CONSTRUCTION AND VALIDATION OF THE
SELF-CONSCIOUS EMOTIONS AT WORK SCALE

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The present study reports on the construction and validation of a new assessment instrument for self-conscious emotions in the work context, namely the Self-Conscious Emotions at Work Scale (SCEWS). In eight typical self-conscious work scenarios respondents have to indicate their emotional reaction in terms of 20 appraisals, subjective experiences, and action tendencies that are relevant and representative for the domain of self-conscious emotions. In total 512 students and 467 working adults completed the SCEWS and reported the frequency of positive emotions, anger, anxiety and sadness. In both samples a three-factorial structure emerged with a guilt, a shame/humiliation, and an anger in self-conscious situations factor. These three self-conscious emotion factors correlated differentially and in a predicted way with the frequency of emotions. Guilt-proneness was predicted to be psychologically constructive and correlated to the frequency of positive emotions. The proneness to shame/humiliation was expected to relate to internalising psychopathological tendencies, and positively correlated to a frequency of anxiety and sadness. Proneness to anger in self-conscious situations was expected to relate to externalising psychopathological tendencies and correlated with the frequency of anger in general. The present study demonstrates that self-conscious emotions can be validly measured in the work context. The new instrument allows for the systematic study of the role of self-conscious emotions in work and organisational behaviour.

Introduction

The role of emotional phenomena in the work and organisational domain has mainly been studied through the lens of the broad dimensions of positive and negative emotions (Gooty, Gavin, & Ashkanasy, 2009). Although these two broad dimensions certainly capture a fundamental source of variation in the emotion domain, they overlook the very different dynamics that differentiate specific positive and negative emotions which are likely to lead to very different behavioural outcomes. For instance, action tendencies such as aggression, flight, and apathy differentiate respectively the typical negative emotions of anger, fear, and sadness (e.g., Frijda, 1986). A strong plea to go beyond the broad positive-negative distinction and to focus on the role of spe-

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cific emotions in work and organisational phenomena has therefore been voiced (e.g., Brief & Weiss, 2002; Gooty et al., 2009). Building on this movement to study specific emotions in the work and organisational context, the present study focuses on self-conscious emotions.

Self-conscious emotions, of which guilt and shame, and recently also embarrassment and humiliation have received most of the attention, are social emotions that relate to our sense of self and to our consciousness of others' reactions to us (Dunn, 2002). Self-conscious emotions play an important role in the motivation and the regulation of our thoughts, feelings, and actions with respect to both interpersonal and goal-directed behaviour (e.g., Baumeister, Stillwell, & Heatherton, 1994; Eisenberg, 2000; Fischer & Tangney, 1995; Tracy & Robins, 2004). They drive people to work hard in achievement and task domains (Stipek, 1995) and to behave in moral, appropriate ways in their social interactions and relationships (Baumeister et al., 1994; Leith & Baumeister, 1998). As organisations have been defined as "… relatively highly formalized social structures … created by individuals to support the collaborative pursuit of specified goals" (Scott, 2002, p. 10), self-conscious emotions can be expected to play an important role in the work and organisational context. More specifically, they are expected to surface when the collaborative pursuit of specified goals is at stake. Failures to collaborate with colleagues, sub-, and super-ordinates and to meet work goals can be thought of as central triggers of self-conscious emotions (Hareli, Shomrat, & Biger, 2005). The self-conscious emotion processes can be expected to affect how constructively (or destructively) these failures at the workplace are dealt with. By affecting the reactions to failure situations, self-conscious emotions can be expected to have an impact on the effectiveness of individual employees and of an organisation more broadly.

The last two decades witnessed a boom in research on self-conscious emotions in such domains as personality (e.g., Abe, 2004), social (e.g., Gruenewald, Dickerson, & Kemeny, 2007), developmental (e.g., Zeman, Cassano, Perry-Parrish, & Stegall, 2006) and clinical psychology (e.g., Orth, Berking, & Burkhardt, 2006). Yet, this enthusiasm has met with little response in the area of industrial and organisational psychology. Apart from a few studies that investigated these emotions in specific contexts, such as workplace bullying (Lewis, 2004), work-family conflict (Hochwarter, Perrewe, Meurs, & Kacmar, 2007), survivor syndrome in the context of organisational downsizing (Balazs & Kets de Vries, 1997), multinational work teams (Earley & Gibson, 2002), and insulting behaviour (Gabriel, 1998), little is known about their role in the work context. A possible reason for the relative neglect of self-conscious emotion research at work is that the existing self-conscious emotion instruments are inadequate for the investigation of these emotions in the workplace. For example, only one third of the Test-of-

Self-Conscious-Affect (TOSCA) (Tangney, Dearing, Wagner, & Gramzow, 2000; Tangney, Wagner, & Gramzow, 1989), the gold standard in self-conscious emotion research, is directly relevant to the work context. The TOSCA consists of 15 scenarios for which respondents have to rate the likelihood of guilt, shame, externalisation, detachment, and pride reactions. Only five scenarios describe an event from the work context (e.g., making a mistake on a project). These five scenarios insufficiently represent the types of situations in which employees can experience self-conscious emotions at work. Additionally, some TOSCA scenarios, such as breaking a diet, are difficult to use for research on work and organisational behaviour. Thus, for assessing self-conscious emotions at work, the TOSCA suffers both from construct under-representation and construct irrelevant surplus. In order to study the role of self-conscious emotions in the workplace the first and foremost need is a valid assessment instrument. The central goal of the present study therefore, is the construction and validation of an instrument for assessing proneness to self-conscious emotions at work. This new instrument will be called the Self-Conscious Emotions at Work Scale (SCEWS).

