Spörrle, Matthias; Welpe, Isabell M.; Försterling, Friedrich
Cognitions as determinants of (mal)adaptive emotions and emotionally intelligent behavior in an organizational context
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Universidad de Oviedo
Oviedo, España

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The concept of emotional intelligence (EI) constitutes an important and strongly emerging research topic in the organizational context (Ashkanasy & Daus, 2002; Boyatzis, 2006; Cooper & Sawaf, 1997; Fisher & Ashkanasy, 2000; Goleman, 1995, 1998; Harvey & Dasborough, 2006). Despite of conceptual differences in various approaches to emotional intelligence (EI), some components of EI can be found in most theoretical frameworks: These include the capacities to (1) perceive and (2) regulate one’s own emotions and (3) to perceive others’ emotions (see Davies, Stankov, & Roberts, 1998). Some authors also include (4) the capacity to regulate others’ emotional states as an additional aspect (Goleman, 1998; Mayer & Salovey, 1993).

In addition to these four components, we suggest that an understanding of EI also necessitates an understanding of (5) which emotions are specifically detrimental or supportive of EI. We argue that some emotions result in emotionally unintelligent behaviour whereas some emotions increase the probability of behaving emotionally intelligent. Hence, a conceptual distinction between adaptive («intelligent») and maladaptive («unintelligent») emotions as well as their antecedents and consequences might provide an important additional conceptual basis for EI. Knowledge of the mental antecedents of emotionally more or less intelligent emotions is also desirable as differential cognitive processes controlling emotional adaptation have been postulated to
operate in persons high versus low in EI (Matthews & Zeidner, 2000).

The present research introduces the theoretical basis of Rational Emotive Behavior Therapy (REBT; Ellis, 1962, 1994) to the study of emotional intelligence in organizations to (a) identify emotionally intelligent and unintelligent affective reactions, (b) investigate their cognitive antecedents, and (c) to determine what inferences are drawn from adaptive and maladaptive emotions and their cognitive antecedents for the four above mentioned components of EI (ability to perceive and regulate own and other's emotions). Hence in our study we do not provide evidence for or against a specific model of EI but rather look at central aspects of EI found in many conceptualizations of EI. Moreover, we investigate (d) whether cognitions leading to «emotionally intelligent» (adaptive) emotions and behaviour influence job and overall life satisfaction.

By doing so, we also provide an empirical test of Ellis' REBT theory in an organizational context. Hence, we hope to provide insights into the determinants and consequences of emotions which might be relevant for emotional intelligence and cognitive appraisal theories of emotions in the organizational context.

Theory and hypotheses

An understanding and a validation of the concept of EI, necessitates knowledge about psychological processes that regulate the individual management of emotionally significant encounters. Such an understanding is also necessary to explain individual differences in EI. For instance, Matthews, Zeidner and Roberts (2002) claim «a focus on individual differences may contribute to understanding EI in the more generalized sense» (p. 22).

Ellis' REBT-theory – which we want to introduce as an explanatory framework of such antecedents of emotional processes – can be classified as an appraisal theory of emotion. Appraisal theories assume that emotions differ according to a person’s (subjective) cognitions and evaluations (Scherer, 1999). Many empirical studies have demonstrated that the quality and quantity of emotional reactions toward an object depend on the individual’s subjective appraisal of that object (see e.g., Ellsworth, 1991; Roseman, 1984; Stein & Levine, 1987; Weiner, 1986, 1995). For instance as Weiner (1995) pointed out emotional reactions towards negatively evaluated actions of another person (i.e., anger) depend on whether or not this person is considered to be responsible for the action.

Although REBT itself has not been applied in organizational research so far, the value of other appraisal theories of emotion as a theoretical framework has already been recognized, e.g. for predicting the consequences of work exhaustion (Moore, 2000) or co-workers’ reactions to low performers (Lepine & van Dyne, 2001).

Albert Ellis (1962) introduced his appraisal theory of emotion while developing his pioneering and comprehensive system of cognitive therapy. Although REBT has become a widespread therapeutic method (Smith, 1982) with proven efficiency (Enges, Garnefsky, & Diekstra, 1993; Grawe, Donati, & Bernauer, 1994; Lyons & Woods, 1991) its theoretical foundations had to our knowledge not yet been examined in organizational contexts.

