

Emotional Intelligence and the ACGME Competencies

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Abstract

Background Residency programs desire assessment tools for teaching and measuring resident attainment of the Accreditation Council for Graduate Medical Education competencies, including interpersonal and communication skills.

Objective We sought to evaluate the use of emotional intelligence (EI) assessment and training tools in assessing and enhancing interpersonal and communication skills.

Methods We used a quasi-experimental design, with an intervention and control group composed of 1 class each of family medicine residents. The intervention was EI coaching. The assessment used the Emotional and Social Competence Inventory, a 360-degree EI survey consisting of self and other (colleague) ratings for 12 EI competencies.

Results There were 21 participants in each of the 3 assessments (test, posttest, and control). Our EI coaching intervention had very limited participation due to a lack of

protected time for EI coaching and residents' competing obligations. Return rates for self surveys were 86% to 91% and 66% to 68% for others. On all 3 trials, ratings by others were significantly higher than self ratings for every competence (range, $P < .001-.045$). None of the self ratings by the intervention group increased significantly for any of the competencies. None of the intervention group self ratings increased significantly on posttesting, whereas ratings by others increased significantly for coach/mentor ($P < .001$). The teamwork rating decreased significantly on both self and other ratings ($P < .001$). Achievement orientation was the highest intervention group posttest rating, and teamwork was the lowest.

Conclusions EI is a necessary skill in today's health care environment, and our study found that a tool from another sector was useful in assessing resident EI skills. Because our EI coaching intervention was unsuccessful, the effects of coaching on interpersonal and communication skills could not be assessed.

Introduction

The Joint Commission issued a Sentinel Event Alert in 2008 acknowledging that intimidating and disruptive behaviors may compromise patient safety and recommending educational interventions including training in "people skills."¹ Some have expressed concern about a dehumanization in medicine, including physicians becoming

less compassionate.² Critics have urged medical schools to address affective/interpersonal dimensions of competence³ and specifically emotional intelligence (EI).⁴ The Accreditation Council for Graduate Medical Education (ACGME) mandates that residents be taught and assessed in 6 general competencies (patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice).⁵ Although these requirements have been in effect since July 2002, the medical community continues to look for effective teaching and assessment methods for the competencies.

EI has been suggested for teaching interpersonal and communication skills and possibly professionalism to physicians in training.⁶ A general definition states that "EI involves the ability to carry out accurate reasoning about emotions and the ability to use emotions and emotional knowledge to enhance thought."⁷ The Hay Group⁸ model of EI includes self-awareness, social awareness, self-management, and social management skills. Research has identified numerous positive correlations between EI and desirable outcomes including leadership success, employee morale, job satisfaction, job commitment, teamwork,

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The Hay Group provided the Emotional and Social Competence Inventory (ESCI) research tool pro bono but did not participate in this project in any way.

Portions of these data were presented at the 2007 annual meeting of the Behavioral Forum of the Society for Teachers of Family Medicine in Chicago (available on the Family Medicine Digital Resource Library website at www.fmdrl.org), the 2009 annual meeting of the Family Medicine Leadership Conference in Austin, and the 2009 Behavioral Forum.

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Received May 3, 2010; revision received July 1, 2010; accepted July 29, 2010.

DOI: 10.4300/JGME-D-10-00080.1

customer satisfaction, decreased turnover, and less work/family conflict.⁹ Other studies have found that EI skills can be taught to adults,¹⁰ with changes persisting 7 years.¹¹

The medical community is becoming aware of the value of EI⁶ skills, which have been described as “essential” for health care leaders¹² and physicians.^{13,14} In 2010, the National Patient Safety Foundation¹⁵ concluded that physicians must develop interpersonal, leadership, and teamwork skills.

Empirical studies have explored EI in family medicine,¹⁶ anesthesiology,¹⁷ and surgery residency programs.¹⁸ In family medicine, EI was not found to contribute to patient satisfaction,¹⁶ and an unexpected negative correlation between resident assertiveness and faculty evaluation of resident performance was found in anesthesiology.¹⁷ In surgery residents, a “flat growth rate” for EI produced a conclusion that residency may exert a “stunting” effect on EI development.¹⁸ These studies were cross-sectional and based their assessments on self-reports. We hypothesized that training would increase resident EI as rated by self and by colleagues who work with the residents.

