Development and Validation of Two Measures of Contingent Self-Esteem

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ABSTRACT - Defining contingent self-esteem (SE) as a structure arising from low basic SE and different self-validation needs, Competence based SE and Relation based SE scales were developed and validated in two independent samples ($N = 215$, $N = 116$). Confirmatory factor analyses conducted on 27 items of 62 original contingent SE items verified competence and relationships as distinct means of self-validation in both samples. Further confirmatory analyses revealed two dimensions of Competence based SE: i) SE conditional upon competence and ii) frustrated self-critical strivings, and three dimensions of Relation based SE: i) SE conditional upon love, ii) fear of rejection, and iii) compliance. The Competence based SE scale correlated positively with perfectionism and "toxic" achieving, and the Relation based SE scale with affiliation and dependency needs. Further validity is provided by the constructs' relation to the basic and earning SE model and by semantic differential tests of meanings attached to the words "work" and "relationships". The scales provide internally consistent and valid measures of contingent SE useful for researchers and applied professionals.

Contingent self-esteem refers to different external bases or sources of a person's perceived self-worth (Crocker & Wolfe, 2001; Ryan & Deci, 2000). There is broad agreement that deriving self-esteem from emotional support, other's approval or competence is an unreliable and vulnerable basis for self-esteem (Crocker, 2002;

Johnson & Forsman, 1995; Paradise & Kernis, 2002). Yet, the extent to which the current concepts and scales measuring external sources of self-esteem (e.g. Crocker, Luhtanen, Cooper, & Bouvrette, 2003) refer to a vulnerable predisposition remains somewhat unclear. Accordingly the present paper reports on the development and validation of two measures of contingent self-esteem, where the core of contingency lies in the presence of a low level of basic (non-contingent) self-esteem (Forsman & Johnson, 1996; Deci & Ryan, 1995; Rogers, 1951). The scales separate clearly between two main motivational orientations when seeking reassurance referring to competence and emotional relations (McClelland, 1989; Sheldon, Elliot, Kim, & Kasser, 2001) respectively. This approach presumes that the different self-validation needs create different kinds of cognitive-motivational structures in an individual, which are triggered by corresponding life events, fears, and threats (Harlow & Cantor, 1994). More precisely, instead of capturing different sources of self-esteem the new scales are created to capture the attitudes and behaviors which arise from these self-structures.

The Implications of Contingency

The literature on contingent self-esteem (Crocker, 2002; Leary et al., 2003; Park, Crocker, & Mickelson, 2004) reflects the view that a person's self-worth depends on perceived successes or failures in the domain on which the person's self-esteem is staked. However, this view is somewhat confusing, as it suggests that all people have contingent self esteem in one or several domains while at the same time linking this vulnerable predisposition to both adaptive and maladaptive self-development. For instance Park et al. (2003) mention secure attachment style, traditionally considered an adaptive trait generating high self-esteem (Bowlby, 1980), as a basis to derive self-esteem from family support. Clearly, as demonstrated by Johnson and Forsman (1995), a person with an already high basic sense of self-esteem can very well derive additional self-esteem by successful acts or others' approval, but it is contra-intuitive that this person's self-esteem would be staked on these sources? We argue that only self-esteem which is *defined* by external determinants such as others' love or own perfection and predisposes an individual for vulnerability for self-related threats is really contingent (see also Deci & Ryan, 1995; Mikulincer, Gillath, & Shaver, 2002). The unclear distinction between sources and contingencies appears to be an offshoot of the prevailing premise that high self-esteem equals positive self-view (derived from some external qualities) while low self-esteem is a consequence of deficiencies and uncertainty of competencies (Baumeister, 1993; Blaine & Crocker, 1993; Park et al., 2004). Focusing evaluative schemas within self-concept this cognitive approach neglects the part of one's self-

regard, which is beyond cognitive control, namely the early acquired affective-experiential perception of one self (Forsman & Johnson, 1996; Rogers, 1951).

Johnson and Forsman (1995) addressed this issue by developing a dynamic model of self-esteem, which is important for understanding the core of contingent self-esteem. The authors differentiate between two independent aspects of self-esteem (Forsman & Johnson, 1996). The aspect of 'non-contingent' basic self-esteem acquired in infancy by parent's unconditional love and secure attachment (Bowlby, 1980; Forsman & Johnson, 1996; Rogers, 1951) has been demonstrated to be stable and unaffected by external feedback and events (Johnson, 1998; Johnson & Forsman, 1995). The disposition to 'earn' self-regard by competence is acquired later in development (Forsman & Johnson, 1996; Franks & Marolla, 1976; Harter, 1985). Crucially, experimental studies (Johnson & Forsman, 1995; Johnson & Patching, 2006) have shown that earning self-esteem by competence and others' approval is maladaptive only when combined with a low basic sense of self-esteem. Other studies have linked this kind of self-structure with self-criticism, hostility, "toxic" achievement strivings, perfectionism, and somatic symptoms (Johnson, 2002; Johnson, 2006; Johnson, Paananen, Rahinantti, & Hannonen, 1997; Koivula, Hassmén, & Fallby, 2002). By way of contrast, people with low basic self-esteem without a need to earn self-esteem by competence appear renouncing, dependent and passive with high needs of emotional reassurance (Johnson & Forsman, 1995; Johnson, 2002; Johnson, 2006).

As defined, the interactive patterning of self-esteem suggests that the role and consequences of competitive or affiliative needs depend on the level of basic self-acceptance; people with high basic self-esteem (secure attachment) can still enhance self-esteem by different sources but self-esteem is contingent upon these sources only in individuals whose basic self-esteem is low. The scales developed here to capture two types of contingent self-esteem are theoretically based on the notion of deficient basic self-love, which urges the person to incessant pursuits of others' approval either in competence or relational domains.

Why Competence and Relationships?

Recent theoretical formulations differentiate between affective and competence related sources of self-esteem (Forsman & Johnson, 1996; Harter, 1985; Tafarodi & Swann, 1995). Yet, different kinds of vulnerability have been suggested to develop depending on whether one's self-esteem is predominantly based on living up to high standards of competence or on love and support in close relations (Beck, 1983; Blatt, 1974; Chodoff, 1972). For example Blatt (1974) has linked two distinctive self-related personality patterns to the concepts of self-criticism and dependency, which

predispose people to different types of depression. In support of this view, recent empirical findings link these patterns with insecure attachment styles (Bartholomew & Horowitz, 1991; Park et al., 2004).

