional intelligence Test (MSCEIT)." (Cote, 2014)

Confirming Studies

The predictive abilities of the Emotional intelligence construct have been linked to many traits with success such as the quality of social relationships and the ability to achieve goals (Cherniss 2010). EI has repeatedly been found to have direct and indirect effects over mental ability and personality by several studies. (Lindebaum and Cassell, 2012)

One additional important distinction has been made clear. The measuring of EI as something distinct from personality is more likely when ability based measures are used in lieu of self-report measures. O'Connor Jr. and Little (2003) cite a study concluding that the MSCEIT, an ability based measure, measures EI as a cognitive ability. This is opposed to self-report measures such as the EQ-I, which provide measures of personality traits and characteristics. No correlations were show between EQ-I and ACT scores, in contrast to significant correlations found between ACT scores and MSCEIT scores.

While important steps have been made in strengthening the claims of the EI construct, a tempered approach is necessary. Relationships tend to be modest, particularly when considering general mental ability and personality. Several studies have only been based on simulations. In the case of field studies the validity of performance criteria as rated by supervisors can also be questioned (Cherniss, 2010).

Criticisms

Critical studies of the existing Emotional intelligence models have identified several problematic points that must be confronted in any review of EI. These criticisms bring up concerns on important topics, calling into question the methodology and inadequacies in testing, the breadth of the claims which have been made, and the validity of creating the EI construct in favor of alternative explanations. Some studies caution against a "propensity for the authors... to make exaggerated claims" concerning the role of EI in augmenting performance and success (Jordan et al., 2002), while others inform that "all the current models have significant limitations" (Cherniss, 2010). A lack of empirical research is identified as problematic, particularly when data is supplemented by the anecdotal evidence of "exceptional individuals" (Jordan et al., 2002). Dramatic claims such as EI playing 80% of the role in determining success, even when downplayed in follow-up works, have paved the way for "inflated and unsubstantiated claims as to the impact of emotional intelligence." (Jordan et al., 2002) Chien (2012) succinctly summarized a critical approach to EI in saying, "Our study suggests that the relationship between EI and performance is not as direct, positive, or exaggerated as Goleman and other EI enthusiasts have suggested."

One of the greatest criticisms of EI is the inconsistencies in results that experiments produce. Cherniss (2010) credits the inconsistencies to the important role that context plays within any construct of EI. She suggests that certain environments will naturally encourage emotionally intelligent behavior more than other environments. It is likely that two different EI scores can be produced for the same individual at roughly the same time just by changing the context of the interactions they are referencing as their EI is measured (Jordan et al., 2002). For example, having the individual focus exclusively on their work relationships and interactions during one measuring session, and then having the same individual focus exclusively on their family relationships and interactions during another session. Trait activation theory (TAT) explains this phenomenon by showing that an environment, or context, contains salient trait-relevant cues that will encourage associated behaviors to be exercised (Tett & Guterman, 2000; Tett & Burnett, 2003).

EI and Academic Success

Research involving the role of emotional intelligence in informing academic success has met with mixed results across several studies. Some authors suggest that research increasingly supports the view that measures of personality can augment predictions of academic achievement meaningfully (Newsome et al., 2000), while others suggest that "... both measures of EI had limited predictive validity" (O'Connor Jr., Little, 2003). While expectations are tempered and further exploration is generally required, "The results of these studies have been inconsistent at best" (O'Connor Jr., Little, 2003). Traditional tests of intelligence outside of the EI construct have been shown to account for only 25% of the variance in academic performance, the remaining 75% gap is unexplained (Newsome et al., 2000), and the EI construct may show promise in closing this gap in knowledge.