Methods

The quasi-experimental design incorporated 2 staggered classes of residents. The intervention group class was pretested at the end of intern year (postgraduate year [PGY]-1) and posttested at the end of second year (PGY-2). The control group class was tested at the end of PGY-2 for comparison with the intervention group’s posttest scores. The control group class was 2 years ahead of the intervention group to prevent EI skills from “trickling down” to the control group. Three sets of data were collected over 3 years, at the end of each academic year. Chronologically, data sets were PGY-2 control group, PGY-1 intervention group pretest, and PGY-2 intervention posttest.

Intervention

Our intervention was individual EI coaching using the Hay Group model,⁸ which requires formal training and certification. The basis of EI development is self-awareness, which can be developed through self-reflection activities. Using an adult education model, EI coaching requires a high level of trainee engagement and commitment, including cognitive behavioral “homework” assignments between coaching sessions. EI training begins with the trainee’s statement of ideal career goals, followed by guided review of the EI survey results. The focus of coaching is to emphasize EI strengths while supporting trainees in implementing strategies to build self-selected EI “growth areas.” The trainee sets performance goals and negotiates homework assignments, time frames, and frequency of coaching sessions, adding goals as coaching progresses. The research design allowed for 10 months of coaching by the principal investigator, who is a faculty psychologist and Hay Group certified EI coach.

BOX EMOTIONAL INTELLIGENCE COMPETENCY DEFINITIONS

1. *Emotional self-awareness*: Recognizing one’s emotions and their effects
2. *Emotional self-control*: Keeping disruptive emotions and impulses in check
3. *Adaptability*: Flexibility in handling change
4. *Achievement orientation*: Striving to improve or meeting a standard of excellence
5. *Positive outlook*: Persistence in pursuing goals despite obstacles, setbacks
6. *Empathy*: Sensing others’ feelings/perspectives, taking active interest
7. *Organizational awareness*: Reading group’s emotional currents and power relationships
8. *Coach and mentor*: Sensing others’ development needs, bolstering their abilities
9. *Inspirational leadership*: Inspiring and guiding individuals and groups
10. *Influence*: Wielding effective tactics for persuasion
11. *Conflict management*: Negotiating and resolving disagreements
12. *Teamwork*: Working with others toward shared goal, creating group synergy

Outcome Measure

The ACGME Toolbox of Assessment Methods recommends “a 360-degree evaluation tool to assess interpersonal and communication skills, professional behaviors, and some aspects of patient care.”¹⁹ We used the Emotional and Social Competence Inventory (ESCI), a validated 72-item 360-degree survey instrument.⁸ The ESCI incorporates 20 years of research with business graduate students.¹¹ The 12 ESCI competencies are listed in the BOX. Ratings are made on a 5-point Likert scale based on frequency of observed behaviors. Suggested administration time is 10 to 20 minutes. The Hay Group ESCI was provided pro bono for research purposes by the Hay Group.⁸ The Hay Group did not participate in this project in any way. The project received approval by the institution’s Institutional Review Board.

The ESCI recommends that each participant have at least 5 “other” raters, with 2 as minimum, and instructs participants to select their own “respondents” in addition to the participant’s supervisor. For this study, we requested 6 respondents/raters for each resident: the faculty advisor, clinic nurse, and 4 raters chosen by the resident (1 faculty plus 1 resident from each class). Residents were also required to submit a self rating.

Statistical Analysis

Descriptive statistics were used to calculate the mean scores for the 12 competencies measured (Statistical Package for the Social Sciences, SPSS 11.5, Chicago, IL). Student *t* test was used to compare the mean scores for the self rating scores and the ratings by others scores.