Background of the construction of the SCEWS

The SCEWS is rooted in three research lines: (1) Tangney's theorising on guilt and shame, (2) the componential emotion approach, and (3) the inclusion of humiliation and embarrassment along with guilt and shame.

Tangney's theorising on guilt and shame

Based on the clinical work of Harder (1995), Tangney defined proneness to guilt as the inclination to take responsibility for one's actions and the motivation to set right the wrong done, and proneness to shame as the inclination to focus negatively on the global self (see Tangney & Dearing, 2002 for an overview). Both self-conscious emotions are painful for the person and may consequently motivate persons to defend themselves against these emotions (Tangney, 1990; Tracy & Robins, 2004). Tangney identified detachment and externalisation as the two main defence mechanisms. In detachment the relevance of the situation is minimised. In externalisation the person attributes the responsibility for the wrong done to others (Bennett, Sullivan, & Lewis, 2005; Tangney, Wagner, Fletcher, & Gramzow, 1992). Thus according to Tangney and colleagues, proneness to guilt, shame, externalisation, and detachment represent individual differences in the self-conscious emotion domain.

The componential emotion approach

As the goal is to make a valid self-conscious *emotions* instrument, the instrument has to adequately represent the emotional nature of self-conscious emotions. The construction therefore is based on the componential emotion approach (e.g., Mesquita, Frijda, & Scherer, 1997; Scherer, 2005), an emerging consensus framework in emotion psychology. According to this approach, emotions are processes in which the major subsystems (or components) of the human organism synchronise in order to deal optimally with concrete events. The major components are appraisals, bodily experiences, expressive behaviours, subjective experiences (feelings), action tendencies, and regulation (e.g., Fontaine, Scherer, Roesch, & Ellsworth, 2007). Investigating individual differences in self-conscious emotions from the componential emotion theory implies that one identifies systematic individual differences in the components to typical situations that elicit self-conscious emotions. For reasons of feasibility, the SCEWS is limited to those components that are best accessible by survey research (Fontaine, Luyten, De Boeck, Corveleyn, Fernandez, Herrera et al., 2006), namely appraisals, subjective experiences, and action tendencies.

Compared to the TOSCA, an explicit emotion approach to self-conscious emotions guarantees a more balanced operationalization. In the TOSCA guilt is mainly represented by the action tendency component (viz., reparative behaviour) and shame by the appraisal component (viz., negative self-focus) (e.g., Fontaine, Luyten, De Boeck, & Corveleyn, 2001). In the newly developed instrument (the SCEWS) the self-conscious emotions are represented by their appraisals, subjective experiences, and action tendencies. In addition, a componential emotion approach casts new light on detachment and externalisation. Detachment refers to the relevance appraisal of the situation: the situation is appraised as not relevant for the person's goals and needs. Unlike guilt and shame, detachment is not an emotion, but merely an appraisal. Externalisation or blaming someone else for something bad is a typical appraisal for anger (Tangney, 1990; Tangney et al., 1992). Externalisation can therefore be considered an anger reaction in self-conscious emotional episodes. This interpretation is supported by positive correlations between TOSCA externalisation and the frequency of anger emotions in general (e.g., Fontaine et al., 2001). Thus, when an explicit emotion approach is applied to the theorising of Tangney, it becomes clear that she operationalized three emotion processes during self-conscious emotion episodes: guilt, shame, and anger.

Shame, guilt, embarrassment, and humiliation

Recently, the study on self-conscious emotions has gone beyond guilt and shame by incorporating embarrassment and humiliation (e.g., Tracy, Robins, & Tangney, 2007). In a recent study employees were asked to describe one failure situation at home and one failure episode at work and rate their reactions on 44 appraisals, subjective experiences, and action tendencies that were characteristic for guilt, shame, embarrassment, and humiliation (Groenvynck, 2010). Based on this conceptualisation two clearly differentiated self-conscious emotion factors emerged in both contexts. The first factor, a guilt-like factor, was characterised by internally induced responsibility and agency: the person taking up responsibility for what happened, feeling guilt, and wanting to repair the wrong done or to set things right. The second factor, a humiliation-like factor, was characterised by an externally induced negative self-focus: the person feeling humiliated by others, feeling powerless, and wanting to disappear. Most shame and embarrassment reactions loaded highest on the humiliation factor, but some had a cross-loading or loaded even higher on the guilt factor. This study thus revealed that guilt and humiliation were the two most differentiated emotions in the self-conscious emotion domain. Moreover, it revealed that although more closely related to humiliation, shame and embarrassment were situated in-between guilt and humiliation.

Validation goals

The present study focuses on three main sources of validity evidence for the SCEWS, namely (1) the relevance and representativeness of the instrument, (2) the factorial structure of the instrument, and (3) the relationships with key variables from the nomological network. These sources represent the content, the structural, and the external aspects of construct validity (Messick, 1989).

Relevance and representativeness

A necessary but insufficient criterion for justifying the construct validity of an instrument is to demonstrate that its content is relevant and representative for the construct domain. As the new instrument is a scenario instrument, in which participants rate the likelihood of self-conscious emotion reactions to workplace episodes, it has to consist of both relevant and representative scenarios and reactions. Thus, the scenarios have to elicit self-conscious emotions, at least for those who are prone to it. Moreover, the scenarios have to be representative of the situations that elicit self-conscious emotions at work. Also the emotional reactions have to be relevant and representative of self-conscious emotional reactions. To be representative, emotional reactions of

guilt, shame, embarrassment, and humiliation have to be included. Moreover, as Tangney (1995) demonstrated that externalisation, which can be seen as an anger response, is a relevant emotional reaction to self-conscious emotion situations, anger is also included.