Other researchers have explored links between personality and different types of disease (Eysenck, 1985; Greenberg & Bornstein, 1988; Sanderman & Ranchor, 1997). In this respect, early research made a distinction between dependence-conformity syndrome (e.g. Baltrush, Stangel, & Walz, 1988) and achievement-hostility syndrome (e.g. Matthews, 1988). For example, the development of concepts of Type-A, referring to a competitive and hostile disposition and of Type-C, referring to a helpless and dependent personality has inspired researchers to link these predispositions to cardiac disease and cancer, respectively (see e.g. Sanderman et al., 1997 for a review). Notably, Price (1982) proposed that the core of Type-A behavior lies in the individual's concern of self-worth. Further, Blatt, Cornell and Eshkol (1993) have suggested that a personality style, which implies a sense of self-worth based on concerns of control, achievements, and failure is likely to predispose for cardiovascular disease whereas a style, which implies repression of emotions and relational dependency may incline to neoplastic disease.

Building on this distinction between the main motivational domains of competence (achievement) and relationships (affiliation) we created two scales; one referring to self-esteem defined by one's ability and the other capturing self-esteem defined by being loved and secure in emotional relations. These concepts are tentatively named Competence based self-esteem and Relation based self-esteem.

Competence Based Self-Esteem

Earlier research conducted on basic and earning self-esteem (Forsman & Johnson 1996; Johnson & Forsman, 1995; Johnson & Patching, 2006; Johnson, 1998; Johnson, 2002; Koivula et al., 2002) and on contingent self-esteem (Crocker & Wolfe, 2001; Paradise & Kernis, 2002) has provided knowledge of the conceptual content and psychological functioning of competence based self-esteem. The phenomenon can be defined as a cognitive-motivational structure, which predisposes the individual to chronic strivings to satisfy competence related self-validation needs. The developmental basis of this self-structure lies in the child's experience of being loved and valued by significant others contingently (Deci & Ryan, 1995; Rogers, 1951). This concept refers to a self-attitude, which characterizes people who have the conviction that successful accomplishments, status, and perfection define their self-worth. This makes these people self-critical and over ambitious, somewhat controlling and aggressive (Johnson & Forsman, 1995; Johnson, 2002). They experience frustration or irritation after failures and have difficulties setting limits for

themselves and so often over work (Di Paula & Campbell, 2002; Siegrist et al., 2004). People with this kind of conditional self-esteem face the paradox that they want to be successful and appreciated for their achievements or status while at the same time feeling non-capable (Brown & Bosson, 2001). This is a particularly vulnerable position as one's self-esteem rises and falls with attaining or failing to attain the pursued standards. In the research conducted on exhaustive stress syndromes this kind of self-attitude has been found to be critical (Hallsten, Josephson, & Torgén, 2005; Johnson et al., 1997).

On these grounds, we considered it important to develop a scale which captures the broader theoretical content of the phenomenon competence based self-esteem. The items in the scale mirror the importance of being in control of others, avoiding failure, having a self-critical attitude, inner demands to be perfect, and demands to perform better than others in order to validate the self.

Relation Based Self-Esteem

The research conducted on basic and earning self-esteem (Johnson & Forsman, 1995; Johnson, 2006), dependency (Blatt & Zuroff, 1992; Brennan & Bosson, 1998; Gudjonsson & Sigurdsson, 2003; Pincus & Wilson, 2001), anxious attachment style (Bowlby, 1980), reassurance-seeking (Joiner & Metalsky, 1995), and need to belong (Baumeister & Leary, 1995) provide valuable theoretical and empirical clues of the nature and conceptual content of relation based self-esteem. The phenomenon can be defined as a cognitive-affective predisposition in an individual to pursue incessantly reassurances of attachment in order to feel worthwhile.

It is clear, that not all people with a low basic sense of self-esteem seek self-validation by successful accomplishments. An emotional neglect or rejection by parents in early childhood, which has not 'inspired' to narcissistic pursuits through their conditional regard (Deci & Ryan, 1995), is nevertheless a strong motivational force. People with these kinds of experiences are motivated to seek emotional reassurance in close relationships to "stay afloat" psychologically (Blatt & Zuroff, 1992; Bowlby, 1980). Subsequently, relation based self-esteem refers to a self-attitude, which characterizes people with a low basic sense of self-esteem who are predisposed to seek emotional security and strong signs of attachment from others to feel valued (Chodoff, 1972; Johnson, 2006; Murray, Griffin, Rose, & Bellavia, 2003). This excessive love seeking makes the person vigilant to read signs of disapproval and rejection into their significant others' behavior (Murray et al., 2003). They are restrictive in showing negative feelings and eager to conform as they experience conflicts as threatening (Gudjonsson & Sigurdsson, 2003). Pincus and

Wilson (2001) define this kind of attitude as 'exploitable' dependency as it reflects a need to obtain acceptance from others by neglecting one's own needs.

Relation based contingent self-esteem is very different from competence based self-esteem. While self-worth based on competence is ego-oriented dealing with self-definition and prestige, relation based self-worth concerns interpersonal relatedness and self-protection (Blatt & Zuroff, 1992; Gudjonsson & Sigurdsson, 2003). Therefore, by being more passive, inhibited, and renouncing, people with relation based self-esteem are motivated to different interpersonal pursuits which subject them to different kind of vulnerability (Zeigler-Hill, 2006). Notably, in the research connecting personality to the progression of some types of cancer these kinds of self-attitudes have been of interest (Kneier & Temoshok, 1984).

On these grounds, we considered it important to develop a scale which captures the theoretical content of the phenomenon termed relation based self-esteem. The items in this scale mirror a need to be loved and approved, a fear of rejection, conflict avoidance, and a tendency to suppress one's own needs and emotions in order to feel worthwhile. This kind of conditional self-esteem creates a dilemma of pursuing love and affection while at the same time believing one is unlovable (Brown & Bosson, 2001; Joiner & Metalsky, 1995).

Naturally, people can in their pursuits of self-validation rely on both competence and emotional support but most often they have a prevalent inclination toward one type of reinforcement (Blatt & Zuroff, 1992; Chodoff, 1972; Crocker, 2002; Sheldon et al., 1995). As such the two concepts of contingent self-esteem developed in this study are considered relatively independent of each other in a similar manner as the concepts of self-criticism and dependency (Blatt, 1974), or achievement and affiliation needs (McClelland, 1989). However, as both constructs are assumed to imply a low basic sense of self-esteem some overlapping variance is expected.