Early research on academic success often focused on the impact of previous school performance and standardized measures of cognitive capabilities. Ultimately these variables were found to account for relatively small degrees of variability in GPA and student attrition (Parker et al., 2004). For example, using GPA as an indicator for success, a 1995 study found that the ability to understand the emotional states of others was only a moderate predictor of success (Parker et al., 2004). "Practical intelligence" was similarly found to a moderate association with continuing on to college from high school. (Parker et al., 2004) Two noteworthy tests of Emotional intelligence, the EQ-i and the MSCEIT, have undergone particular study in regards to predicting academic outcomes.

The EQ-I technical manual directly claims that EI is related to successful academic outcomes, but in a 2000 study on correlations between EQ-i scores and GPA the claim was not found to be favorably supported. The correlations were all very low, with the authors stating that, "These results provide no support for claims of emotional intelligence's... ability to predict academic achievement" (Newsome et al., 2000). The paper was criticized for making reports that were in contrast to testing results. Additional studies have found EQ-I to be a poor predictor of academic success, but others have shown some degree of promise. A study by Newsome, Day, and Catano conducted an assessment of 180 psychology students with the EQ-i, the Wonderlic Personnel Test and the 16 Personality Factor Questionnaire. A correlation of .01 was found between the EQ-i and GPA. The only significant predictors were found in the Wonderlic test and the 16 Personality Factor Questionnaire (O'Connor Jr., Little, 2003).

Several studies have been evaluated the predictive capabilities of the MSCEIT assessment. The MSCEIT was tested as an alternative to the EQ-i, on the grounds of its focus on conceptualizing EI as a cognitive ability as opposed to the EQ-i's characterization of EI as a set of non-cognitive characteristics and traits. As with the EQ-i, the MSCEIT was found to be lacking as a predictor of college success in terms of GPA (O'Connor Jr., Little, 2003). A separate study of 422 college students using the MSCEIT and other tests found that the MSCEIT total score and three of its composite-scale scores were significantly related to end-of-year GPA (O'Connor Jr., Little, 2003). Despite promising results in some tests, O'Connor Jr. and Little write that, "In summary, it appears that emotional intelligence is not a valid predictor of academic success." In a similar discussion over EI tests in predicting academic success, Frye et al. (2006) relegate EI measures to having limited potential in academic applications, writing that they have higher predictive validity of performance in employment settings as opposed to academic settings.

Emotional intelligence and Workplace Success

One of the most notable claims of the Emotional intelligence construct is that it is a more accurate predictor of success than traditional measures of cognitive ability (Newsome et al., 2000). Job performance has been found to have a relationship to EI in at least 13 studies, as measured by a variety of tests such as the WLEIS or SREIT (Cherniss, 2010). Companies, realizing the potential value of utilizing EI to augment the leadership capabilities of

managers and improve the processes of human resource departments, have voiced considerable interest in developing EI (Cote, 2014).

After testing in both laboratory and field conditions, numerous studies have demonstrated positive relationships between EI and job performance, but additional evidence also suggests that this relationship is subject to boundary conditions. These conditions necessitate the pairing of EI with additional traits and abilities to encourage desired outcomes (Chien et al., 2012). When successfully utilized, EI is theorized to help employees gain an advantage by allowing them to successfully utilize emotions in the workplace as data for navigating workplace situations, facilitating favorable relationships and work performance (Chien et al., 2012). EI was identified as a buildable trait, which can be honed in order to promote desired outcomes specific to the workplace environment. Training improved EI abilities involved a several step process, which utilized tools selected for their ease of use and reliability. After a noted 4-6 month lag between training to a recognizable impact on performance, employees were found to have significantly higher job satisfaction and an overall positive impact on job performance scores at the 10 percent level. Notably, employees with only a high school level of education benefited more than those with higher education levels (Turner, Lloyd-Walker, 2008). However, several problems were evident with the results of training, as revealed by the subsequent testing. Self-evaluations were found to have experienced a statistically significant positive change, but in peer evaluations no changes of statistical significance were demonstrated. A potential explanation for this result postulates that those who did not partake in training may have had unrealistic expectations for those who did, hoping to see larger changes in their peers over a six month period than would be reasonable to expect (Turner, Lloyd-Walker, 2008).