Ellis distinguishes two types of cognitions, which are linked to two types of emotional reactions: «irrational» and «rational» cognitions. Irrational cognitions are the primary source of emotional disturbance, because «practically all of them arise from taking a sensible preference or desire and raising it to absolutist must or demand» (Ellis, 1995, p. 106). These pivotal irrational cognitions are characterized by absolutistic demands, such as «I must succeed»… to attain a certain goal. A specific aspect of these irrational cognitions concerns the linking of an individual’s worth with the outcome of her or his actions: «If I do not succeed I will be worthless as a human being». By contrast, rational cognitions are characterized by wishes and preferences, such as «I would like», «I would prefer» or «it would be better» to succeed. Rational beliefs are assumed to lead to self acceptance (rather than negative self evaluations) following a negative behavioural outcome.

With regard to emotional reactions, Ellis (1962) distinguishes so-called maladaptive emotions such as anxiety, depression, rage and guilt from their adaptive counterparts, such as fear/concern, sadness, annoyance/anger and regret. Additionally, Ellis (1962, 1973) hypothesizes a causal relationship between the appraisal dimensions (i.e., irrational vs. rational) and the emotional reactions (maladaptive vs. adaptive). Irrational cognitions (e.g., «I must succeed») are supposed to lead to maladaptive emotions (e.g., anxiety while attempting to attain a goal and depression after failing to reach a goal) and emotional disturbances, whereas rational cognitions (e.g., «I would like to succeed») lead to adaptive emotions (e.g., fear/concern while attempting to attain a certain goal and sadness following failure).

Finally Ellis (1962, 1973) maintains that adaptive emotions result in functional behaviour, whereas maladaptive emotions lead to dysfunctional behaviour (i.e., behaviour resulting in a decreased probability of coping with and managing the emotion provoking event or situation). This functionalistic understanding of the relation between cognitions, emotions, and behaviour is consistent with recent conceptualisations of EI as an index of the individual level of adaptive competence in emotion provoking contexts (see especially Matthews & Zeidner, 2000).

Previous empirical tests ( Försterling, 1985) of REBT theory have found that irrational cognitions were estimated to be more likely in the context of maladaptive emotions (rage, guilt, depression), whereas rational cognitions were seen more likely to occur in the context of adaptive emotions (annoyance/anger, regret, sadness). Moreover, maladaptive emotions were found to correlate significantly with irrational beliefs (David, Schnur, & Belloli, 2002).

In sum, there are several ways to link REBT with EI in the field of organizational research: First, it can be tested whether irrational beliefs actually lead to (emotionally unintelligent) maladaptive and rational beliefs to (emotionally intelligent) adaptive emotions in an organizational context. Second, it can be tested whether adaptive and maladaptive emotions lead to functional or dysfunctional behaviour, respectively, in an organizational setting. Third, if such beliefs (i.e., rational vs. irrational cognitions) and the resulting emotions (adaptive vs. maladaptive) are indicative of emotional intelligence, the presence of rational beliefs and adaptive emotions should be judged as more emotionally intelligent than irrational cognitions and the resulting maladaptive affects. For instance, Ellis (1962, 1973) has argued, that denying one’s own possibility to control emotions – a central aspect of EI – is part of the tendency to think irrationally. Hence, agreeing with such irrational beliefs will result in «emotionally unintelligent» behaviour, i.e. failure to regulate one’s own emotions. Fourth, on the level of individual differences, endorsements of irrational
cognitions should be associated with indicators of emotionally intelligent behavioural consequences such as job- and/or life satisfaction.

To examine some of the relations between rationality vs. irrationality, adaptive vs. maladaptive emotions, and EI, we conducted a questionnaire experiment applying a method that has proven to be effective in emotion research (e.g. Reisenzein, 1986; Smith & Lazarus, 1993; Weiner, Russell, & Lerman, 1979): Participants receive descriptions of stimulus persons who were depicted in emotion provoking situations. The stimulus persons are described on basis of their cognitions (irrational vs. rational) and respondents are asked to estimate their emotions by putting themselves in their position. In addition participants filled out measures of irrational cognitions and of life as well as work satisfaction.

