

White Paper:

Stress, Emotional Intelligence, and Performance

STRESS, EMOTIONAL INTELLIGENCE, & PERFORMANCE IN HEALTHCARE

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Abstract

As in many fields, healthcare is a complex and stressful environment where interpersonal interactions are of paramount importance. This study finds that in a sample of 68 professional midwives and obstetricians in a large urban hospital, emotional intelligence is strongly predictive of performance (66%), stress is slightly predictive (6% to 24%), and emotional intelligence is predictive of stress management (6.5%). The study elaborates on the first finding to identify the differences of effect in seniority (for the most senior employees the effects are strongest) to which specific emotional intelligence competencies are most significant in this context.

Introduction

Emotional intelligence (EQ) is emerging as a valuable competence for work and life performance. How important is EQ for healthcare professionals? In other studies, it appears that one way EQ helps improve performance is by mitigating the negative effects of stress.

Stress is a physical, mental, and emotional response to perceived threat. Stress can be healthy and valuable; it can focus people on critical needs and can motivate learning; short, intense stress is even healthy. On the other hand, stress can also deteriorate both physical and mental health (contributing to disease, reducing physical resilience, increasing depression, reducing coping). What is the effect of stress in the workplace? And to what extent does emotional intelligence mediate the effects of stress?

To evaluate these questions, Six Seconds' researchers worked with Michela Marzano, a graduate in the Obstetrics Faculty, to assess the obstetrics team at the largest urban hospital of Bologna, Italy.

Study Design

Three hypothesis were investigated in the research:

1. Emotional Intelligence has a positive impact on performance
2. Stress reduces effectiveness.
3. Emotional Intelligence mediates the effect of stress.



Sample

The research was conducted with professional midwives and obstetricians in the largest urban hospital in the city of Bologna, Italy. The sample size is n=68; 93% are women, their ages range from 22 to 63 years (54% are ages 22-34), and with varied education levels (50% have university degrees). Their average work experience is 19 years, but half the group (53%) have been in the field for under six years.

Assessments

In order to investigate the three hypothesis above, two assessments were administered:

SEI – Six Seconds Emotional Intelligence Assessment. The SEI is based on the Six Seconds Model of Emotional Intelligence consisting of eight core competencies divided into three macro areas: Self Awareness, Self Management, and Self Direction.

- Self Awareness, called “Know Yourself” includes two competencies: Enhance Emotional Literacy and Recognize Patterns.
- Self Management, called “Choose Yourself” includes four competencies: Apply Consequential Thinking, Navigate Emotions, Engage Intrinsic Motivation, Exercise Optimism.
- The Self Direction area, called “Give Yourself,” includes Increase Empathy and Pursue Noble Goals.

SPS - Stress & Performance Survey – This survey is based on the following six dimensions that are tied to job performance and life success.

1. Perceived Stress (distress)
2. Empathy
3. Illness (stress related)
4. Absenteeism
5. Emotional volatility
6. Quality of life

To simplify scoring, negative scales were reversed so high scores equate to high performance:

1. Perceived Stress = low stress
2. Empathy = high empathy
3. Illness = good health
4. Absenteeism = high work attendance
5. Emotional volatility = positive emotional management
6. Quality of Life = high quality of life