Internal structure

Based on Tangney's research, the componential emotion approach, and research on self-conscious emotions (Fontaine et al., 2006; Groenvynck, 2010), we expect three emotional reaction factors to failure situations at work. The first factor is expected to be a guilt factor. Across self-conscious emotions studies (Fontaine et al., 2006; Groenvynck, 2010; Tangney, Burggraf, & Wagner, 1995) a stable guilt factor emerged. The second expected factor is a humiliation factor. In the episode study of Groenvynck (2010), the first to operationalize humiliation and embarrassment together with shame and guilt, two clearly differentiated factors emerged, namely a guilt factor and a humiliation factor. Moreover, in line with the episode study of Groenvynck (2010) it is expected that shame and embarrassment reactions are indicators of both the guilt and humiliation factors (although more closely related to humiliation than to guilt). The third expected factor is an anger factor. Because blame is attributed to someone else, it is a qualitatively different emotional reaction lacking a self-conscious focus.

It is expected that these three factors will be positively correlated, as they all point to the tendency to appraise the self-conscious scenario as relevant for one's goals and as negatively valenced. Moreover, based on the research of Tangney and colleagues (e.g., Tangney & Dearing, 2002) it is expected that shame-proneness is related higher with anger-proneness, than guilt-proneness is. Unlike in guilt, the global self is negatively affected in shame, which makes shame the more painful emotion. Therefore a defensive anger mechanism is elicited much easier in shame than in guilt (Tangney et al., 1992).

External relationships

Two types of external relationships are investigated. First, it is studied how gender, age, and educational level relate to self-conscious emotions. Based on the extensive research of Tangney and colleagues with the TOSCA (e.g., Tangney & Dearing, 2002) the hypothesis is that females will be more prone to both guilt and humiliation. There were neither hypotheses with respect to the gender-anger relationship (the fact that males are on average more aggressive and angry does not necessarily generalise to the very specific context of self-conscious emotions), nor with respect to the relationships with age and educational level (developmental and cognitive impact has been studied and observed in childhood, but not in adulthood).

Second, and more importantly, the relationships with frequency of emotions are investigated. One of the most robust findings of the guilt- and shame-proneness research is that, under control of shame-proneness, guilt-proneness is related to indices of psychological adaptation, while under control of guilt-proneness shame-proneness is related to indices of psychological maladaptation. Studies using the TOSCA showed that shame-proneness (controlled for guilt-proneness) was related to low self-esteem, anxiety, depression, and psychoticism (e.g., Averill, Diefenbach, Stanley, Breckenridge, & Lusby, 2002; Tangney & Dearing, 2002). In contrast, guilt-proneness (controlled for shame-proneness) related to indices of adaptive characteristics, such as interpersonal skills (Covert, Tangney, Maddux, & Heleno, 2003), perspective-taking (Leith & Baumeister, 1999), anger control (Lutwak, Panish, Ferrari, & Razzino, 2001), and empathy (Fontaine et al., 2001).

Rather than looking at indices of psychopathology, which can be expected to have a very skewed distribution in a normal working population, the present study focuses on the relationships of guilt-, shame-, and anger-proneness with the frequency of positive emotions, anxiety, sadness, and anger in general. While showing much more variation in a normal population than indices of psychopathology, low scores on positive emotions or high scores on anxiety, sadness, and anger are indicative of various forms of psychopathology (Jenkins & Oatley, 2000). Previous research relating the frequency of these emotions with the TOSCA scales, clearly revealed differential relationships (Fontaine et al., 2001). As expected, TOSCA guilt (controlled for TOSCA shame) was positively related to the frequency of positive emotions and not or negatively to the frequency of anxiety, sadness, and anger, while the reverse was found for TOSCA shame (controlled for TOSCA guilt). Moreover, TOSCA externalisation related most strongly to the frequency of anger emotions. Based on those results, it is expected that under control of humiliation and anger, guilt is positively related to the reported frequency of positive emotions. Under control of guilt and anger, humiliation is expected to correlate positively with the frequency of anxiety and sadness. Finally, under control of guilt and humiliation, anger in self-conscious situations is expected to be characterised by a positive association with the frequency of anger emotions.

Method

Samples

Two samples were collected. First, a convenience sample consisted of 512 Dutch-speaking Belgian university students, with a mean age of 20.1 years ($SD = 2.4$, ranging from 18 to 43) and 46.6% being female. This sample was used for the exploratory analyses.

Second, a sample of adults consisted of 467 employed adults, with a mean age of 39.0 years ($SD = 11.8$, age ranging from 20 till 63), 50.2% being female, 35.3% obtained a college degree, while 64.7% obtained a high school degree or less. This sample was used for confirmatory factor analyses and further validation.

Procedure

The data were collected by psychology students as part of a broader study on emotional functioning by means of a pencil and paper survey during spring 2007.