Aim

The aim of the present work was to develop and validate two new self-report measures which assess distinctively two aspects of contingent self-esteem: one based on competence and one based on emotional relations. In the first study the scales are constructed by selecting items from a larger pool, testing the two-factor structure (relation based/competence based) with confirmatory factor analysis, investigating the dimensionality and psychometric properties of the two final scales, and validating the constructs and scales by correlation with other theoretically relevant measures. In the second study the theoretically important two-factor structure is confirmed in a separate sample and a construct validation of the new scales

performed. Finally, the third study presents an additional validation of the new scales by employing a semantic differential technique.

Study 1

Construction and Preliminary Validation of Competence Based and Relation Based Self-Esteem Measures

Scale Construction

    The original item pool consisted of 62 items which reflect contingent self-esteem based on competence or emotional relations. These items were either selected directly from established scales, modified (reworded) from already existing items or self-construed on the basis of earlier empirical findings and theory. The items which refer to attitudes which tell that competence and appreciation from others for one's accomplishments is a main determinant of one's self-esteem were selected or modified from four existing scales. These were: The Depressive Experiences Questionnaire (Blatt, D'Afflitti, & Quinlan, 1979) regarding self-criticism and introjective self-esteem, a four-item scale for Performance based self esteem (Hallsten, et al., 2005), the measurement of Contingencies of Self-Worth (Crocker et al., 2003), and the Earning Self-esteem Scale (Forsman & Johnson, 1996). There were also some newly created items intended to measure aspects which reflect a need of perfection, a self-critical attitude, and compulsive strivings. A major part of the items which refer to attitudes that emotional security and closeness to others is a main determinant of one's self-esteem were newly created, mirroring a need of love, fear of rejection, suppression of one's own needs, and conflict avoidance (see e.g. Pincus & Wilson, 2001). Other items were selected or reworded from the Depressive Experience Questionnaire (Blatt et al., 1979) and from a scale of components in dependency created by Pincus and Gurtman (1995).

Method

  Participants

    The sample consisted of 215 undergraduates from different areas of social sciences at Stockholm University and at a Swedish provincial university, of which 158 were women and 57 men with an age range of 18 to 51 (mean 28 yrs; three individuals did not report their age). None were paid for their participation but some received course credit.

  The Questionnaire

    The participants were presented with a questionnaire consisting of the original 62 items constructed to capture a disposition where self-esteem is contingent upon

competence or close relation. To obtain convergent- and discriminant validity for the new scales (to be selected from the original item pool), seven well-known scales were also included in the questionnaire. Previous studies have linked compulsive striving and perfection seeking to beliefs that self-esteem has to be earned by accomplishments (Birks & Roger, 2000; Forsman & Johnson, 1996; Koivula & al., 2002, Price, 1982). Therefore convergent validity of competence based self-esteem was tested by the subscale measuring "toxic" achievement strivings of STAQ (Birks & Roger, 2000) with Cronbachs alpha of 0.60 and subscales measuring self-oriented and socially prescribed perfectionism of MPS (Hewitt & Flett, 1991) with alpha of 0.77. As people with deficient self-esteem who don't strive to gain self-esteem by competence appear to be more in need of confirmation from the significant others (Johnson, 2006; Johnson & Forsman, 1995; Zeigler-Hill, 2006) convergent validity of relation based self-esteem was tested by the depressive attitudes subscale for dependency of DEQ; (Blatt et al., 1979) with alpha of 0.70 and by the affiliation need measure IOS (Hill, 1987) with alpha of 0.75. The theoretical core of both new scales was the assumption of deficient sense of self-esteem (Johnson & Forsman, 1995). Consequently, convergent validity of both scales was also tested by the Rosenberg SES (1965) for global self-esteem with alpha of 0.81. The subscale measuring negative affect of the PANAS (Watson, Clark, & Tellegen, 1988) with alpha of 0.73 was added as it is commonly seen as a factor associated with contingent self-esteem. To test discriminant validity of both scales the LOT (Scheier & Carver, 1985) measuring optimism/pessimism was used with alpha of 0.82 in order to show that the new constructs are distinct from biologically based temperament factors. In addition, five items from the Social Desirability Scale (Crowne & Marlow, 1961) were included to control for socially desirable responses. The items of each scale were randomly mixed in the questionnaire so that the validation items 'obscured' the main purpose of the study for the participants. Six to eight items were selected from each validation scale to limit the total number of items in the questionnaire. The responses to each item were obtained on a 5-point Likert format from strongly disagree (1) to strongly agree (5). There was no item overlap between the different measures.

Results
Exploratory Factor Analyses
The total item pool of 62 items, which aimed to capture self-esteem (SE) contingent on competence and SE contingent on emotional reassurance in close relations, was subjected to a principal components factor analysis. In total 14 factors were extracted with Eigenvalues above unity, explaining 68% of the total variance.

Two meaningfully interpretable major factors with a reasonable amount of explained variance were retained and rotated. The first factor explained 30% of the total variance and included items, describing a sense of self-worth which is conditional upon the outcomes of one's own performances along with a feeling of insufficiency. The second factor explained 9% of the total variance and comprised items relating to a sense of self-worth, which is conditional upon emotional reassurance in relationships accompanied by fear of rejection and compliance.

The results from this first exploratory factor analysis constituted the basis of the item selection for the two final sets of items forming the Competence based and Relation based SE scales. The items for each scale were selected on the basis of four criteria: they loaded on only one of the two factors, displayed highest loadings (>.40) on each factor, showed satisfying communalities and contributed to a high internal consistency of the scales. When these 27 items were extracted to constitute the basis of the final scales they were subjected to an additional principal components factor analysis. Again, out of six factors which emerged with eigenvalues above unity, two meaningfully interpretable major factors were retained and rotated orthogonally. Factor one, where all 13 items (one item was removed after confirmatory factor analysis) referred to competence as a basis of self-esteem accounted now for 33 % of the total variance, and factor two where all 14 items referred to relationally based self-esteem accounted for 11% of variance of the scores. Table 1 presents the items in the two new scales of contingent SE with the factor loadings for each item on the total scales. The two scales created are considered to be measures of two distinct constructs though they are somewhat correlated (r = .38 when negative affect was controlled) with each other. In order to remove certain contingency sources (e.g. appearance, general approval of others, and recognition received from one's family), which in previous research have appeared rather undefined (e.g. Crocker et al., 2003; Zeigler-Hill, 2006) this item reduction procedure using exploratory factor analyses was considered to be of importance.