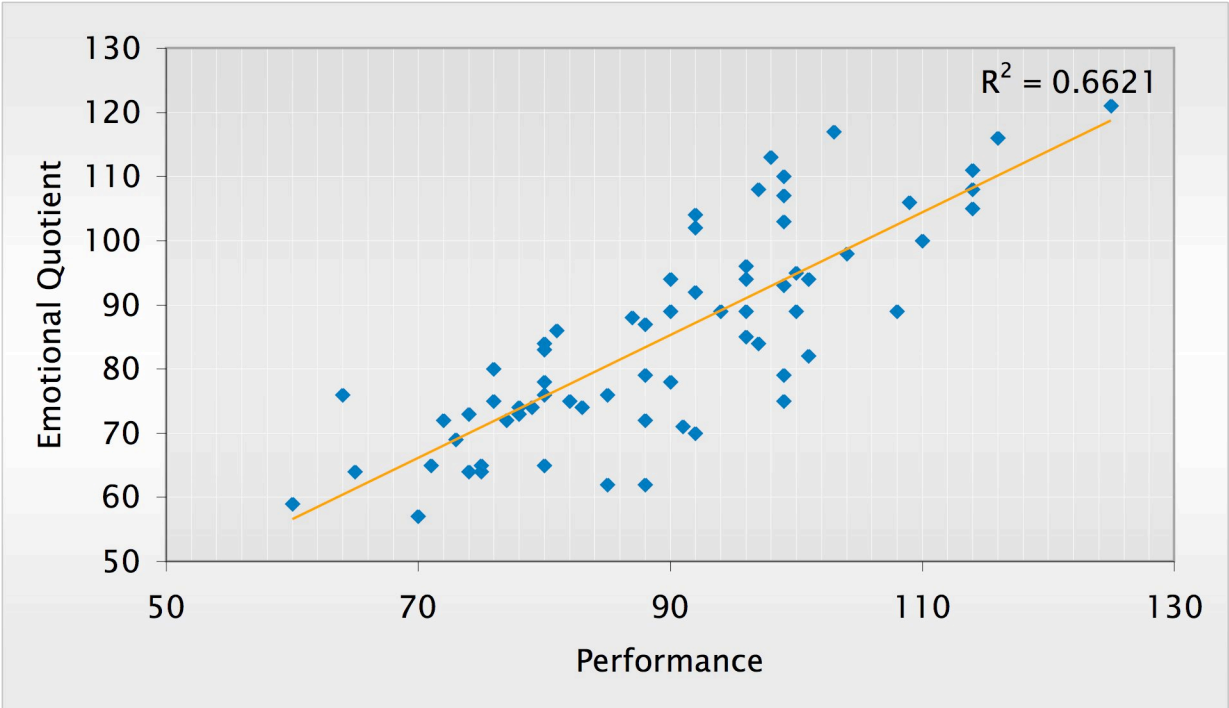


Findings

Hypothesis 1: Emotional Intelligence has a positive impact on performance

Linear regression shows that 66.2% of the total variance in performance is predicted by emotional intelligence. This finding is visually presented in the graph below then in tables.

This graph presents a comparison of scores on the SEI and scores on the SPS. The relationship between SEI and performance can be seen visually as high scores on EQ (vertical) tend to correspond to high scores on Performance (horizontal):



Linear Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.814(a)	.662	.657	8.03754

a Predictors: (Constant), EQ



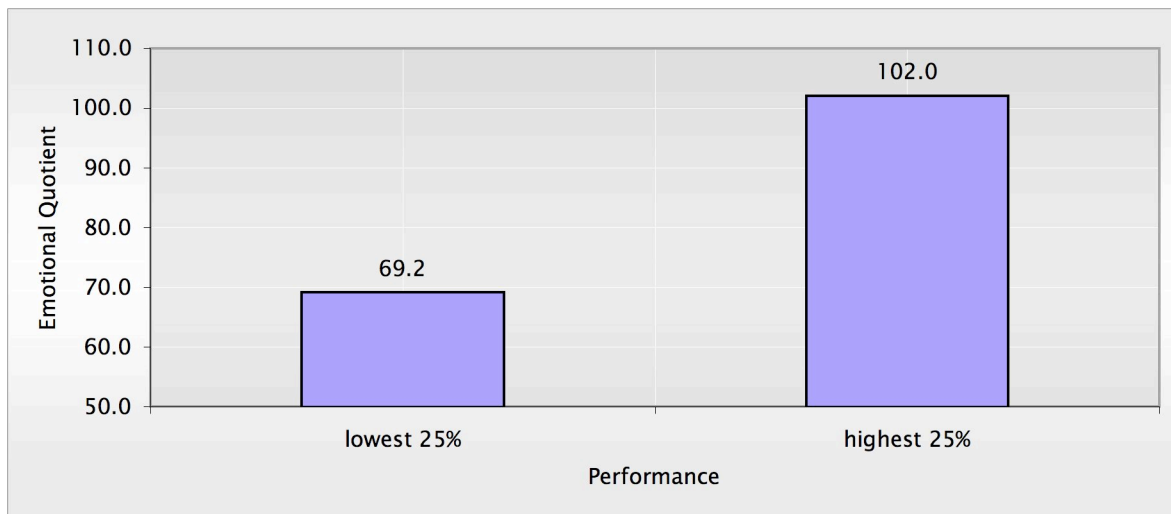
ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8354.505	1	8354.505	129.323	.000(a)
	Residual	4263.730	66	64.602		
	Total	12618.235	67			