Love et al. (2011) conclude the positive results of these tests is encouraging, particularly when considering long standing trends and views regarding emotions and their role in the workplace. The current trend, for considering emotions as an unwanted variation which should be designed out of the workplace, is being challenged by the body of EI research. Research suggests that employees routinely act emotionally to events at work despite attempts to remove them institutionally, and that these emotions in turn effect their work behavior (Love et al., 2011). As quoted by Lindebaum as Cassell (2012), "The dynamics of human interaction are saturated with emotional content and failure to acknowledge it often entails detrimental consequences for organizations (Ashkanasy and Cooper, 2008; Lundberg and Youn, 2011)."

Team Effectiveness and Emotional intelligence

The tendency of emotional intelligence to be viewed only as an individual competency, but this ignores the reality that a great deal of work in organizations is done by teams. The pressing need of modern managers is the constant search for ways of improving teamwork, and in their 2001 paper Druskat and Wolff identified key characteristics of emotionally intelligent and effective teams. The first three essential characteristics of an effective team which are identified are trust, a sense of collective identity, and a sense of group efficacy. Furthermore, there is an emphasis on the need to achieve an additional level of group cohesion, a need to "be mindful of the emotions of its members, its own group emotions or moods, and the emotions of other groups and individuals outside its boundaries" (Druskat, Wolff, 2001). Teams are identified as more successful when these traits are displayed, which help achieve high levels of participation, cooperation, and collaboration. At the heart of these conditions and traits are emotions. Druskat and Wolff point out that a team can have emotionally intelligent members, but this does not guarantee that the group will itself be emotionally intelligent. The study found that effective teams had norms of group self-awareness. Emotional states, strengths, weaknesses, and task processes were all considered, and this kind of behavior was identified as a critical component of emotionally intelligent groups. Teams were found to have gained from self-evaluation and by soliciting feedback from other group members in these regards (Druskat, Wolff, 2001).

Further continuing the trend of acknowledging the growth in team based solutions in work organizations, Frye et al. (2006) conducted their own study on EI and team effectiveness. Citing a 2003 study, teamwork is identified as a naturally social endeavor, with individuals engaged in interpersonal interactions and adapting to differences in individual's personality and work stlyes; following this, emotional intelligence is stated to be a requisite aptitude for any individual seeking employment in a team-based organization (Frye et al., 2006). In analyzing their own data, it was found that there was a non-significant positive correlation between total team EI and task orientation and maintenance function. Two EI composites however, team interpersonal EI and team general mood EI, were found to have a significant positive correlation with team task orientation and maintenance function (Frye et al., 2006). They concluded that teams with members who display qualities consistent with high interpersonal and general mood EI scores may be more effective in terms of task orientation and interpersonal processes than teams with lower

respective EI scores. They placed the significance of their study in contributing to the understanding of specific dimensions of emotional intelligence, and in demonstrating that team interpersonal EI and team general mood EI are "relatively useful tools predicting team task orientation team maintenance function."

EI & Construction

A comprehensive literature review conducted by Love et al. (2011) highlights the need of an industry EI intervention. Over the past fifty years construction has lagged just about every other industry in regards to increased productivity. Their research found that the past two decades have seen an influx of new technologies, delivery systems, and operations methods adopted, yet only marginal increases in overall industry performance have been observed. Love et al. suggest that greater focus should be given to project teams and their individual members, as they are the ones that ultimately determine the effectiveness of any new tool or technique. By looking at the key tasks, skills, and personal characteristics required of an effective CPM it is clear that the CPMs' role aligns well with the current EI research. Furthermore, knowing the EI of their team and its individual members provides the CPM the opportunity to best align the human resources on the project. But they also acknowledge some of the obstacles of integrating deliberate focus on EI into the construction setting. As a whole the construction industry is somewhat unwilling to embrace the concepts of EI or individual psychology. This, again, illustrate the impact of context within any construct of EI.

