

Criterion-related Validity

A number of studies have explored practical relationships between RQ constructs and relevant organizational measures. Such studies yield evidence of the validity and utility of the constructs when applied to workplace settings. These studies were concurrent in their design, meaning, performance data were collected from employers near the time participants completed the surveys (or immediately thereafter). As a result, the findings presented in this section yield a potential understanding of the participants' performance at the time of the respective studies, rather than a clear prediction of future outcomes (Anastasi, and Urbina, 1997).

REACH PROFILES and RQ 360 in Mining Operations

A South African mining company directed its production supervisors and managers to complete the REACH PROFILES as part of a criterion validation effort. The company provided performance rankings for each production supervisor based on appraisals completed by their respective managers, leveraging the RQ 360 framework. The data were merged with participants' REACH PROFILES responses. Researchers analyzed potential associations between performance and REACH PROFILES results, including both skill-based constructs (RQ and aligned competencies) and trait-based constructs (primary factors and aligned dimensions).

The company provided ratings for each production supervisor, based on their respective managers' direct observation. In this way, the data reflected a multi-rater approach, wherein production supervisors provided self-ratings that were then compared with ratings provided by their managers. Managers then grouped their production supervisors into two categories for the purpose of the analysis. In addition, the company provided engagement survey results that were analyzed for perceptions regarding safety and production. The tables that follow reflect variance and linear correlation statistics for RQ constructs and supervisory performance.

Table 14 Comparative analysis: RQ 360 skill-based constructs by performance rank

Constructs	Top 30% Performers	Bottom 30% Performers	Difference
Reach Quotient (RQ)	3.13	1.95	1.18
Counseling Competencies Cluster	3.25	2.19	1.06
Assimilating New Members	3.50	2.75	0.75
Cultivating Team Spirit	3.25	2.00	1.25
Identifying Personal Needs	3.00	1.75	1.25
Recognizing Others' Efforts	3.25	2.75	0.50
Coaching Competencies Cluster	3.25	1.81	1.44
Building Rapport	3.25	2.00	1.25
Easing Tensions Among Members	3.75	1.50	2.25
Finding Opportunities For Synergy	3.00	1.50	1.50
Rallying Others Around A Cause	3.00	2.25	1.75
Driving Competencies Cluster	3.25	1.94	1.31
Setting Clear Expectations	3.25	2.00	1.25
Evaluating Individual Performance	3.50	2.25	1.25
Controlling Processes	3.75	2.00	1.75
Approaching Complex Issues	2.50	1.50	1.00
Advising Competencies Cluster	2.75	1.25	1.50
Addressing Quality Concerns	2.75	2.00	0.75
Aligning Resources	2.75	1.50	1.25
Designing Team Structure	2.75	2.00	0.75
Integrating Diverse Perspectives	2.75	2.00	0.75
n=21			
* p<.05; ** p<.01			

The higher performing supervisors were rated as more competent on 16 out of the 16 RQ competencies. Statistical significance was not evaluated by the company, although the differences reported above were substantial across the RQ competencies.

Table 15 Comparative analysis: REACH PROFILES trait-based constructs by performance rank

Constructs	Top 30% Performers	Bottom 30% Performers	Difference
Relational Drive	48.18	29.00	19.18
Relating Dimensions			
Affiliation	63.82	58.10	5.72
Consideration	52.55	30.60	21.95**
Openness	51.00	33.20	17.80
Status Motivation	61.45	43.60	17.85
Self-protection	64.09	46.00	18.09
Achievement Drive	48.91	44.90	4.01
Achieving Dimensions			
Intensity	75.91	78.50	2.59
Assertiveness	70.82	70.70	0.12
Risk Tolerance	57.73	61.70	3.97
Adaptability	58.73	44.80	13.93
Decision-making	59.09	46.40	12.69
n=21			
* p<.05; ** p<.01			

Production supervisors differed significantly in the Consideration dimension of Relational Drive when categorized by job performance. Although not statistically significant, other differences were notable – namely, other dimensions of Relational Drive. This may suggest that higher performers were more apt than their peers to display empathy and interpersonal warmth within their leadership style.