Dimensionality of the Scales

To elucidate the theoretical constructions behind the measures, the dimensionality of each scale was analyzed using principal axis factoring, followed by confirmatory factor analyses. Analyzing the Competence based SE scale gave two factors with eigenvalues above unity, which were subjected to oblique rotation. The first and major component accounting for 44% of the total variance reflects a sense that one's self-worth is conditional upon successful acts and high inner demands to outperform others e.g. "I feel worthwhile only when I have performed well" and "Other people's success makes me push myself even harder". The second factor

accounting for 9% of variance refers to exaggerated self-criticism and a frustrated feeling of insufficiency in one's own accomplishments e.g. "My feeling is that no matter how hard I work I'll never reach my best performance goals" and "It is hard for me to forgive myself when I fail in an important task". Thus, a high scorer on competence based SE strives hard to prove his or her value by success and perfection while at the same time a harsh self-criticism makes these efforts frustrating. Due to a deficient basic self-esteem even an excellent performance is perceived as insufficient which creates a need to control others and attempts to outperform them. The factor loadings for each item obtained from the exploratory analysis and item-total correlations are presented in Table 1.

Further, analyzing the Relation based SE scale resulted in three factors with eigenvalues above unity, which were rotated obliquely. The first factor accounting for 40% of the total variance refers to a feeling of lost self-esteem when rejected in an important relationship e.g. "My self-esteem fluctuates easily with signs of acceptance and rejection from others". The second factor, accounting for 11% of variance refers to a need of others' love and support to feel worthwhile e.g. "It is important for my self-esteem to feel loved". Finally the third factor accounting for 8% of variance included items mirroring submission, compliance and suppression of one's own needs in order to avoid disapproval of others e.g. "I am inclined to be submissive and defer to others in an attempt not to loose their acceptance and regard". On these grounds, the person who scores high in relation based SE is characterized by an anxious need of other's attention, love, and support to feel worthwhile. Such a dependency on emotional reassurance is mirrored by a concomitant tendency to defer to others and suppress one's own feelings of anger in order to avoid rejection and disapproval. The factor loadings for each item obtained from the exploratory analysis are presented in Table 1.

Confirmatory Factor Analyses
The exploratory approach was considered an adequate first step to specify the a priori factors of the scales. In a further analysis both the two-factor model of contingent SE and the dimensionality of each scale were verified by confirmatory factor analyses (CFA) with LISREL 8.7 (Jöreskog & Sörbom, 2003). The model fit was determined using Chi-square tests but due to these values' dependency on sample size a number of other indices were used: first the Root Mean Error of Approximation (RMSEA), indicating the discrepancy per degree of freedom which should be lower than or close to 0.05 for an acceptable fit, second, comparative fit indices (NFI, NNFI, CFI) indicating how much better a model fits as compared to other models (Bollen, 1989) with an acceptable to good fit ranging between 0.95 and

1, and third the Goodness-of-Fit Index (GFI) which indicates the amount of variance jointly accounted for by the model.

Table 1
Factor Loadings for the Competence and
Relational Based Self-Esteem Scales

Competence Based Self-Esteem Scale	Scale	Exploratory Dimension	(*r*)	Confirmatory Dimension
Dimension 1 *'Contingent upon competence'*				
1. I feel worthwhile only when I have performed well.	.73	.77	(.72)	.80
2. I think my worth as a person is determined by how well I succeed.	.73	.73	(.66)	.77
3. It is not 'who I am' but 'what I can accomplish' that matters.	.77	.74	(.66)	.74
4. I sometimes try to prove my value by achievements.	.72	.71	(.67)	.69
5. My self-esteem is highly dependent upon the results of my daily actions.	.65	.68	(.63)	.69
6. I experience other people's success as threatening.	.57	.53	(.50)	.53
7. Other people's success makes me push myself even harder.	.53	.51	(.49)	.51
8. I easily get restless if I have nothing at hand to accomplish.	.48	.45	(.44)	.45
Dimension 2 *'Self-critical'*				
9. No matter how well I have done a task, there is always a nagging feeling that I should have done better	.72	.73	(.68)	.81
10. When I have failed in an exam or in another context performed worse than I expected it has made me doubt my self-worth.	.62	.61	(.57)	.67
11. It is hard for me to forgive myself when I fail in an important task.	.64	.61	(.57)	.64
12. My feeling is that no matter how hard I work I'll never reach my best performance goals.	.58	.56	(.53)	.65

(Table 1 Continued...)

Relation Based Self-Esteem Scale	Scale	Exploratory Dimension	(r)	Confirmatory Dimension
Dimension 1 *'Rejection'*				
1. My self-esteem fluctuates easily with signs of acceptance and rejection from others.	.70	.61	(.71)	.79
2. Being rejected in a love relationship makes me feel worthless.	.62	.72	(.61)	.70
3. Conflicts and arguments with my partner or close friends make me feel helpless and like a failure.	.68	.72	(.62)	.65
4. When a love-relationship ends I feel really useless and worthless	.64	.84	(.56)	.65
5. I am sensitive to signs of dislike and rejection from others.	.68	.57	(.57)	.63
6. In my close relationships I feel that love and approval has to be earned.	.46	.44	(.47)	.52
Dimension 2 *'Contingent upon love'*				
7. It is important for my self-esteem to be loved.	.69	.65	(.62)	.80
8. It is important for me to get frequent assurances of love from my partner.	.66	.68	(.52)	.70
9. Love and support from other people makes me like myself more.	.55	.75	(.52)	.63
10. My self-esteem strengthens considerably when others seek my company.	.58	.76	(.51)	.55
Dimension 3 *'Compliance'*				
11. I am inclined to be submissive and defer to others in an attempt not to loose their acceptance and regard.	.62	.78	(.60)	.85
12. It happens that I allow others to treat me badly because I don't want to risk rejection.	.53	.73	(.50)	.71
13. I tend to show too much consideration of others' feelings at the cost of my own feelings and needs.	.62	.76	(.57)	.68
14. I tend to suppress my own needs and emotions to make others feel good.	.41	.72	(.40)	.52

Note: Loadings for items in the total scale are under "Scale" and the corrected item-total correlations under "(r)." Loadings on the other factors for each item were < .30 in the exploratory analyses and equal to 0 in the confirmatory analyses. The items are rank-ordered by size of factor loadings in the confirmatory factor analyses.