Instruments

Self-conscious emotions at work scale (SCEWS)

This new instrument was developed to measure inter-individual differences in negative self-conscious emotions at work. It consisted of 8 scenarios and 24 reactions that occur in the work context and that are representative for the negative self-conscious emotion domain. The scenarios were selected from qualitatively described self-conscious emotion episodes at work (based on Groenvynck, 2010). The eight scenarios referred to episodes that occur regularly at work and that were fairly easy to imagine oneself in. To guarantee the representativeness of the scenarios, they were varied along three dimensions as observed in the situation structure of self-conscious emotions (Estas, 2008): (1) who caused it (me or shared), (2) who is disadvantaged (me or other), and (3) whether the situation was private or public. Using a committee approach, three experts in self-conscious emotions selected a prototypical work situation from the qualitatively described episodes for each of the eight combinations of the three dimensions (see Table 1).

From the 24 reactions, 21 were selected from the research of the second study of Groenvynck (2010) and referred to guilt, shame, embarrassment, and humiliation. Three anger items were added that operationalized externalisation of blame (appraisal), feeling anger (subjective experience), and aggressive action tendencies (see Table 1).

All participants were presented with eight scenarios. For each scenario participants were asked to score all 24 reactions by imagining themselves in each scenario. They were asked to indicate the likelihood of each of the 24 reactions on an eight-point scale: 0 = certainly not, 1 = very unlikely, 2 = unlikely, 3 = rather unlikely, 4 = rather likely, 5 = likely, 6 = very likely, and 7 = certainly.

Table 1
The scenarios and reactions of the self-conscious emotions at work scale

Scenarios	Reactions	
1. It is ten o clock at night and your boss allowed you to work from home today in order to complete some important administrative paperwork. This task must be completed by tomorrow morning. However, despite knowing this, you spent the whole day concentrating on household tasks and chores. As a result, you have to work very late into the night. You don't know if you will get any sleep. (me – me – private)	I would think	1. : it is the fault of someone else / others. 2. : it is my fault. 3. : it is caused by me. I could have behaved differently and then it would not have happened. 4. : what has happened has negative consequences for me. 5. : what has happened has negative consequences for someone else / others.
2. A bill arrives at your department and you are supposed to pay the bill. A month later, the director comes in during the coffee break holding an overdue notice that includes a fine. He asks who was supposed to pay this bill. You realise you have forgotten to pay the bill on time. As usual in your company, you have to pay the extra fine with your own money. (me – me – public)		6. : others are looking at me, I'm in the centre of attention. 7. : others will exclude me because of what happened. 8. : this is bad for my reputation. 9. : I am a weak and incompetent person.3
3. While preparing a dossier you make a large calculation error. Your colleague makes an important decision based on your preparations and the decision turns out to be wrong and harmful to the company. Because of this, your colleague gets in trouble. Later you notice that the faulty decision has been made because of your calculation error. (me – other – private)	I would feel	10. : angry at others. 11. : guilt. 12. : angry at myself. 13. : powerless. 14. : compassion.
4. Today you're feeling irritable. In the presence of others, you lash out at your colleague over a small matter. The colleague feels very hurt by this. (me – other – public)		
5. You led a team on a group project for an important client. You were hoping for a promotion upon submission of a good final project. However, you and your team didn't deliver a good result. You do not hear anything more about the promotion you were hoping for. (shared – me – private)	I would feel	15. : embarrassed. 16. : humiliated. 17. : shame. 18. : regret.

Table 1

The scenarios and reactions of the self-conscious emotions at work scale (Continued)

Scenarios		Reactions	
6.	You give a presentation about the new security rules to your team. As the person responsible for security aspects in your team, you have prepared this presentation together with colleagues who are also responsible for security issues. During the presentation, you receive a lot of criticisms because it seems you are not providing them with the correct information. (shared – me – private)	19.	I would want to	shout, curse or break things.
		20.		reproach myself, think that I deserve a sanction.
		21.		try to improve myself because of the situation.
		22.		try to restore the damage or do something else to make things right.
		23.		get out of the situation, disappear.
		24.		control the situation.
7.	A friend at work is unable to get along with another colleague. Your friend makes his/her work environment difficult or uncomfortable in ways that others don't notice. You know what is going on but you don't intervene. One morning you arrive at work and hear that the colleague is on sick leave due to depressive complaints. (shared – other – private)			
8.	You and your colleagues are gossiping about and laughing at another colleague. At the end of the conversation you notice that other co-workers have overheard everything you said, including the person you were making fun of. (shared – other – public)			

Note. In the first column the terms between brackets refer to the relative position of the scenario on the dimensions Cause, Consequences, and Audience.

Leuven emotion scale (LES)

This scale measures the frequency with which one experiences both positive and negative emotions by means of 93 emotion terms clustering in 21 sub-scales (Beirens & Fontaine, 2011). Subjects were instructed to indicate how often they experienced each emotion on an eight-point scale ranging from 0 (never) to 7 (constantly). Three factors were observed when applying factor analysis on the 21 subscales: a positive emotion, an anxiety/sadness, and an anger factor (Beirens & Fontaine, 2011). In the present study, the factor scores on these three factors were used after Oblimin Principal Axis Factoring[1].

Data analysis

Given the complex nature of the SCEWS data (each person rated 24 reactions in eight scenarios), the structure of proneness to self-conscious emotions was first analysed exploratory in the student sample by means of multidimensional scaling (MDS) using the PROSCAL procedure in SPSS. MDS is an analysis method to investigate the internal structure. It represents dissimilarities between psychological stimuli as points in a geometrical space in such a way that the distances between the points represent the dissimilarities between the stimuli as well as possible (Borg & Groenen, 2005). The individual proneness structure of the 24 reactions was investigated for each scenario separately by means of a metrical MDS. The Euclidean distances between the standardised 24 reactions were used as dissimilarities.