Table 16: Correlation matrix: REACH PROFILES skill-based constructs and safety emphasis

Constructs	Safety Emphasis
Reach Quotient (RQ)	0.57**
Counseling Competencies Cluster	0.49**
Assimilating New Members	0.45*
Cultivating Team Spirit	0.54**
Identifying Personal Needs	0.27
Recognizing Others' Efforts	0.36*
Coaching Competencies Cluster	0.60**
Building Rapport	0.59**
Easing Tensions Among Members	0.64**
Finding Opportunities For Synergy	0.42*
Rallying Others Around A Cause	0.47*
Driving Competencies Cluster	0.52**
Setting Clear Expectations	0.38*
Evaluating Individual Performance	0.56**
Controlling Processes	0.30
Approaching Complex Issues	0.48**
Advising Competencies Cluster	0.48**
Addressing Quality Concerns	0.44*
Aligning Resources	0.48**
Designing Team Structure	0.53**
Integrating Diverse Perspectives	0.33
n=29	
* p<.05; ** p<.01	

Based on statistics shown above, production supervisors indicating a stronger emphasis on the safety of their workers scored higher on 16 out of 16 RQ competencies.

Table 17 Correlation matrix: REACH PROFILES trait-based constructs and safety emphasis

Constructs	Safety Emphasis
Relational Drive	0.12
Relating Dimensions	
Affiliation	0.19
Consideration	0.13
Openness	0.09
Status Motivation	0.25
Self-protection	0.16
Achievement Drive	0.06
Achieving Dimensions	
Intensity	0.07
Assertiveness	-0.19
Risk Tolerance	-0.15
Adaptability	0.24
Decision-making	0.10
n=29	
* p<.05; ** p<.01	

There was a nonsignificant linear relationship between safety emphasis and the trait-based constructs, with a minimal inclination potentially associated with more expressive Relational Drive.

Table 18 – Comparative analysis: REACH PROFILES skill-based constructs by position

Constructs	RQ		
	Supervisor Average	Manager Average	Difference
Reach Quotient (RQ)	3.93	3.64	0.29
Counseling Competencies Cluster	3.94	3.66	0.28
Assimilating New Members	3.76	3.88	0.12
Cultivating Team Spirit	3.65	3.97	0.32
Identifying Personal Needs	3.85	3.32	0.53
Recognizing Others’ Efforts	4.06	3.91	0.15
Coaching Competencies Cluster	3.90	3.53	0.37
Building Rapport	3.74	3.50	0.24
Easing Tensions Among Members	4.21	3.68	0.53
Finding Opportunities For Synergy	3.85	3.32	0.53
Rallying Others Around A Cause	3.82	3.59	0.23
Driving Competencies Cluster	4.05	3.77	0.28
Setting Clear Expectations	4.12	3.88	0.24
Evaluating Individual Performance	4.21	3.88	0.33
Controlling Processes	4.06	3.71	0.35
Approaching Complex Issues	3.82	3.62	0.20
Advising Competencies Cluster	3.77	3.54	0.23
Addressing Quality Concerns	3.88	3.74	0.14
Aligning Resources	3.79	3.56	0.23
Designing Team Structure	3.74	3.44	0.30
Integrating Diverse Perspectives	3.68	3.44	0.24
n=70			
* p<.05; ** p<.01			

In a comparison of skill-based constructs by position, production supervisors rated themselves higher on 14 out of 16 RQ competencies when compared to how managers rated themselves.

Table 19 – Comparative Analysis: REACH PROFILES trait-based constructs by position

Constructs	RQ		
	Supervisor Average	Manager Average	Difference
Relational Drive	39.41	44.15	4.74
Relating Dimensions			
Affiliation	63.32	58.50	4.82
Consideration	41.12	41.97	0.85
Openness	44.91	52.15	7.24
Status Motivation	52.09	47.62	4.47
Self-protection	56.29	43.85	12.44
Achievement Drive	48.47	53.35	4.88
Achieving Dimensions			
Intensity	78.50	77.32	1.18
Assertiveness	72.65	71.15	1.50
Risk Tolerance	56.74	44.74	12.00
Adaptability	51.82	49.26	2.56
Decision-making	55.56	66.47	10.91*
n=70			
* p<.05; ** p<.01			

In a comparison of trait-based constructs by position, production supervisors shared similar traits with their managers, with the notable exception of the Decision-making dimension of Achievement Drive. The significant differences reported on the Decision making dimension may suggest that managers were more comfortable leveraging experience, instinct and perception in making common decisions (with less reliance on detailed analysis under typical circumstances).