First, to confirm the theoretically important distinction between competence based and relation based SE the comparison was made between a one-factor model and a two-factor model of the 27-item scale. The scale was transformed to six indexes corresponding to the factors in each scale (the three last items of the first factor in competence based SE formed an index "Comparison with others", yielding an equal number of indexes for both sets of items). The results revealed that the two-factor model shown in Figure 1, showed a good fit ($\chi^2_8 = 11.16$, $p = 0.19$; RMSEA = 0.04; NFI = 0.98; NNFI = 0.99; CFI = 0.99; GFI = 0.98). The one-factor model showed a substantially worse fit ($\chi^2_7 = 65.90$, $p < 0.0001$; RMSEA = 0.24).

Further, the factor structures of the two new SE scales obtained in the exploratory analyses were confirmed with CFA (LISREL). The two-factor model of Competence based SE scale showed a relatively good fit [$\chi^2_{53} = 88.05$; $p < 0.01$; RMSEA = 0.056 (the lower boundary of the interval was 0.03); NFI = 0.96; NNFI = 0.98; CFI = 0.98; GFI = 0.94]. One item was eliminated from the original 13 item scale as the retained 12 items showed a better fit. The structure coefficients (loadings) for each item on the latent factors are presented in Table 1. The three factor-model of Relation based SE scale showed a relatively good fit [$\chi^2_{74} = 125.46$; $p < 0.001$; RMSEA = 0.057 (the lower boundary of the interval was 0.04); NFI = 0.95; NNFI = 0.97; CFI = 0.98; GFI = 0.92]. No items were eliminated from the original 14 item scale. The structure coefficients (loadings) for each item on the latent factors are presented in Table 1.

Reliability of the Scales
Cronbach's alphas were calculated for the new scales. The internal consistency values of both the Competence based SE scale ($\alpha = 0.89$) and Relation based SE scale ($\alpha = 0.88$) were high. To asses the temporal stability of the new measures 50 participants were recontacted after five weeks and asked to complete the scales a second time.

The results showed a test-retest correlation $r = 0.93$ for the Competence based SE scale while the correlation for Relation based SE scale was $r = 0.80$. Together these indexes indicate high reliability for the scales.

Figure 1
The Two-Factor Model of Contingent Self-Esteem
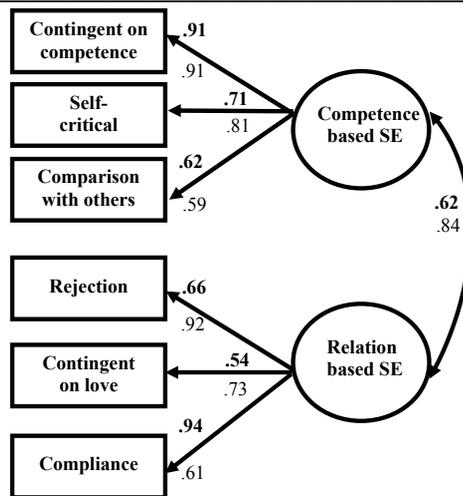
Note: The standardized parameter estimates in bold are from Study 1 and the others from Study 2.

Correlations with Other Scales

Table 2 presents the Pearson product-moment correlation coefficients between the Competence based SE scale, Relation based SE scale, and the measures, which were chosen to provide construct validity for the new scales. The values are partial correlations controlling for negative affect and social desirability.

Table 2 shows that Competence and Relation based SE correlated significantly and negatively with the global self-esteem measure (SES), indicating that both contingent SE dispositions mirror low levels of trait self-esteem. In addition this analysis showed Competence based SE to be significantly and positively correlated with the STAQ subscale of "toxic" achievement striving and highly correlated with the MPS dimensions self oriented and socially prescribed perfectionism. Moreover, Relation based SE correlated significantly and positively with dependency and affiliation needs. These results provide good convergent validity for the new scales. Further, Table 2 shows nearly zero correlations between Competence based SE and dependency/affiliation scales and between Relation based SE and achievement scale (also a weak correlation between Relation based SE and perfectionism) providing

discriminant validity for the scales. In addition, both Competence based SE and Relation based SE correlated relatively weakly with LOT, which indicates that the new constructs are separable from optimism/pessimism.

When negative affect and social desirability were controlled the two SE scales showed a moderate correlation ($r = .38$) with each other. Notably, negative affect correlated significantly with both Competence based SE ($r = .45$) and Relation based SE ($r = .52$) which provides certain convergent validity for the new constructs and measures.

Table 2
***Partial Correlations Between Competence Based and Relation Based SE
Scales and Six Other Personality Scales with Negative Affect
and Social Desirability Controlled***

	Relation based SE scale	Competence based SE scale
Rosenberg's self-esteem, SES	-.38**	-.40**
"Toxic" achievement, STAQ	.01	.41**
Perfectionism, MPS	.19*	.71**
Dependency, DEQ	.40**	.04
Affiliation need, IOS	.36**	.06
Optimism/pessimism, LOT	-.19*	-.13

**$p < 0.001$; *$p < 0.01$

Discussion

In Study 1 both exploratory and confirmatory factor analyses were used to create two measures of contingent SE; Competence based and Relation based SE scales. The results support the adequacy and theoretical content of the new SE scales. First, the two dimensional structure, distinguishing between competence and relationships as main determinants of self-esteem, was confirmed by CFA. For this analysis six indexes of competence based and relation based SE items were used to reduce the 27 items to more manageable units in the LISREL model. The relatively high covariance between the two latent constructs may reflect the items' shared variance with negative affect and low self-esteem. Second, CFAs verified a two-factor model of competence based SE and a three-factor model of relation based SE as the best solutions. These structures coincide well with the theoretical formulations of the constructs and psychological meaningfulness needed to capture the two different vulnerable dispositions. Third, high values of internal consistency and temporal stability were obtained for both scales. Finally, the correlations found with other

scales not only revealed moderate and significant correlations between the SE scales and relevant other dispositions, they also discriminated clearly competence based SE from affiliation pursuits and relation based SE from achievement pursuits. This analysis also indicates that both contingent SE scales are associated with low trait self-esteem. The alphas for two of the validation scales were modest but acceptable as only a few items were used. Since negative affect and social desirability were controlled the results of the correlation analyses provide good preliminary validity for the new scales.