A 2006 study by Butler and Chinowsky assessed EI levels of executives within the construction industry and compared the results to the EI levels of the general population. This study utilized Bar-On's EQ-i self-assessment to measure EI of each executive. Analysis of the data showed that construction industry executives score slightly higher in EI than the general population, and also have a smaller standard deviation than the general population. As a whole the construction executives scored highest in stress tolerance, independence, and optimism. The construction industry is widely acknowledged as a stressful and risk laden environment. It makes sense then that individuals that have managed to promote to the level of executive and guide their companies through the challenging terrain of the construction industry would score highly in these attributes.

Conversely, the three EI attributes that the executives scored lowest in were all in the interpersonal category. They were empathy, interpersonal relationship, and social responsibility. Butler and Chinowsky credit the weakness in empathy and interpersonal relationship to the historically low bid, tyrant-type ruler environment of the construction industry. It is worth noting that the female construction executives that participated in this study scored considerably higher than their male counterparts. The low score in social responsibility can suggest that the executives as a whole share the attitude that take advantage of others for one's own gain is acceptable. Again, a sentiment that is commonly associated with the construction industry. By the standards of research in the field of social sciences the construction executives compared quite well, and provided evidence to support the positive relationship between EI and leadership behavior in the construction industry.

In the case of the construction industry both executives and CPMs tested at or above average EI levels of the general population (Butler & Chinowsky, 2006; Sunindijo et al., 2007). Yet observers and practitioners alike continue to describe the construction industry as dominated by aggressive, authoritative behavior where feelings of frustration and anger are accepted, and in many cases even rewarded (Lindebaum & Fielden, 2011; Love et al., 2011; Lindebaum and Cassell, 2012). On the other hand, softer feelings such as empathy are discouraged, and may even inhibit career success. So why then if the construction industry is not comprised of emotionally incompetent individuals is it characterized by emotionally incompetent behavior? The answer is, again, context. While the individuals within the environment may possess average, or above average, levels of EI the salient trait-relevant cues to encourage the emotionally intelligent behavior appear to be absent. While many of the roles within the construction industry would likely benefit from emotionally intelligent behavior the current environment of construction does not require it. And research has found that it is jobs that require high levels of EI where a positive relationship between EI and job performance exists (Turner, Lloyd-Walker, 2008).

Considerations for CM Programs

Emotional intelligence is a deep and rich construct. From an application perspective it is a skill that is meant to be practiced continuously. Measuring one's EI quotient using any number of available assessment tools, and periodically reassessing one's EI quotient to understand where the practitioner efforts should be focused is an important activity in benefiting from the application of EI. But educating students on the construct and encouraging

assessment of one's skill in the construct is not likely to yield meaningful improvements in performance. Team sports can provide an effective analogy for illustrating the present environment. It is good to teach a player what passing is, passing's importance, and measure how often the player passes in practice or in a game. But it is far more likely that teaching a player how to effectively execute the mechanics of a pass, and when it is best to pass will have a meaningful impact on team performance, and not just how often the player passes. For meaningful improvements in performance to be realized it is every bit as important to educate students on EI tactics that can be immediately used, how to effectively execute these tactics, and what context(s) they work best in. Currently research is being conducted to determine the impact of focusing teaching efforts on the executable tactics of the EI construct, and when to utilize the tactics, instead of primarily on the construct itself.

From an implementation perspective in CM programs self-awareness and relationship management, and the respective tactics that can be taught to students as part of a lecture have been shown to yield immediate results. Furthermore, as long as students continue to meaningfully use these tactics, and not simply going through the motions, these tactics can continue to benefit students in academic and professional settings. One tactic for each skill is listed below that can be immediately shared with students.