a Predictors: (Constant), EQ

b Dependent Variable: PERFORMANCE

To further illustrate the power of this finding, the group was divided into four quartiles based on overall performance scores. This graph shows the mean EQ scores of the highest and lowest performers:



EQ, Performance, and Business Seniority

To expand on the relationship between EQ and performance, we split the sample into three groups based on years of seniority in their field. The three groups are depicted in this table:



ANOVA(b)

Seniority (in years)	Model		Sum of Squares	df	Mean Square	F	Sig.
from 0 to 6	1	Regression	4049.104	1	4049.104	61.328	.000(a)
		Residual	2178.782	33	66.024		
		Total	6227.886	34			
from 7 to 20	1	Regression	1043.112	1	1043.112	14.531	.003(a)
		Residual	789.657	11	71.787		
		Total	1832.769	12			
from 21 to 38	1	Regression	3289.624	1	3289.624	61.585	.000(a)
		Residual	854.653	16	53.416		
		Total	4144.278	17			

a Predictors: (Constant), EQ

b Dependent Variable: PERFORMANCE

There is a statistically significant relationship between Emotional Intelligence and Performance in all the three the groups. The following chart shows the strength of the EQ/Performance relationship in each group; the most powerful effect appears in the most senior group where EQ predicts 78.1 % of the variation in Performance.

Seniority (in years)	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
from 0 to 6	1	.806(a)	.650	.640	8.12550
from 7 to 20	1	.754(a)	.569	.530	8.47272
from 21 to 38	1	.891(a)	.794	.781	7.30861

a Predictors: (Constant), EQ



Specific EQ Competencies and Performance

In the theoretical framework of the Six Seconds Emotional Intelligence Model, the four competencies tied to self-management (called “Choose Yourself”) should be those most closely involved performance under stress. It turns out that of the individual competencies, these four are the most powerful predictors of performance as measured by the Stress & Performance survey. The four outcomes individually predict between 43-49% of the variation in performance scores:

- Consequential Thinking: 49%
- Navigate Emotions: 48.4%
- Intrinsic Motivation: 43.2%
- Exercise Optimism: 43.2%

The t-tests that generate these percentages are show here:

Coefficients(a)

Model		Standardized Coefficients	t	Sig.	Correlations		
					Beta	Zero-order	Partial
1	(Constant)		-.458	.649			
	CT	.263	9.138	.000	.700	.766	.215
	NE	.126	2.725	.008	.696	.334	.064
	IM	.188	4.082	.000	.681	.469	.096
	EO	.371	12.975	.000	.657	.861	.305

a Dependent Variable: PERFORMANCE

(CT=Consequential Thinking; NE=Navigate Emotions; IM=Intrinsic Motivation; EO=Exercise Optimism).



Hypothesis 2: Stress reduces effectiveness

As shown in the following table, stress is correlated with all of the other outcomes, especially attending work ($r=.254$), positively managing emotional interactions ($r=.471$), and quality of life (.490). Thus perception of stress is an obstacle to optimal performance.