Study 2
Confirming the Distinctiveness of Competence and Relation Based Self-Esteem and Their Relation to the Model of Basic and Earning Self-Esteem

This study replicated the confirmatory factor analysis from Study 1, of the theoretically important two-factor model of contingent self-esteem, in another sample. Moreover, to validate further the new contingent SE scales they were evaluated in light of the basic- and earning SE model of Forsman and Johnson (1996). As earlier studies have indicated that a combination of low basic SE and high earning SE resembles self-esteem contingent on accomplishments while low basic SE without competence strivings echoes a self-esteem dependent on close attachments (Johnson, 1995; Johnson, 2006), it was hypothesized that high and low scores in the new scales should be related to these basic and earning SE structures.

Method
Participants

The sample consisted of 116 undergraduates studying social sciences at Stockholm University. Ninety of these were females and 25 males (the gender of one individual was not reported) with an age range of 19 to 51 years (mean 28 yrs). All participants received course credits for taking part in this study.

Measures

The scales created to capture Competence based SE and Relation based SE as presented in Study 1, were presented to participants in a questionnaire together with two other SE measures. Cronbach's alphas in this sample reached the level of 0.88 for both new scales. The Basic SE Scale (Forsman & Johnson, 1996), indicating one's fundamental self-love and integrity was used to measure an individual's basic self-acceptance. It comprises two factors reflecting emotional warmth and openness (e.g., "I can freely express what I feel") and self-assertiveness (e.g., "I find it easy to

say no to other's demands and expectations"). Cronbach's alpha of the 8 items used in this study was 0.79. The Earning SE Scale (Forsman & Johnson, 1996) was used to assess an individual's need to gain or enhance self-esteem by competence and others' approval. This scale comprises two factors reflecting conditionally acquired self-worth and high standards of accomplishment (e.g., "I don't need others' appreciation of what I have done", reversed coding, or "I always dedicate my self a hundred percent to things". Cronbach's alpha of the 8 items used in this study was 0.72. The items used in the shortened scales were selected on the basis of highest multiple *R*-squared and highest factor loadings. The scales (inclusive the short forms) which are uncorrelated, have displayed high reliability and gained good construct validity (Forsman & Johnson, 1996; Johnson & Forsman, 1995; Johnson, 2002; Koivula et al., 2002). There was no item overlap between the four scales used in this study.

Results

### Confirmatory Factor Analysis

To verify the two-factor model of contingent SE the analysis from Study 1 was replicated in a new sample. As in Study 1, the items were transformed to six indexes to reduce the amount of manifest variables. The results of CFA revealed that the two-factor model, presented in Figure 1 with the parameter estimates, showed a good fit ($\chi^2_8 = 9.39$, $p = 0.31$; RMSEA = 0.04; NFI = 0.98; NNFI = 0.99; CFI = 1.00; GFI = 0.98). Again, the one-factor model showed a substantially worse fit ($\chi^2_7 = 37.21$, $p < 0.0001$; RMSEA = 0.17).

Construct Validation

To study the relation between basic and earning SE and the new scales two 2 (high/low basic SE) by 2 (high/low earning SE) ANCOVAs were performed on the competence based and relation based SE scores. Negative affect was controlled as a covariate. The results of the effects on competence based SE scores showed a strong significant main effect of earning SE, $F(1,111) = 24.67$, $p < .0001$ (effect size 0.18) and a significant effect of basic SE, $F(1,111) = 11.34$ $p = 0.001$ (effect size 0.09). There was also a significant interaction between basic and earning SE, $F(1,111) = 6.57$, $p = 0.012$ (effect size 0.06). These effects are shown in Figure 2 which indicates that although individuals with low basic SE and those with high earning SE scored generally higher in competence based SE the individuals with high earning/low basic SE showed significantly higher scores than those with high earning/high basic SE (Tukey, HSD, $p < 0.01$) and low earning/low basic SE (Tukey, HSD, $p < 0.05$), the greatest difference being in comparison with high basic SE/low

earning SE (Tukey, HSD $p < 0.001$). The results of effects on relation based SE scores showed a strong main effect of basic SE, $F(1,111) = 15.44$, $p < 0.001$ (effect size 0.12), but there was not any significant main effect of earning SE, $F(1,111) = 2.00$, $p > 0.10$) or interaction between basic and earning SE, $F(1,111) = 0.001$, $p > 0.10$). This suggests that individuals scoring high in relation based SE have low basic sense of self-esteem without competence needs.

Figure 2
Competence Based SE Scores as a Function of High and Low
Basic SE and High and Low Earning SE
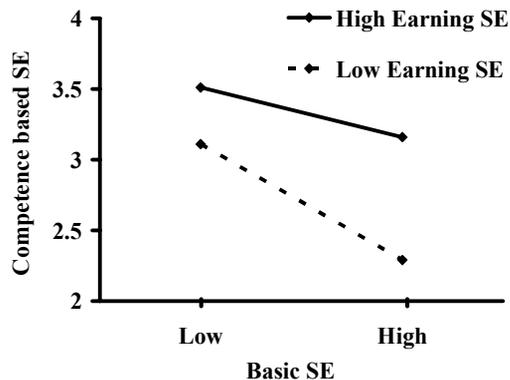
Discussion

This study replicates the results of the confirmatory factor analysis from Study 1, and confirms that items referring to competence and relationships as a basis of self-esteem refer to related but distinct phenomena. Further, the results show the importance of the notion of basic self-esteem when constructing scales of contingent self-esteem by suggesting that people with self-esteem contingent upon competence have a low basic sense of self-worth, and possibly compensate for this by trying to earn self-worth by success and perfection. The results also suggest that people with self-esteem contingent on emotional reassurances in relationships have a low basic sense of self-esteem without a need of earning self-esteem by competence. Taken

altogether, by verifying the distinctiveness between competence- and relation based SE and suggesting an important role of basic self-esteem for contingent self-esteem, the results of Study 2 provide additional validity of the new scales in a new sample.

Study 3
Semantic Differential Validation of the Competence and Relation Based Self-Esteem Scales

As an additional test of construct validity of the new scales a semantic differential method was employed. This method, also called the "bipolar adjective technique", devised by Osgood (1952) captures the individuals' connotations for words and so maps the psychological distance between the words. We chose this method as its well-described flexibility in measuring multiple attitudinal dimensions of an instrument makes it a unique tool for validation purposes (Pedhazur & Pedhazur Schmelkin, 1991). In the present study two words "work" and "relationships", which were considered relevant for the scales to be validated, were presented to participants together with a number of adjectives to describe them. The hypothesis was that profiles of associations to the word "work" would distinguish between high and low scorers in competence based SE and that the profiles of associations to the word "relationships" would distinguish between high and low scorers in relation based SE.