In order to investigate the congruence between the eight scenario-specific configurations, a Generalized Procrustes Analysis (GPA) was applied (Borg & Groenen, 2005; Commandeur, 1991). GPA applies rotation, reflection, translation, and dilatation transformations on the coordinate systems of different units in such a way that they match as much as possible without affecting the relative distances of each geometrical representation. The GPA program (Commandeur, 1991) provides an average or centroid configuration, and congruence measures at configuration and item level. The congruence measures are computed as the proportion of the squared distances accounted

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1. Oblimin Principal Axis Factoring of the 21 LES subscales resulted in 3 factors (eigenvalues 5.76, 3.07 and 4.83) explaining 50.77% of the total variance. The scales depression, sadness, shame, loneliness, anxiety, and nervousness loaded high on the first factor. Therefore, the first factor is labelled anxiety/sadness. The second factor has high loadings of happiness, enthusiasm, love, passion, and peacefulness and can be labelled as positive emotions. The third factor has high loadings of hate, disgust, jealousy, anger, and irritation and is labelled as the anger factor. The anxiety/sadness factor is strongly correlated with the anger factor ($r = .51$), while the positive emotions factor is rather unrelated to both the anxiety/sadness factor ($r = -.12$) and the anger factor ($r = .09$).

for in each unit and for each item. Based on these congruence measures it was investigated whether the internal structure was similar across the eight episodes and if so, whether the meaning of individual reactions remained stable across the episodes.

Starting from the MDS results, a confirmatory factor analysis model was tested on the adult sample. The χ^2 statistic, the root mean square error of approximation (*RMSEA*; Steiger, 1990), the standardised root mean square residual (*SRMR*), the comparative fit index (*CFI*), and the Tucker-Lewis index (*TLI*) were selected as measures of model fit. Kline (2005) suggests that a value for the *RMSEA* of .05 or lower indicates a good fit, a value of .08 or lower indicates reasonable fit, while values above .08 represent a poor fit. *SRMR* values of about .10 and lower are accepted as indicative of a good model fit. *TLI* and *CFI* values above .90 are generally recommended as acceptable (Kline, 2005).

To study the relationship of proneness to self-conscious emotions with gender, age, educational level and emotional functioning, bivariate Pearson correlations of the SCEWS subscales with the three LES factors were computed in the adult sample. Additionally, since the SCEWS subscales were positively correlated, the characteristic relationships of each subscale of the SCEWS with the LES factors were investigated by means of partial correlations controlling for the two other SCEWS subscales. This method is often used in self-conscious emotion research (e.g., Averill et al., 2002; Fee & Tangney, 2000; Tangney, 1996; Tangney et al., 1995).

Results

Internal structure

Exploratory factor analyses

A two-dimensional configuration represented the dissimilarities between the 24 reactions for each scenario, with the normalised raw stress ranging from .09 to .10 and the proportion of variance accounted for (DAF) ranging from .89 till .91. The central configuration generated by GPA accounted for 77.97% of the squared distances across the eight scenario specific configurations, attesting to the stability of the individual difference structure across the 24 reactions.

As expected, three regions of reactions could be identified in the two-dimensional representation (see Figure 1). First, a guilt region consisted of appraisals of responsibility, feelings of guilt, and reparative action tendencies. Second, a shame/humiliation region clustered negative reactions of others, feelings of humiliation, and a tendency to disappear. Third, an anger region consisted of items as blaming others, feeling anger, and aggressive

action tendencies. In contrast to the episode research of Groenvynck (2010), shame and embarrassment reactions emerged exclusively in the humiliation region.
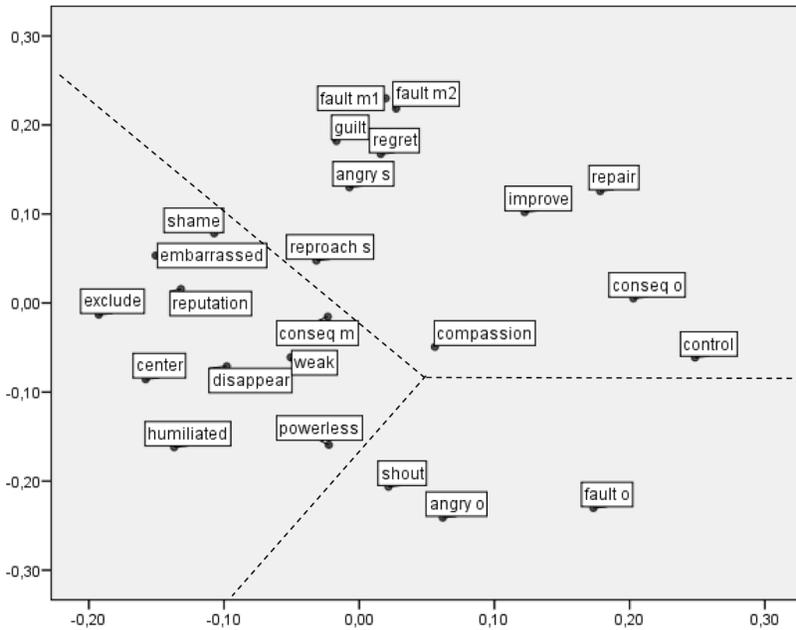
Figure 1
Two-dimensional centroid MDS configuration of 24 self-conscious reactions across eight scenarios in the student sample

Note. (angry o): I would feel : angry at others, (angry s): angry at myself, (centre): others are looking at me, I'm in the centre of attention, (compassion): compassion, (conseq m): what has happened has negative consequences for me, (conseq o): what has happened has negative consequences for someone else / others, (control): control the situation, (disappear):get out of the situation, disappear, (embarrassed): embarrassed, (exclude): others will exclude me because of what happened, (fault m1): it is my fault, (fault m2): it is caused by me. I could have behaved differently and then it would not have happened, (fault o): it is the fault of someone else / others, (guilt): guilt, (humiliated): humiliated, (improve): try to improve myself because of the situation, (powerless): powerless, (regret): regret, (repair): try to restore the damage or do something else to make things right, (reproach s): reproach myself, think that I deserve a sanction, (reputation): this is bad for my reputation, (shame): shame, (shout): I would want to: shout, curse or break things, (weak): I am a weak and incompetent person.