We hypothesize:

Hypothesis 1: Adaptive emotions (fear, annoyance, sadness, regret) will be expected from a rationally thinking stimulus person, whereas stimulus persons with irrational beliefs will be expected to experience maladaptive emotions (anxiety, anger, depression, guilt).

Hypothesis 2: Adaptive emotions are perceived as being of higher functional value than their maladaptive counterparts.

Hypothesis 3: A rationally thinking person will be perceived to be more successful in perceiving and modifying emotional states (i.e. behaving emotionally intelligent) than an irrationally thinking person.

Hypothesis 4: Respondents identifying strongly with stimulus persons who think irrationally in organizational context are less satisfied with their organizational life and to a smaller extent less satisfied with their life in general.

Method

Data collection:

Data was collected via a questionnaire consisting of three different sections: In the first section respondents were asked to imagine stimulus persons in three different scenarios before making judgments on forced choice measures and rating scales. Scenarios were examples of emotionally charged situations in an organizational context.

In the second section, participants were asked to estimate the functionality of the eight emotions of Ellis’ REBT theory.

Finally, in the third part, respondents provided some personal information about themselves, including items of work satisfaction, private life satisfaction and general life satisfaction.

Research design and independent variable:

In the three scenarios used in the first section, two stimulus persons were engaged in a workplace setting: In the first scenario, the stimulus persons work hard on a project in order to be promoted. In the second scenario two engineers try to complete their work on an important prototype. Finally, in the third scenario, the two stimulus persons are the supervisors of two teams who want to present a successful submission to a potential customer. The rationality of the cognitions (irrational vs. rational) was varied as independent variable. In all three scenarios, the two stimulus persons are described as being identical with the exception of their thoughts:

In each scenario, one person is described as thinking rationally (e.g. in the first scenario: «it would be wonderful if I were promoted, but my value as human being would not be affected»), the other one as thinking irrationally (e.g. in the first scenario: «I must be promoted at all costs, otherwise I would be worthless as a human being»). The use of one irrationally thinking and one rationally thinking person in each scenario results in a one-factorial (cognition type: rational vs. irrational) repeated measure within-subject design.

Different versions of the questionnaire were created: (1) The three situations were administered in one of two different sequences. (2) The first stimulus person of each situation was described as thinking either rationally or irrationally. Finally, (3) the last section’s personal questions were presented in two different sequences. This 2x2x2-factorial between-subjects design results in 8 different versions of the questionnaire, which is supposed to minimize answering tendencies and response order effects (Schwarz, 1999).

Participants

We obtained data from 113 persons (80 female, 33 male with average age of 31.2 years, ranging from 15 to 64) who were recruited by research assistants. 55 were students (49%), the others were either employees (30%), self-employed (4%), pupils (3%), apprentices (2%), or other (12%). 47% had a degree, the others had either a university entrance diploma (44%), passed secondary school (8%) or had no qualification (1%). The total time allotted for filling out the questionnaire was about 30 minutes. In the process, the subjects were allowed to ask the investigator’s help where they had problems understanding the content or the questions.

Dependent variables

As dependent variables were assessed: (1) The emotions assumed to be felt by the stimulus persons, their assumed ability to (2) perceive and (3) modify emotional states, and (4) the extent of the respondents’ identification with the stimulus person.

(1) Assumptions about the emotions felt by the stimulus person were assessed - in all scenarios – by using a forced choice question format. The emotions were administered pair-wise (e.g. sadness and depression) and the respondents had to assign one emotion to one stimulus person and the second emotion to the other. All four pairs of emotions were used in each scenario. Consequently, the degree with which the emotion assignments to cognitions are in accordance with the theory serves as dependent variable.