Method
Participants and Procedure

All participants in Study 1 and Study 2 comprising 331 individuals completed the semantic differential test. Each participant was presented with eight adjectives at either end of a seven-point scale, ranging from for example "tense" to "relaxed" or "unimportant" to " "important". Participants were instructed to place a check on the point in the semantic space which best corresponded to their subjective meaning attached to the words "work" and "relationships", respectively. In choosing the adjectives, which were the same for both words, the three universal attitudinal dimensions recommended by Osgood: evaluative dimension (e.g. unhappy - happy), potency dimension (e.g. insecure - secure), and activity dimension (e.g. active - passive), were considered (Osgood, Suci, & Tannenbaum, 1957). The order of positive and negative adjectives was alternated randomly.

Results
Semantic Differential Test

To maximize the differentiating power individuals who scored below the 25th

percentile (lows) and above the 75th percentile (highs) on the distributions of Relation based SE and Competence based SE, were used in the analyses. The mean profiles of the participants' associative evaluations of the 8 adjectives regarding "work" and "relationships" are presented in Figures 3 and 4. A clear and consistent pattern is discernable indicating that the high and low scorers in the scales differentiate between the semantic connotations attached to the relevant words. Those with high contingent SE scores rated consistently more on the negative connotations (frustrated or insecure) or associated higher salience to the issue concerned (important or active). Further, Figures 3 and 4 show that for the high and low scorers in Competence based SE the distances in the semantic space for "work" associations were significant (by two-tailed t-tests) for 5 of the adjectives whereas for high and low scorers in Relation based SE the distances for "relationship" associations were significant for 6 adjectives. The pairs of adjectives, which differentiated both the competence based and relation based SE groups most were unsafe - safe, frustrated - contented, and important - unimportant.

Figure 3
Mean Profiles of the High and Low Scorers in Competence Based SE Regarding the Meanings Attached to the Word "Work"

_____
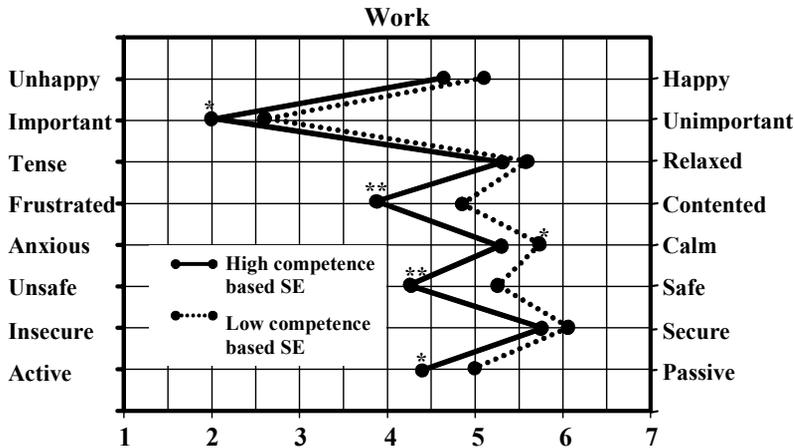
Note: ** $p < 0.01$; * $p < 0.05$

The scores of both semantic scales (work and relationship associations) were further subjected to a principal component factor analysis. A two-factor structure was extracted where all relationship items loaded on the first factor only and 6 of the 8 work items on the second factor only. When the factor scores for each individual on these factors were correlated with SE scores of the same individuals it was revealed that the correlation between the first factor ("relationships") and Relation based SE was higher ($r = 0.28$, $p < 0.01$) than between that factor and Competence based SE ($r = 0.17$, $p < 0.05$). It was revealed further that the correlation between the second factor ("work") and Competence based SE was higher ($r = 0.32$, $p < 0.001$) than between that factor and Relation based SE ($r = 0.23$, $p < 0.01$). When negative affect was controlled the "work" factor correlated significantly with only Competence based SE ($r = 0.18$, $p < 0.5$) while the "relationship" factor correlated marginally only with Relation based SE ($r = 0.13$, $p = 0.07$).

Figure 4
Mean Profiles of the High and Low Scorers in Relation Based SE
Regarding the Meanings Attached to the Word "Relationships"
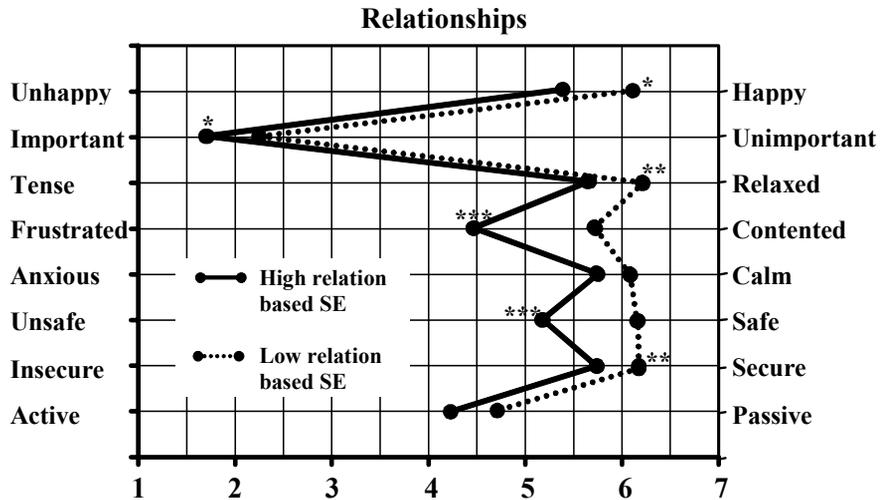
Note: ***$p<0.001$; **$p<0.01$; *$p<0.05$

Gender Differences

Finally utilizing the data from all participants from Studies 1 and 2 we examined possible gender differences in the new measures. The results of two one-way ANOVAs revealed the females' scores in the Competence based SE ($M = 2.99$; $SD = 0.70$) to be significantly higher $F (1, 328) = 3.73$, $p < 0.05$ than those of the males ($M = 2.75$; $SD = 0.67$). Moreover, females ($M = 3.09$; $SD = 0.64$) scored significantly higher $F (1, 327) = 3.44$, $p < 0.05$ than males ($M = 2.87$; $SD = 0.65$) in the Relation based SE. These results provide a tentative indication that women stake their self-esteem on both relational assurance and on performing well to a greater extent than men. This issue is discussed further in the General discussion.