While the overall structure was stable and easy to interpret, the item congruence measures revealed that four items considerably shifted in position across the eight scenarios: (i4) what has happened has negative consequences for me, (i9) I am a weak and incompetent person, (i14) compassion, (i20) reproach myself, think that I deserve a sanction. As for these items less than

50% of the proportion of squared distances was accounted for, they were omitted from further analysis. These items are situated in the middle of the centroid configuration and differentiated least between the groups of reactions (see Figure 1). After omitting these reactions, MDS and GPA procedures were redone. Using MDS, a two-dimensional model provided good fit for the data, with the normalised raw stress ranging from .08 till .10 and the proportion of variance accounted for (DAF) ranging from .92 till .90. GPA accounted for a total fit of 86.36% of the squared distances across the 8 scenarios.

Confirmatory factor analyses

Based on the exploratory results a confirmatory factor model was tested in the adult sample. Three indicators for each scenario were constructed: one for guilt, one for shame/humiliation, and one for anger. These indicators were computed as the average score of the stable nine guilt items, eight shame items, and three anger items. Each scenario was considered as a replication. Thus, according to the CFA model, there were eight indicators for guilt, eight for shame/humiliation, and eight for anger. As it was expected that these factors are positively correlated, the intercorrelations between the factors were therefore not restricted. To represent the statistical dependence between the indicators generated from each scenario, error covariances were *a priori* allowed between the three indicators of the same scenario. Because of non-normal distribution of some of the indicators (for 23 out of 52 indicators the one-sample Kolmogorov-Smirnov test was significant at a .01 level, with the distribution of these indicators being mostly negatively skewed) the Satorra-Bentler correction (Satorra & Bentler, 1994) was used by applying the MLM estimation method in Mplus 3.0. Applying the CFA-model (see Figure 2) on the adult data resulted in an acceptable to good fit[2]: $\chi^2(225) = 535.07$, *RMSEA* = .05, *SRMR* = .06, *CFI* = .94, *TLI* = .93. All correlations between the factors were positive and significant. The highest correlation was between the guilt and shame/humiliation factor ($r = .68$). As predicted shame/humiliation correlated higher with anger than guilt did ($r = .52$ compared to $r = .14$).

Internal consistency

Three SCEWS-scales were developed by averaging all guilt, shame/humiliation and anger items respectively across the eight scenarios. The internal

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2.   The three-factorial model of guilt, shame/humiliation and anger was compared with a one-factorial model assuming only one negative self-conscious emotions factor (while allowing error covariances within scenarios). The one-factorial model clearly did not fit the data. None of the fit measures reached an acceptable level: $\chi^2(228) = 2145.600$, RMSEA = .13, SRMR = .13, CFI = .66, and TLI = .58.
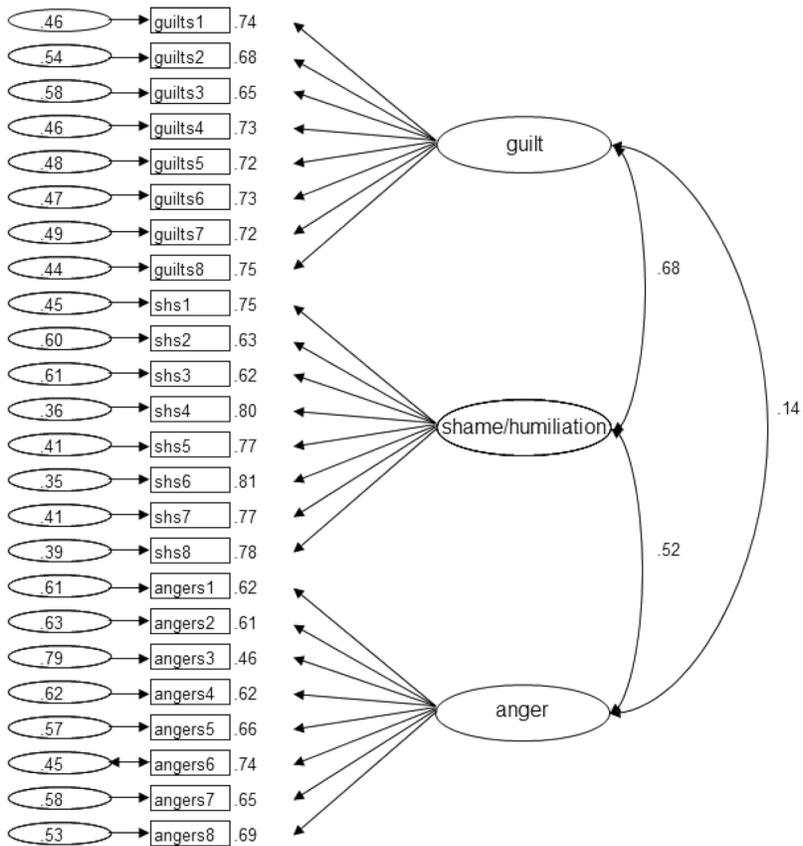
Figure 2
CFA-model of guilt, shame/humiliation, and externalisation

consistencies (Cronbach's α) were high for all three scales. In the student sample they were .95 for guilt, .96 for shame/humiliation, and .86 for anger. In the adult sample they were .94 for guilt, .96 for shame/humiliation, and .86 for anger.