(2) Perception of emotional states: In each scenario, respondents estimated how well each stimulus person manages to perceive different emotional states in the ongoing situation. In the first situation, the emotional state described was that of a colleague who had not been promoted. In the second situation, it was the emotional state of the stimulus person himself, having not been able to successfully finish the work on the prototype. In the third situation, the emotional states of the associated team members had to be perceived. Thus, the emotional states of the two stimulus persons, of another colleague or of a team were the object of perception. In each situation, respondents indicated how well the two stimulus persons were able to perceive the emotional states on two 11-point rating scales ranging from 0 («not at all») to 10 («optimal»).
(3) Modification of emotional states: Analogous to the assessment of the perception of the emotional states, respondents were asked how well each stimulus person could modify the emotional states of the persons involved in order to help them return to efficient work: In the first situation, it was the emotional state of the disappointed colleague, in the second situation, it was the emotional state of the unsuccessful stimulus person, and in the third situation, it was the disturbed emotional climate within the team. Again, respondents indicated their beliefs as to how well the two stimulus persons were able to modify the emotional states of the persons involved on 11-point rating scales ranging from 0 (not at all) to 10 (very strongly).

(4) Identification of the respondents with the stimulus persons: At the end of each situation, participants indicated to what extent they identified with each (i.e., the rational vs. the irrational) stimulus person on two 11-point rating scales ranging from 0 (not at all) to 10 (very strongly).

In the second part of the questionnaire, we assessed the functionality of the emotions used: After answering the scenarios, respondents indicated to what extent each of the eight emotions is suitable to deal with the triggering person or situation better and more productively on 11-point rating scales ranging from 0 (not at all) to 10 (very) made available on a separate sheet.

In the third and last section of the questionnaire the respondents were asked to indicate how satisfied they themselves are with their personal life and their work life on two 11-point rating scales ranging from 0 (not at all) to 10 (very). Finally, in accordance with the procedure described by Myers (2000), respondents indicated how happy they are with their life overall on 11-point rating scales ranging from 0 (not at all) to 10 (very).

Results

T-tests (alpha adjusted) comparing the different versions of the questionnaire revealed no systematic significant mean differences. We therefore analysed the aggregated data. Furthermore, the t-tests revealed no systematic differences between the two sexes. There was less than 1% missing data, indicating a high accuracy in the answers given.

Hypothesis 1 voiced the assumption that rational cognitions lead to adaptive emotions, whereas irrational cognitions result in maladaptive emotions. To test this hypothesis, we computed binomial tests of the assignment percentage of adaptive emotions to rational cognitions for all four pairs of emotions in all three scenarios.

The findings depicted in table 1 indicate that this hypothesis is strongly supported: in each of the scenarios, participants estimated fear, sadness, regret and annoyance to be more likely for the rational person and anxiety, depression, guilt and rage to be more typical for the irrational stimulus person. The smallest effect is obtained for fear across all three situations. This means that a relatively high percentage of respondents attributed anxiety as a maladaptive emotion to the rationally thinking person. Nonetheless, also in this case most answers given are in accordance with the hypothesis. In each scenario the rate of correct assignments exceeds 50% significantly (p<.001). For all emotion pairs, g was computed as an effect size measure: According to Cohen (1988), a g of .05 indicates a small, a g of .15 a medium and a g of .25 a large effect size. Effect sizes range from .16 to .47, indicating at least medium effect sizes for all emotions.

Hypothesis 2 suggests that adaptive emotions are perceived to be of higher functional value than maladaptive ones. Comparisons of the mean differences between both types of emotions are reported in table 2.

As expected, adaptive emotions were generally rated higher in functionality for each of the four emotion pairs. With the exception of the pair fear-anxiety which failed to reach statistical significance, there is always a significant difference in the expected direction between adaptive and maladaptive emotions. Hence, the theoretically postulated difference between adaptive and maladaptive emotions can be demonstrated empirically by using respondents’ judgments.

Hypothesis 3 links irrational and rational cognitions with four central concepts of emotional intelligence: perception and modification of one’s own and others’ emotional states. We obtained data from all three scenarios; the results are summarized in table 3.