Discussion

The results from this third study provide additional construct validity for the new scales. A clear differential patterning of the meaning of the words "work" and "relationships" for high and low scorers in the new scales capturing different types of contingent self-esteem could be discerned. Even if this method has some limitations, for example adjectives may not be understood in the same way by different people, the semantic differential test is a unique, reliable method, which by quantifying connotative semantic meanings sheds light on the links between attitudes (traits) and behavior. It is sensitive and can tease out nuances in meaning, which are clearly felt but hard to verbalize (Osgood et al., 1957). That negative affect appeared to have a part in differentiating the meanings of both words might reflect some adjectives' closeness to those used in the measures of negative affect (e.g. Watson et al., 1988). However, there was still good evidence of the hypothesized differentiating patterns, which provides validity of the new scales and supports their conceptual distinctiveness.

General Discussion

To obtain a comprehensive picture of vulnerability for stress and strain, it is necessary to develop reliable and valid measures which capture the core of contingent self-esteem and its two main motivational dimensions competence and relationships. The scales presented in this paper are built on a clear distinction between competence and relational security as means to validate the self. In this respect, the items were constructed to assess behaviors and attitudes that arise from a deficient basic sense of self-esteem. Excessive pursuits of others' approval to feel worthwhile as a person are always costly (Crocker, 2002), but are likely to have different consequences if one's self-worth is staked on admiration of performance or if it is staked on emotional security. Triggering different kinds of needs and fears

when facing stress and challenge the two predispositions subject people to different kinds of vulnerability.

The conceptual content of the Competence based SE scale, verified by confirmatory factor analysis in the present results, refers to a self-attitude which predisposes to a maladaptive pattern of competence striving. A feeling that one's self-esteem is defined by the outcomes of daily performances creates a compelling pressure to accomplish. In a recent study Blom, Johnson, & Patching, (2006) found that people with high scores in competence based SE exhibited higher physiological arousal and uneasiness in a performance situation than those with low scores. Consequently, people with this kind of belief, due to a low basic sense of self-esteem, are likely to develop an over-critical and non-forgiving attitude towards one's own weaknesses resulting in exhaustive and frustrate strivings. Indeed, this kind of pattern has been widely connected to stress-related syndromes (Dunkley, Zuroff, & Blankstein, 2003; Johnson, 2002) such as exhaustive depression and burnout process (Hallsten et al., 2005). By way of contrast, the theoretical structure of the Relation based SE scale, confirmed in the present study, reflects a self-attitude which predisposes to a maladaptive pattern of interpersonal approach. A conviction that one's self-worth is dependent upon emotional reassurances from others is likely to create excessive compliance and conformity when dealing with other people in order to avoid rejection and dislike (Joiner & Metalsky, 1995). This conformity often takes a form of suppression of one's own feelings and needs (Pincus & Wilson, 2001). Consequently, being passive, anxious, and inhibited, people with this kind of conditional self-esteem are inclined to use emotional coping strategies and are sensitive to relational strain (Gillath, Bunge, Shaver, Wendelken, & Miculincer, 2005; Gudjonsson & Sigurdsson, 2003); close others are important but at the same time a source of self-related threats.

The present approach suggests the importance of distinguishing between self-esteem and self-related motivational predispositions (see Johnson, 1998; Johnson & Forsman, 1995; Koivula et al., 2002). In the face of threat and challenge very different cognitive-motivational structures are likely to be triggered if competence or relation goals are pursued to compensate a deficient basic self-esteem than if they are pursued to enhance an already reasonably high self-esteem (Johnson & Forsman, 1995; Ryan & Deci, 2000). Moreover, when developing our scales we separated clearly between competence and relations as determinants of self-esteem. For example, in our analyses, items referring to appearance, general approval of others, and recognition received from one's family, often considered as distinct contingency sources (e.g. Crocker et al., 2003), loaded equally on both main contingency factors and were therefore removed from the final scales. Also Zeigler-Hill (2006) found

recently that appearance and others' approval reflected more undefined interpersonal domains. To understand the background of different stress related states and diseases it is of great value to know more precisely which basic social needs or fears are triggered when an individual faces stressful events.

How then are the people who exhibit low scores in these two contingent self-esteem scales? Those who score low in both scales are likely to be people who have a reasonably high level of non-contingent basic self-esteem as found in Study 2. However some of them who score low in one scale may have a contingency of the other kind. Yet, others may have both types of self-esteem needs as was suggested by a moderate correlation between the scales. These people may face the most severe kind of vulnerability as they experience self-esteem threats in both areas of life. Indeed, the analysis of gender differences in the present study suggests that women are more likely than men to have this double predisposition. They are sensitive and vulnerable for dislike and rejection which forces them to be nice and pleasant while at the same time feeling that they must push themselves to live up to high standards and perfection at work or at home – possibly both! On these grounds, the view that all self-esteem is contingent (Crocker, 2003; Leary et al., 2003), and that a low level of contingent self-esteem warrants the presence of other contingencies, such as virtue and morality appears somewhat contradictory. Without considering an individual's basic self-acceptance the knowledge of contingencies of self-esteem may not provide a sufficient basis to understand the vulnerability, which different types of contingent self-esteem create.

The present study had some general limitations, which must be noted. The sample sizes varied from moderate to relatively small and the gender balance in them was unequal. Although, students in Sweden represent different ages and social classes providing a fairly good average of the population in general, in future studies the new scales should be validated further in non-student samples with gender balance. In particular, the interesting differences between men and women we found in the new constructs require further investigation. On the positive side, the scales created here show high reliability and the three studies provide good preliminary construct validity for the scales; partly by using semantic differential method and partly by relating the scales to other scales and self-esteem models in different samples. Although, additional construct validity for competence based SE was offered by a study using objective criterion measures of physiological reactivity (Blom et al., 2006) further validation with concrete behavioral implications is to be addressed in forthcoming studies.

To conclude, the new scales of competence based and relation based self-esteem developed here add to the existing measurements of contingent self-esteem by

differentiating clearly between two self-esteem dispositions, based on two fundamental human needs. The item contents were carefully constructed on theoretical grounds, to capture two forms of contingent self-esteem. Evidently, the prerequisite for self-esteem being really contingent is the presence of low basic sense of self-esteem (Deci & Ryan, 1995; Johnson & Forsman, 1995), whereas pursuing different sources as such do not rest on low basic self-esteem. Therefore, the new scales provide valuable tools for understanding the background for different patterns of vulnerability related to stress, coping, and health.

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