Table 20 Comparative Analysis: RQ 360 skill-based constructs by rater type

Constructs	RQ SCORE		
	Self-rating	Managerial Rating	Difference
Reach Quotient (RQ)	3.93	2.54	1.39
Counseling Competencies Cluster	3.94	2.72	1.22
Assimilating New Members	3.88	3.13	0.75
Cultivating Team Spirit	3.97	2.63	1.34
Identifying Personal Needs	3.85	2.38	1.47
Recognizing Others' Efforts	4.06	3.00	1.06
Coaching Competencies Cluster	3.90	2.53	1.37
Building Rapport	3.74	2.63	1.11
Easing Tensions Among Members	4.21	2.63	1.58
Finding Opportunities For Synergy	3.85	2.25	1.60
Rallying Others Around A Cause	3.82	2.63	1.19
Driving Competencies Cluster	4.05	2.60	1.45
Setting Clear Expectations	4.12	2.63	1.49
Evaluating Individual Performance	4.21	2.88	1.33
Controlling Processes	4.06	2.88	1.18
Approaching Complex Issues	3.82	2.00	1.82
Advising Competencies Cluster	3.77	2.32	1.45
Addressing Quality Concerns	3.88	2.38	1.50
Aligning Resources	3.79	2.13	1.66
Designing Team Structure	3.74	2.38	1.36
Integrating Diverse Perspectives	3.68	2.38	1.30
n=21			
* p<.05; ** p<.01			

As noted earlier, a multi-rater approach was applied to data collection for this study. Specifically, production supervisors provided self-ratings for each of the RQ competencies. Managers were asked to rate production supervisors' performance on the RQ competencies as well. Interestingly, the production supervisors rated themselves higher on 16 out of 16

competencies as compared to how their respective managers evaluated these same competencies.

Table 21 Comparative Analysis: job performance by REACH PROFILES scores

Constructs	RQ Score		
	Above Mean	Below Mean	Difference
Contractor safety alignment	4.67	4.22	0.45
Accountability to deliver results	4.72	4.22	0.50*
Clarity in role expectations	4.72	4.33	0.39
Action supported by long-term plan	4.50	3.67	0.83*
Understand safety requirements	4.61	4.22	0.39
Pressured to violate safety rules	0.61	2.11	-1.50*
Safety emphasized over production	4.50	3.44	1.06*
Coaching minutes dedicated daily	49.69	40.00	9.69
n=15			
* p<.05; ** p<.01			

The company provided production supervisors’ responses to an engagement survey that had been administered prior to and independent of the study. The production supervisors were categorized based on their RQ score of above or below a mean of 3.62. A number of survey items indicated notable differences in responses based on the production supervisors’ average RQ score.

The REACH PROFILES results provided substantive insight as to the performance and engagement of production supervisors. Namely, higher performing production supervisors scored higher across all RQ clusters and competencies, contributing to strong appreciation for the RQ framework in differentiating higher and lower performing leaders. Further, production supervisors with higher RQ scores tended to exhibit a stronger emphasis on recognizing safety and accountability as essential aspects of their role.

Production supervisors appeared to have a more positive view of their own RQ competencies as compared to how they had been rated by their managers. In addition, production supervisors tended to self-rate their RQ competencies more positively than the managers self-rated their own competencies. This finding underscores the value of the multi-rater aspect of the RQ 360, which measures and compares such perceptions within the RQ framework.

Finally, production supervisors with higher RQ tended to devote more time to coaching their employees, spending as much as 39 more hours on coaching annually.