Again, these findings clearly consistent with our hypothesis: In all three situations, the rational stimulus person is assumed to perceive and modify emotional states significantly (p<.05) more effectively than the irrational person. Cohen (1988) suggests d as a measure of effect size for comparison of means with a d=.20 indicating a small effect, d=.50 indicating a medium and d=.80 indicating a large effect size.
indicating a large one. Effect size measures ranging from 0.25 to 2.12 with a mean of about 1.10 prove a large overall effect. We obtained large effect sizes for perception as well as for modification. When looking at the effect sizes it becomes clear that the difference between the rational and the irrational stimulus person in respect of modification is always larger than in respect of perception. Hence the distinction between the rational and the irrational stimulus person is primarily based on the ability to modify emotional states. Note that the emotional states as the object of perception and change were either those of the stimulus person or of other individuals (one other person or a team).

Hypothesis 4 suggests that respondents identifying with an irrationally thinking stimulus person are less satisfied with their work life and to a smaller extent with their life in general. Since identification with either the rational or the irrational person correlated highly across the three situation \((r_s \text{ always } > .54)\), we computed two mean values of identification – one with the rationally thinking stimulus person and one with the irrationally thinking one – across all three situations. The two indicators of identification (rational vs. irrational) correlated negatively \((r = -.63, p<.001)\). As assumed, both the variables correlated significantly \((p<.005)\) with work life satisfaction: Identification with the irrational person correlated with \(r = -.28\), whereas identification with the rational person correlated with \(r = .29\). Since the two identification indices were computed from aggregated data obtained in scenarios and the other variable is an individual estimate at the end of the questionnaire, context effects can be disregarded as a possible explanation of these results.

To test the second part of our hypothesis, we correlated both the identification indices with the overall happiness with life in general. We obtained slightly smaller but still significant \((p<.05)\) correlations of \(r = -.24\) (irrational identification) and \(r = .21\) (rational identification).

There was no significant correlation between these two identification indices and the perceived satisfaction with private life. This means that irrational or rational cognitions specific to organizational life are not indicative of individual satisfaction with private life and, hence, provides evidence of irrational beliefs’ domain-specific impact.

**Table 3**

<table>
<thead>
<tr>
<th></th>
<th>Perception</th>
<th>Modification</th>
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<tbody>
<tr>
<td></td>
<td>Rational</td>
<td>Irrational</td>
</tr>
<tr>
<td>Situation 1:</td>
<td>5.90</td>
<td>4.80</td>
</tr>
<tr>
<td>Project work</td>
<td>(t(111) = 2.59, p&lt;.05)</td>
<td>(t(111) = 10.30, p&lt;.001)</td>
</tr>
<tr>
<td>(individual emotions)</td>
<td></td>
<td></td>
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<tr>
<td>Situation 2:</td>
<td>6.83</td>
<td>3.40</td>
</tr>
<tr>
<td>Prototype construction</td>
<td>(t(112) = 10.71, p&lt;.001)</td>
<td>(t(110) = 22.38, p&lt;.001)</td>
</tr>
<tr>
<td>(own emotions)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Situation 3:</td>
<td>7.00</td>
<td>3.33</td>
</tr>
<tr>
<td>Teamwork</td>
<td>(t(111) = 10.44, p&lt;.001)</td>
<td>(t(110) = 13.79, p&lt;.001)</td>
</tr>
<tr>
<td>(group emotions)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td>6.58</td>
<td>3.83</td>
</tr>
<tr>
<td></td>
<td>(t(112) = 10.23, p&lt;.001)</td>
<td>(t(112) = 18.11, p&lt;.001)</td>
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</table>

**Discussion**

We examined the theoretical and predictive value of central REBT assumptions for EI research by using experimental questionnaires. By doing so, we aimed at enriching the theoretical foundations of the emerging field of EI by introducing a theory that, to our knowledge, has never been applied to this topic before.

Based on Albert Ellis’ appraisal theory, we postulated that irrational vs. rational cognitions are central determinants of maladaptive vs. adaptive emotions and of emotionally unintelligent vs. emotionally intelligent behaviour. We have applied these concepts to organizational behaviour, more specifically, to concrete and typical individual and interpersonal situations at the workplace.