External relationships

Relationships with gender, age, and educational level

None of the self-conscious emotion scales were significantly related to gender ($r = .06$, $p > .05$ for guilt, $r = -.01$, $p > .05$ for shame/humiliation, and $r =$

-.05, $p > .05$ for anger). There was only a significant negative relationship between anger and age ($r = .02$, $p > .05$ for guilt, $r = .02$, $p > .05$ for shame/humiliation and $r = -.18$, $p < .001$ for anger) indicating that older participants reported lower amounts of anger across the scenarios. There was also a significant positive relationship between guilt and education level ($r = .11$, $p < .05$ for guilt, $r = .06$, $p > .05$ for shame/humiliation and $r = .03$, $p > .05$ for anger) indicating that participants with a college degree reported higher amounts of guilt across the scenarios.

Relationships with emotion frequencies

When looking at the bivariate correlations of guilt with the LES scores (see Table 2), guilt was positively related with positive emotions ($r = .18$, $p < .01$) and anxiety/sadness ($r = .18$, $p < .01$), but not related with anger. When controlling for shame and anger, guilt remained positively correlated with positive emotions ($r = .19$, $p < .01$), while the significant relationship with anxiety/sadness disappeared.

Table 2

LES scales	Bivariate Correlations			Partial Correlations		
	Guilt	Shame / Humiliation	Anger	Guilt	Shame / Humiliation	Anger
Positive Emotions	.18**	.02	-.07	.19**	-.08	-.03
Anxiety / Sadness	.18**	.32**	.23**	.00	.19**	.07
Anger	.04	.17**	.31**	.01	.00	.26**

Note. *$p < .05$ **$p < .01$

The bivariate correlations of shame with the LES-factor scores were not significant for positive emotions, but significant and positive for both anxiety/sadness ($r = .32$, $p < .01$) and anger ($r = .17$, $p < .01$). When controlling for guilt and anger, only the relationship of shame/humiliation with anxiety/sadness remained significant: $r = .19$, $p < .01$.

While positive bivariate correlations were observed between anger in self-conscious scenarios and anxiety/sadness ($r = .23$, $p < .01$) and anger ($r = .31$, $p < .01$), no significant correlations emerged with positive emotions. When controlling for guilt and shame, the correlation of anger in self-conscious scenarios with anxiety/sadness disappeared, while the correlation with anger remained significant: $r = .26$, $p < .01$.

Discussion

The present study focused on the construction and validation of the Self-Conscious Emotions at Work Scale. Three validation goals were put forward, namely (1) guaranteeing the relevance and representativeness of the instrument, (2) assessing the factorial structure of the instrument, and (3) assessing the relationships with a few key variables from the nomological network.

Relevance and representativeness

The utmost care was taken to guarantee the relevance and the representativeness of both the scenarios and the emotional reactions of the SCEWS. The representativeness of the scenarios was guaranteed by the combinations of three major appraisal dimensions in the self-conscious emotion domain, namely who caused it, who is disadvantaged, and is there an audience present (Estas, 2008). The relevance was assured by constructing the scenarios on the basis of episodes that were described by working participants in previous research on self-conscious emotions at work (Groenvynck, 2010). Also the reactions were carefully selected to be representative for the domain of self-conscious emotions. Recent insights in emotions in general and more specific in self-conscious emotions were implemented in the selection of the SCEWS reactions. Using the componential emotion approach, self-conscious emotions were operationalized as a balanced set of appraisals, subjective experiences, and action tendencies. As situations that elicit self-conscious emotions very often also elicit anger reactions (Tangney, 1990), anger was also included. Thus, from a judgmental perspective it can be stated that the SCEWS represents the domain of emotional reactions to self-conscious situations at work.

Internal structure

The three predicted proneness factors of guilt, humiliation, and anger could be robustly identified across the eight scenarios both in the student and in the adult sample. However, unlike the expectation based on the scenario study of Groenvynck (2010) the shame and embarrassment reactions were not related to both humiliation and guilt, but emerged exclusively within the humiliation cluster. People who are more prone to humiliation seem also more prone to shame and embarrassment. Thus, the structure of self-conscious emotions at work as studied by means of scenarios is somewhat different than the structure of self-conscious emotions at work as studied by means of episodes. A possible explanation could be that the episode study was focused on specific episodes experienced by employees, while the current study focused on indi-

vidual differences within the same set of scenarios. In the episode study participants were asked to describe and rate a failure situation with respect to self-conscious reactions. In such a design, however, it was not possible to disentangle the possible impact of personality (e.g., guilt-proneness) from the impact of the specific situation. In the present instrument only systematic inter-individual differences were studied by averaging the emotional reactions across the eight scenarios, thereby eliminating all situational variance. The present results seem to indicate that while shame and embarrassment reactions are also likely to emerge in guilt episodes, the tendency to experience shame and embarrassment across episodes is clearly much more related to humiliation-proneness than to guilt-proneness. Theoretical and empirical arguments for this line of reasoning can be found in Fontaine et al. (2006) who found a different structure of self-conscious emotions when looking at person and situation variation respectively.