Results

There were 21 participants each in the intervention and control groups. Return rates for self surveys were 86% to 91%. Return rates for other surveys were 66% to 68%. All residents had at least the required minimum of 2 ratings by others. Results are listed in the TABLE.

| TABLE CONTROL GROUP AND INTERVENTION (PRETEST AND POST-TEST) GROUP ESCI SCORES | | | | | | | |
|--|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------|
| RATING COMPETENCY | <i>Self Control</i> | <i>Self Pre</i> | <i>Self Post</i> | <i>Other Control</i> | <i>Other Pre</i> | <i>Other Post</i> | <i>Other Norm</i> |
| Organizational Awareness | 4.22 | 4.22 | 4.20 | 4.31 | 4.50 | 4.53 | 4.30 |
| Teamwork | 4.16 | 4.34^a | 3.89^a | 4.32 | 4.47^a | 4.09^a | 4.29 |
| Positive Outlook | 4.10 | 4.12 | 4.20 | 4.31 | 4.45 | 4.48 | 4.20 |
| Adaptability | 3.98 | 3.89 | 3.92 | 4.21 | 4.34 | 4.40 | 4.18 |
| Emotional Self Control | 3.97 | 3.95 | 3.86 | 4.20 | 4.45 | 4.51 | 4.22 |
| Conflict Management | 3.93 | 3.78 | 3.96 | 4.12 | 4.15 | 4.38 | 3.92 |
| Empathy | 3.92 | 3.98 | 4.05 | 4.20 | 4.38 | 4.49 | 3.96 |
| Self-Awareness | 3.77 | 3.74 | 3.82 | 4.01 | 4.18 | 4.29 | 3.79 |
| Achievement Orientation | 3.75^b | 4.11 | 4.17^b | 3.81^b | 4.47^b | 4.56^b | 4.34 |
| Coach and Mentor | 3.71 | 3.59 | 3.89 | 4.07 | 3.83^a | 4.39^a | 4.03 |
| Inspirational Leadership | 3.66 | 3.73 | 3.85 | 4.02 | 4.18 | 4.34 | 3.99 |
| Influence | 3.61 | 3.66 | 3.78 | 3.95 | 4.09 | 4.26 | 4.00 |
| MEAN | 3.90 | 3.93 | 3.97 | 4.12 | 4.29 | 4.39 | 4.10 |

Frequency of behavior: 1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = consistently
 Norms (Other ratings only) N. American sample (N = 1577), all ages and job levels

^a = Significant difference in Intervention Group Pretest versus Post-test scores ($P < .001$)

^b = Significant difference in Control and Intervention scores ($P < .001$)

Coaching

Coaching in EI was an important component of the overall study. Unfortunately, the residency program was unable to provide protected time for coaching. Office staff assigned appointment times for coaching sessions and then notified residents of their appointments. Less than half the class (9/21) participated in coaching, and residents reported that they did not know about the appointment or were otherwise occupied with duties during the assigned time. Statistical analysis showed no significant difference in ESCI scores for coaching participants versus nonparticipants. None of the residents completed a full regimen of coaching: 9 came for the first session, 6 for the second session, 2 for the third session, and 1 for the fourth and fifth sessions.

Self Ratings

In the intervention group, none of the self ratings increased significantly for any competencies. Teamwork, rated highest on the pretest, significantly declined ($P < .001$). Organizational awareness and positive outlook tied for highest posttest rating. Coach/mentor had the lowest pretest rating, and influence the lowest posttest rating.

For the control group, organizational awareness was the highest rated by self, and influence the lowest. Achievement orientation was the only competence with a significant difference between control and intervention group self ratings, with the intervention group scoring significantly

higher than controls on the posttest ($P < .001$). However, because of the low participation in coaching, differences between the control and intervention group scores cannot be attributed to the intervention.

Other Ratings

Ratings by others generally mirrored self ratings in amplitude and direction of change. Coach/mentor ratings significantly increased ($P < .001$) for the intervention group, having been the lowest rated by other on the pretest. Teamwork ratings significantly declined on posttest ($P < .001$) (as they did on self posttest ratings), having tied for second highest rated on the pretest. Achievement orientation was tied for second highest rating on pretest and was the highest rated on posttest.

Norms

ESCI norms apply to other ratings only and are based on a North American sample of workers (N = 1577), all ages and job levels. Achievement orientation is the highest rated competence in the norms, and self-awareness the lowest. The ratings for the intervention group exceeded the ESCI norms on all competencies except for pretest coach/mentor ratings and posttest teamwork ratings.