		Low Stress	Empathy	Health	Attendance	Emotional Mngment	Quality of Life
Low Stress	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	68					
Empathy	Pearson Correlation	.150	1				
	Sig. (2-tailed)	.221					
	N	68	68				
Health	Pearson Correlation	.216	-.106	1			
	Sig. (2-tailed)	.077	.389				
	N	68	68	68			
Attendance at Work	Pearson Correlation	.254(*)	.020	.412(**)	1		
	Sig. (2-tailed)	.037	.869	.000			
	N	68	68	68	68		
Emotional Management	Pearson Correlation	.471(**)	-.064	.323(**)	.286(*)	1	
	Sig. (2-tailed)	.000	.606	.007	.018		
	N	68	68	68	68	68	
Quality of Life	Pearson Correlation	.490(**)	.005	.349(**)	.437(**)	.391(**)	1
	Sig. (2-tailed)	.000	.966	.003	.000	.001	
	N	68	68	68	68	68	68

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).



Hypothesis 3: Emotional Intelligence mediates the effect of stress.

As shown in the table below, high EQ is moderately but significantly predictive of low stress. In other words, people with higher emotional intelligence experience less stress.

Linear Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.256(a)	.065	.051	.45030

a Predictors: (Constant), EQ

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.935	1	.935	4.613	.035(a)
	Residual	13.383	66	.203		
	Total	14.318	67			

a Predictors: (Constant), EQ

b Dependent Variable: Perceived_Stress

In the first table we can see that the Independent variable (Emotional Intelligence) predicts 6.5% of the Dependent variable (Perceived Stress). The second table shows that this impact is statistically significant because the Significance (Sig = .035) is lower than 0.05.

To further understand this finding, we measured the power of each of the eight emotional intelligence competencies to predict low stress. Apply Consequential Thinking has the highest (and statistically significant) impact on Perceived Stress; this competence predicts 14.6% of the variation in stress.



Coefficients (a)

Model		Standardized Coefficients	t	Correlations			
				Beta	Sig.	Zero-order	Partial
1	(Constant)		5.671	.000			
	EL	-.105	-.776	.441	.056	-.101	-.092
	RP	.048	.353	.726	.111	.046	.042
	CT	.403	2.790	.007	.375	.341	.330
	NE	-.043	-.184	.855	.168	-.024	-.022
	IM	.097	.421	.676	.205	.055	.050
	EO	-.090	-.624	.535	.088	-.081	-.074
	IE	.009	.071	.944	.090	.009	.008
	NG	.113	.908	.367	.182	.117	.107

a Dependent Variable: Perceived_Stress

(EL=Emotional Literacy; RP=Recognize Patterns; CT=Consequential Thinking; NE=Navigate Emotions; IM=Intrinsic Motivation; EO=Exercise Optimism; IE=Increase Empathy; PNG=Pursue Noble Goals).



Conclusion

As in many demanding jobs, healthcare is a stressful work environment with many high-stakes challenges, a fast pace, and complex relationships. In the face of these pressures, professionals must carefully manage their reactions and interactions (within themselves, with each other, and with patients) to achieve optimal patient outcomes. It appears that emotional intelligence is one key contributor to this “dance” of managing competing pressures.

The study finds three important conclusions:

1. Emotional intelligence predicts high performance
2. Stress reduces performance
3. Emotional intelligence mitigates the effects of stress.

A reasonable inference emerges that one of the primary benefits of high EQ is the increased ability to function well even under stress.

Interestingly, the most senior group in the study – those with the most supervisory and leadership responsibilities – are the ones where emotional intelligence made the most difference. This finding suggests that in increasingly complex jobs, EQ becomes increasingly important.

Theoretically, “Choose Yourself” is the part of the Six Seconds EQ Model most critical to management of emotional reactions behaviors, such as maintaining focus under times of stress. The study confirms that framework, showing that while all the competencies are important, these four are the ones most significantly tied to self-management.

It may be that certain fields and roles produce higher relational demands and therefore require higher levels of emotional intelligence. Further study is warranted to understand the dynamics of different roles, specific EQ competencies tied to performance, and to expand the performance measure to include medical and business outcomes. Yet in the meantime, these findings strongly suggest that emotional intelligence is an invaluable asset for healthcare professionals.