Self-awareness

Mental Contrasting (10-15min): Staying motivated to accomplish goals while simultaneously acknowledging the challenge(s) that can prevent the accomplishment of that goal has been proven to increase performance. Have students clearly, vividly imagine an academic goal that they want to achieve, and what it will feel like to accomplish that goal. Next have them write down the top two or three words that are strongest in their minds that are associated to the feelings of accomplishing the goal. Now ask them to clearly, vividly imagine the top one or two obstacles that are most likely to prevent them from accomplishing their goal. Have them write down the one or two obstacles that they came up with. Those two steps alone, called mental contrasting, have been proven in numerous studies to significantly increase performance and accomplishment (Oettingen, 2014).

Relationship Management

Tackle a Tough Conversation (10-15): Often times conversations that will address a challenge or disagreement between people are put off. Unfortunately the strategy of avoidance allows feelings to fester and often leads to a destructive conversation that hinders performance and the relationship. Being willing to have the conversation when the issue is first identified reduces the likelihood of an emotional outburst, reducing the chances of negatively impacting performance or the relationship. It is important to note that this means being open to hearing the other party's opinion (Bradberry and Greaves, 2009).

Both tactics above are relatively simple, but preliminary research that is currently in-progress has shown that educating students on how to use these tactics, and what contexts they should be applied in, displays statistically significant improvements in performance on team projects and improved team experiences. By actively teaching students how to execute these tactics and not just explaining the importance of executing the tactics instructors can equip students with the necessary tools to address the challenges they will encounter when working in teams.

Conclusion

The purpose of this paper was to provide the reader with a fundamental understanding of emotional intelligence, explore emotional intelligence in applicable settings, and provide possible applications for instructors to use with construction management (CM) students. As the review shows emotional intelligence is not a panacea to the construction industries productivity challenges. Yet the body of research that links emotional intelligence to performance continues to grow. This is most evident in the workplace where working in teams is more and more becoming the norm. And to that point research into emotional intelligence at the team level is showing correlations not just to individual performance, but also to team performance. These findings have practical application for the construction industry where every project is delivered by teams and the high-stakes, high-stress environment often leads to emotional outburst. By educating CM students about the value of emotional intelligence, teaching them tactics that they can use immediately, and giving them an opportunity to practice the construction industry's resistance to the construct can be overcome.

References

- Ashkanasy, N. M., & Daus, C. S. (2005). Rumors of the death of emotional intelligence in organizational behavior are vastly exaggerated. *Journal of Organizational Behavior*, 26(4), 441–452. doi:10.1002/job.320
- Bradberry, T., & Greaves, J. (2009). Emotional Intelligence 2.0. San Diego, CA: TalentSmart.
- Butler, C., & Chinowsky, P. (2006). Emotional Intelligence and Leadership Behavior in Construction Executives. *Journal of Management in Engineering*, 22(3), 119–125.
- Cherniss, C. (2010). Emotional Intelligence: Toward Clarification of a Concept. *Industrial and Organizational Psychology*, *3*(2), 110–126.
- Chien, I. C., Seo, M.-G., & Tesluk, P. E. (2012). Emotional intelligence, teamwork effectiveness, and job performance: The moderating role of job context. *Journal of Applied Psychology*, *97*(4), 890–900.
- Côté, S. (2014). Emotional Intelligence in Organizations. *Annual Review of Organizational Psychology and Organization Behavior*, 1, 459–488.
- Druskat, V. U., & Wolff, S. B. (2001, March). Building the Emotional Intelligence of Groups. *Harvard Business Review*, 80–90.
- Feyerherm, A. E., & Rice, C. L. (2002). EMOTIONAL INTELLIGENCE AND TEAM PERFORMANCE: THE GOOD, THE BAD AND THE UGLY. *International Journal of Organizational Analysis*, 10(4), 343–362.
- Frye, C. M., Bennett, R., & Caldwell, S. (2006). Team Emotional Intelligence and Team Interpersonal Process Effectiveness. *American Journal of Business*, 21(1), 49–58.
- Gibbs, N. (1995, October 2). EMOTIONAL INTELLIGENCE: THE EQ FACTOR. Time, Cover story.
- Goleman, D., Boyatzis, R., & McKee, A. (2013). *Primal Leadership, with a New Preface by the Authors: Unleashing the Power of Emotional Intelligence*. Harvard Business Press.
- Jordan, P. J., Ashkanasy, N. M., Härtel, C. E. J., & Hooper, G. S. (2002). Workgroup emotional intelligence: Scale development and relationship to team process effectiveness and goal focus. *Human Resource Management Review*, *12*(2), 195–214.
- Jordan, P. J., & Troth, A. C. (2004). Managing Emotions During Team Problem Solving: Emotional Intelligence and Conflict Resolution. *Human Performance*, *17*(2), 195–218.
- Lazarus, R. S. (1991). Emotion and adaptation (Vol. xiii). New York, NY, US: Oxford University Press.
- Lindebaum, D., & Cassell, C. (2012). A Contradiction in Terms? Making Sense of Emotional Intelligence in a Construction Management Environment. *British Journal of Management*, 23(1), 65–79.
- Lindebaum, D., & Fielden, S. (2011). "It"s good to be angry': Enacting anger in construction project management to achieve perceived leader effectiveness. *Human Relations*, 64(3), 437–458.
- Love, P., Edwards, D., & Wood, E. (2011). Loosening the Gordian knot: the role of emotional intelligence in construction. *Engineering, Construction and Architectural Management*, 18(1), 50–65.
- Mayer, J.D., Salovey, P., & Caruso, D. R. (2000). Models of emotional intelligence. In R. J. Sternberg (Ed.), *Handbood of intelligence* (2nd ed., pp. 396-420). New York: Cambridge University Press.