The control group exceeded the norms on 9 competencies, falling slightly below on emotional self-control and influence, and well below on achievement

orientation. Others' achievement ratings for the control group were significantly lower than intervention group both pretest and posttest ($P < .001$).

For all 3 assessments, ratings by others were significantly higher than self ratings for every competence (range, $P < .001-.045$), suggesting that residents were more modest about their EI skills. Mean scores for self ratings were roughly equivalent for all assessments (3.90, 3.93, 3.97), whereas mean ratings by others showed more variability (4.12, 4.29, 4.39). There were no significant gender differences for either self or other ratings, which is consistent with ESCI research.⁸

Discussion

Numerous factors may have contributed to the low participation in the EI coaching program. The residency has a reputation as a highly intense, demanding program emphasizing procedural training, and residents' comments suggested that enhancing EI was not a high priority at this stage of their training. Also, because their pretest EI scores were already high, residents may not have felt a need for coaching or that the amount of time and work involved was not justified. There also were differences in baseline EI scores between the 2 groups, with the intervention group having stronger EI skills as interns than the PGY-2 control group.

The most pronounced contrast between the 2 resident classes was the ESCI competence of achievement orientation: "Striving to improve or meeting a standard of excellence." The intervention group had significantly higher posttest achievement ratings than the control group ratings for both self and others ($P < .001$), as well as on the pretest ratings by others ($P < .001$).

Teamwork ratings significantly declined on both self and other ratings on intervention group posttesting. This class was considered an exceptionally "strong" group at the time of entry into the program, as confirmed by their high EI pretest scores during internship. By all accounts they performed well in residency. Therefore, faculty, residents, and staff were puzzled by the decline in teamwork scores. Because teamwork was the highest rated competence for the PGY-2 control group, it seems unlikely that residency training caused the decline in teamwork ratings for the intervention group.

A decline in aspects of EI during training is not unique to this study. Wagner et al²⁰ found a decline in self-reported medical student EI scores. Stratton et al²¹ suggested that "the decline in humanitarianism, enthusiasm and idealism experienced by medical students" may be attributed to erosion of EI. There is also evidence of a decline of empathy in both medical school and residency training.²² In contrast to these reports, ESCI empathy ratings for residents in this project did not decline and actually exceeded the norm on all 3 trials.

Limitations

Our primary limitation is that the EI coaching intervention was minimal, such that differences in EI scores cannot be attributed to coaching. In addition, baseline assessment showed differences in baseline EI skills between the intervention and control groups, suggesting the 2 groups were not equivalent. Also, although the ESCI has been validated in business settings, there are no ESCI norms for the medical community. Finally, our study was conducted at a single site, limiting generalizability.

Recommendations

Our failed intervention taught us that EI coaching should incorporate protected time, preferably a designated rotation in the third year of residency when residents appear to be less stressed and more focused on their impending independent practice. Given its time-intensive nature, EI training could selectively focus on residents with low EI ratings. After residency, EI training might be offered as continuing medical education for stress management, remediation of deficiencies, or advanced training.

Conclusions

EI has been declared essential for leaders and especially for leaders who are facing change management,²³ which includes physicians in the current health care environment. A logical next step would be to validate strategies that reliably increase physician EI. Our intent was to explore how EI tools might be used in residency programs to meet ACGME requirements. Teaching EI constituted the greatest challenge. In contrast to prior research indicating that EI is teachable for adults,^{10,11} our study was not able to demonstrate the feasibility of an intervention to enhance EI in residents.

However, the EI measurement tool was successful, albeit labor intensive.

Potential advantages of using EI tools include availability of a validated 360-degree assessment instrument, access to a well-developed training model, and published norms. Disadvantages include time and labor requirements, expense, and lack of physician norms. Future research should focus on the development of a convenient, affordable 360-degree EI tool for physicians, including establishing external validity measures such as medical outcomes, patient satisfaction, and physician satisfaction. Multi-institution collaboration could compare EI development in different training models and physician specialties. Longitudinal research could investigate EI development after residency, especially as it relates to physician impairment or disruptive behavior. If EI tools prove to be valuable in physician selection, education, training, and remediation, they may play a larger role in the medical community, as they have in academic and business settings.

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