Empirical competence-testing: A psychometric examination of the German version of the Emotional Competence Inventory

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The "Emotional Competence Inventory" (ECI 2.0) by Goleman and Boyatzis assesses emotional intelligence (EI) in organizational context by means of 72 items in 4 clusters (self-awareness, self-management, social awareness, social skills) which at large consist of 18 competencies. Our study examines the psychometric properties of the first German translation of this instrument in two different surveys (N_{total}= 236). If all items are included in reliability analysis the ECI is reliable (Cronbach's Alpha = .90), whereas the reliability of the four sub dimensions is much smaller (Alpha = .62 - .81). For 43 items the corrected item-total correlation with its own scale is higher than correlations with the other three clusters. Convergent validity was examined by using another EI-instrument (Wong & Law, 2002). We found a significant correlation between the two instruments (r = .41). The German version of the ECI seems to be quite useful, although the high reliability is achieved by a large number of items. Possibilities of improvement are discussed.

1. Introduction

Emotional intelligence is a psychological construct which has been intensely examined in recent years. However, until now there is no common definition of emotional intelligence. Emotional competence as defined by Goleman can be seen as a "capacity for recognizing our own feelings and those of others, for motivating ourselves and for managing emotions effectively in ourselves and others. An emotional competence is a learned capacity based on emotional intelligence that contributes to effective performance at work" (Sala, 2002, p. 2). Another conceptualization of emotional intelligence has been given by Mayer and Salovey, as "the ability to perceive and express emotions, to understand and use them, and to manage emotions so as to foster personal growth" (Salovey, Bedell, Detweiler & Mayer, 2000, p. 506). This study examines the psychometric properties and interrelations of the German versions of two measures of these two conceptualizations of emotional intelligence in two different studies.

3. Results

Since there were no systematic or large discrepancies between the two studies, psychometric characteristics of the ECI 2.0 are reported for both studies together.

Overall reliability:

ECI 2.0: .90

Wong & Law: .82

For reliability of the subscales see tables 1/2.

Corrected item-total correlation:

ECI 2.0: 43 of the 72 items had a higher correlation with one of the other three subscales than the corrected item total correlation with its own scale.

Wong & Law: None of the 16 items had a higher correlation with one of the other three subscales than the corrected item total correlation with its own scale.

Convergent validity:

Both instruments correlated significantly with each other r = .41 (p < .001) indicating a moderate validity. However, correlations of the subscales of the instruments are often to weak to be in accordance with theoretical assumptions (between r = .13 and .34).

4.1 Discussion

There is empirical evidence that the instruments had been translated successfully since the German versions feature similar psychometric characteristics as the original versions.

Overall both instruments are reliable. However, for ECI this is primarily based on its high number of items. When analyzing the subdimensions, reliability is reduced remarkably.

Both instruments correlate significantly with each other indicating a moderate convergent validity. The comparatively low correlation (…)

Table 1: Reliability of the ECI 2.0

Cluster (Alpha of German sample)	Competency	Alpha (reported by Sala, 2002)	Alpha of German sample
Self-awareness (.62)	Emotional Self-Awareness	.69	.55
	Accurate Self-Assessment	.57	.40
	Self-Confidence	.71	.66
Self-Management (.76)	Emotional Self-Control	.66	.57
	Transparency	.53	.40
	Adaptability	.55	.56
	Achievement	.59	.44
	Initiative	.59	.45
	Optimism	.70	.44
Social Awareness (.68)	Empathy	.66	.49
	Organizational Awareness	.77	.57
	Service Orientation	.70	.70
Social Skills (.81)	Developing Others	.78	.54
	Inspirational Leadership	.74	.74
	Change Catalyst	.75	.66
	Influence	.66	.53
	Conflict Management	.39	.29
	Teamwork & Collaboration	.61	.44

4.2 Discussion (continued)

(…) especially between similar subdimensions can be explained by limited reliability and different conceptualizations of emotional intelligence.

For the ECI it seems especially promising to exclude items 13, 16, 19, 60, 61, 62 since these items reduce reliability of their dimension.

2. Method

Instruments:

The ECI 2.0 as a measure of emotional competence was used in both studies. This instrument assesses emotional competence by means of 72 items, which can be classified in 4 clusters consisting of 18 subdimensions. In this study only the self rating version was applied.

As an instrument to assess emotional intelligence as defined by Mayer and Salovey we used the emotional intelligence scale (EI-scale) by Wong and Law (2002) which consists of 16 items that can be classified in four dimensions.

German translation of the instruments:

The English version of the ECI 2.0 was translated independently by 6 persons involved in emotion research. Afterwards 3 other persons being familiar with the concept of emotional intelligence selected the best translation for each item by majority decision.

The same procedure was applied to the English version of the EI-scale by Wong and Law (2002).

Study 1:

Respondents: 100 respondents (age 17–68, M = 29.8, SD = 10.3), 57 female and 43 male.

Questionnaire: The questionnaire consisted of the German version of the ECI 2.0 (self rating) and sociodemographic items.

Study 2:

Respondents: 136 respondents (age 18-73, M = 28.0, SD = 9.9), 94 female and 42 male.

Questionnaire: The questionnaire consisted of the ECI 2.0, the instrument of Wong and Law (2002) and sociodemographic items.

Table 2: Reliability of the EI-scale (Wong & Law)

Cluster	Alpha (reported by Wong & Law, 2002)	Alpha of German sample
Self-emotion appraisal	.87/.89/.86	.76
Other's emotion appraisal	.90/.85/.82	.88
Use of emotion	.84/.88/.85	.83
Regulation of emotion	.83/.76/.79	.88

Literature:

Sala, F. (2002). *Emotional competence inventory (ECI). Technical manual*. Boston: Hay Group.

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