As expected, the three factors were positively correlated, which can be explained by the fact that they all point to the personal relevance of the self-conscious emotion scenarios and to the negative affect that is elicited by them. Moreover, it was also observed that humiliation/shame proneness was much more related to anger proneness than guilt proneness was. This is in line with the expectation of Tangney et al. (1992) that people who are more prone to experience a negative self-evaluation are also more prone to a defensive externalisation of the blame. By externalising the blame and the anger it elicits, the self is protected.

External relationships

The expected gender differences between men and women were not observed. Women were not more prone to guilt or to shame/humiliation. The absence of this effect cannot be accounted for by methodological factors. The scales were reliable and the samples of males and females balanced and sufficiently large. A possible explanation lies in the context-specificity of the scenarios. They all referred to failure situations at work, and the gender effect was only investigated in a working population. It is likely that these situations were perceived as relevant for both men and women. Other instruments that are used to assess guilt- and shame-proneness in general possibly contain scenarios that are more relevant for females than for males. As already indicated, one scenario in the TOSCA is about breaking a diet, which is clearly more relevant for females than for males. This leads to the more general hypothesis that the gender differences reported in the literature are not due to differences in the general proneness to self-conscious emotions, but to differential sensitivity to specific antecedent situations. There were no particular hypotheses for the age and the education effect. Age was only found to be negatively

related to anger in self-conscious situations. This observation is reminiscent of the observation that aggressive behaviour is peaking in early adulthood (especially in males) and decreases as people grow older. The positive relationship between educational level and guilt-proneness, could possibly be accounted for by a higher internal locus of control of higher-educated people. The higher educated people are, the more competencies they have acquired to do well in society, and the more they feel they have control over and are responsible for their lives.

Traditionally, when studying the relationship between guilt- and shame-proneness and indicators of psychological (dys)functioning, partial correlations are calculated in which the relationship between guilt and the other variables are controlled for shame and vice versa (see e.g., Averill et al., 2002; Fee & Tangney, 2000; Tangney, 1991; Tangney et al., 1995). This methodology was followed and extended to anger-proneness in the present research. As three emotion factors could be identified that were mutually positively correlated, the uniqueness of each factor can only emerge by controlling for the two other factors. Individual differences in failure situations in the work context relate systematically to emotional functioning in general. Proneness to guilt can be considered psychologically adaptive, as it is characterised by a positive relationship with positive emotions. Both proneness to shame/humiliation and anger in failure situations in the work context are maladaptive. However, they differ in the type of maladaptation they relate to. Because anxiety and sadness are typical emotional reactions for internalising psychopathology and anger for externalising psychopathology (Eisenberg, Cumberland, Spinrad, Fabes, Shepard, Reiser et al., 2001), proneness to shame/humiliation relates to internalising and anger to externalising forms of dysfunctioning. These results confirm the sometimes counterintuitive hypotheses based on previous work with the TOSCA (Fontaine et al., 2006; Tangney & Dearing, 2002) and the LEGSS (Estas, Dillen, Corveleyn, Poortinga, & Fontaine, 2009). While guilt-proneness is adaptive, shame-proneness is not, even when it is investigated in typical work-related contexts.

Limitations

A first limitation of the present study is that no test-retest reliability has been investigated. As the proneness to guilt, shame/humiliation, and anger are expected to reflect stable personality characteristics, high test-retest correlations are to be expected.

Another limitation is that no congruent validity has been investigated. The SCEWS should be related to other measures of guilt and shame proneness, or to other assessment procedures (like other-report). It would be especially interesting in the future to investigate the relationships with the TOSCA. It

can be predicted that the SCEWS guilt is most strongly related with TOSCA-guilt, that SCEWS shame/humiliation is most strongly related to TOSCA-shame and that SCEWS anger is most strongly related to TOSCA externalisation.

A final limitation is that only one key aspect of the nomological network has been investigated, namely the relationship with the frequency of emotions. It would be interesting in the future to extend the investigation of the nomological network, for instance by looking at the relationships with general personality measures, with psychopathology measures, and with measures of empathy which is mainly expected to relate to guilt-proneness.

Conclusions

The present study is embedded in the shift of focus from general positive and negative emotions to specific emotions in the domain of work and organisational behaviour (e.g., Brief & Weiss, 2002; Gooty et al., 2009). The rationale is that specific emotions are characterised by particular processes that lead to specific behavioural outcomes which cannot be predicted on the basis of the general distinction between positive and negative emotions. In the present study it was demonstrated that this even holds for the family of very closely related self-conscious emotions. Also in the work and organisational context, proneness to guilt and proneness to shame/humiliation are characterised by very different behavioural tendencies. While restorative tendencies and self-improvement are characteristics for guilt, tendencies to disappear or to become angry are characteristic for shame/humiliation. Thus, depending on which self-conscious emotion becomes the most salient in a failure situation at work, very different behavioural reactions can be expected which cannot be predicted by only looking at general negative emotions.

The most important contribution of the present study is that a valid assessment instrument has been constructed which makes it possible in the future to study the differential role of self-conscious emotions in work and organisational behaviour. Based on the present study, it can be expected that especially guilt-proneness contributes positively to important work and organisational constructs, such as organisational citizenship behaviour (because of its tendency to empathise with others), integrity (because of its tendency to take responsibility and act according to social and moral norms), and affective and normative commitment (because of its focus on social relationships and the obligations that go with it).

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