- Mayer, J. D., Salovey, P., & Caruso, D. R. (2008). Emotional intelligence: New ability or eclectic traits? *American Psychologist*, 63(6), 503–517.
- Neisser, U., Boodoo, G., Bouchard Jr., T. J., Wade, A., Brody, N., Ceci, S. J., ... Urbina, S. (1996). Intelligence: Knowns and unknowns. *American Psychologist*, *51*(2), 77–101.
- Newsome, S., Day, A. L., & Catano, V. M. (2000). Assessing the predictive validity of emotional intelligence. *Personality and Individual Differences*, 29(6), 1005–1016.
- O'Connor Jr., R. M., & Little, I. S. (2003). Revisiting the predictive validity of emotional intelligence: self-report versus ability-based measures. *Personality and Individual Differences*, *35*(8), 1893–1902.
- Oettingen, G. (2014). Rethinking Positive Thinking. New York: Penguin Group.
- Parker, J. D. A., Summerfeldt, L. J., Hogan, M. J., & Majeski, S. A. (2004). Emotional intelligence and academic success: examining the transition from high school to university. *Personality and Individual Differences*, 36(1), 163–172.
- Petrides, K. V., & Furnham, A. (2003). Trait emotional intelligence: behavioural validation in two studies of emotion recognition and reactivity to mood induction. *European Journal of Personality*, 17(1), 39–57.
- Sunindijo, R., Hadikusumo, B., & Ogunlana, S. (2007). Emotional Intelligence and Leadership Styles in Construction Project Management. *Journal of Management in Engineering*, 23(4), 166–170.
- Tett, R. P., & Burnett, D. D. (2003). A personality trait-based interactionist model of job performance. *Journal of Applied Psychology*, 88(3), 500–517.
- Tett, R. P., & Guterman, H. A. (2000). Situation Trait Relevance, Trait Expression, and Cross-Situational Consistency: Testing a Principle of Trait Activation. *Journal of Research in Personality*, 34(4), 397–423.
- Turner, R., & Lloyd-Walker, B. (2008). Emotional intelligence (EI) capabilities training: can it develop EI in project teams? *International Journal of Managing Projects in Business*, 1(4), 512–534.