The hypothesis that rational cognitions lead to adaptive, whereas irrational cognitions result in maladaptive emotions was strongly supported: In all scenarios adaptive emotions were predominantly assigned to the person thinking rationally, whereas maladaptive emotions were attributed to the person thinking irrationally. These results support the theoretically postulated relationship between cognitions and emotions.

Regarding the perceived functionality of adaptive and maladaptive emotions, all adaptive emotions were perceived to have significantly higher functional value than maladaptive ones, with the exception of fear and anxiety. In accordance with theoretical assumptions, also anxiety as a maladaptive emotion is perceived to be less functional than fear, however this effect is not significant. This finding may indicate that the respondents found it difficult to discriminate between the words ‘fear’ and ‘anxiety’.

Overall (for 3 out of 4 emotion pairs) these results do, however, confirm the theoretical distinction between adaptive and maladaptive emotions as far as their functionality is concerned.

Additionally, we provided the first empirical evidence for the hypothesis that rational cognitions as conceptualised by REBT are associated with emotionally intelligent behaviour: The respondents assumed that the rational stimulus person exhibits higher ability to perceive and to regulate emotional states. This result was again replicated across all situations. According to REBT, emotions caused by irrational beliefs offer a potential explanation for this connection between cognitions and emotionally (un)intelligent behaviour: The quality of maladaptive emotions, such as depression or guilt, reduces an individual’s capability to engage in functional behaviour, including emotionally intelligent behaviour. This potential explanation is consistent with our result that the distinction between the rational and the irrational stimulus person is primarily based on the perceived ability to modify emotional states.

By considering the respondents’ life satisfaction, we extended our findings that had until then been based on stimulus persons: We were able to demonstrate that the respondents’ occupational life satisfaction decreases with increasing identification with the irrational stimulus person. On the other hand, identification with the rational stimulus person correlated significantly with increased occupational life satisfaction. This data provides evidence of a connection between irrational cognitions and life satisfaction. Since there was no significant correlation between these identification measures and private life satisfaction, the data also provide the first evidence that domain-specific irrational thoughts might have a domain-specific impact.

Based on our results, there are three ways to explain this connection between irrationality and reduced life satisfaction:
First, argued from a REBT point of view, irrational beliefs might directly lead to reduced life satisfaction. A second possibility is that irrational beliefs result in maladaptive emotions, which might impact life satisfaction negatively. Finally, emotionally intelligent behaviour as a result of rational beliefs might foster life satisfaction. Future research using standardized measures of satisfaction should clarify this issue by using regression procedures in order to predict life satisfaction from the aforementioned potential predictors (rationality vs. EI).

An important limitation of this study is the measurement of emotions by means of a questionnaire: Emotions were not assessed directly, rather we measured cognitions about emotions. Moreover, the respondents were not involved personally, but were confronted with a story about somebody else being in an emotion-provoking situation. Even though this method has successfully been used in many empirical studies it clearly confines our data. However there are good reasons why our results should be seen as meaningful: First, real life examples of everyday situations were used. Furthermore, as Parrott and Hertel (1999) have pointed out, the limitations of this method of assessment can be reduced by ensuring that participants experience or imagine the emotional state vividly. In order to ensure this, the participants were asked to identify and empathize with the persons in the scenario.

Nevertheless, our results should only be regarded as first indicators of a potential causal connection between rational cognitions and EI. The general findings regarding REBT should be replicated in a non-organizational setting. Additionally, future studies should try to detect the correlation between rationality (as conceptualised by REBT) and EI by using standardized measures of these constructs on a real person level. When applying these measures, it should be possible to decide which one of the present EI conceptualisations corresponds most to rationality. Furthermore, experimental studies that manipulate rationality are needed to explicitly examine the causal link between these cognitions and emotionally intelligent behaviour.

We set out to contribute to the literature by examining whether it can be empirically shown that the variables that cause adaptive emotions also attribute to emotionally intelligent behaviour in an organizational context. By using a theoretical model from clinical psychology, linking it with EI concepts and applying this to an organizational sphere, we were able to show a connection between specific cognitions, resulting emotions and emotionally intelligent behaviour. In our search for an integrative perspective, we hope that our results encourage future research to overcome interdisciplinary boundaries.

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References


