



# Two-dimensional self-esteem: theory and measurement

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## Abstract

In this paper, we offer a clarified account of global self-esteem as consisting of *self-competence* and *self-liking* and describe a revised instrument designed to measure the two correlated dimensions. In Study 1, four measurement models representing distinct conceptions of self-esteem are compared to confirm the a priori structure of the instrument. In Study 2, multiple reporters (self, mother, father) are used to provide evidence for convergent and discriminant validity in a multitrait–multimethod context. Advantages of the two-dimensional approach to measurement are discussed. © 2001 Elsevier Science Ltd. All rights reserved.

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## 1. Introduction

The past half-century has witnessed the ascension of self-esteem as a central construct in psychological theory. Its prominence, however, is coupled with considerable disagreement over how the construct is best conceived. This lack of consensus, and the impediment to progress it presents, has been lamented by reviewers of the literature over the years (e.g. Blascovitch & Tomaka, 1991; Crandall, 1973; Shavelson, Hubner & Stanton, 1976; Wells & Marwell, 1976; Wylie, 1974). Toward clarification, we adopt the position that global self-esteem consists of two distinct dimensions that have often been confused in the literature. In this paper, we present our conceptual and psychometric approach to this fundamental duality, with the aim of enhancing its utility for theory and research.

### 1.1. *The two faces of self-esteem*

Self-esteem is essentially an aesthetic or valuative phenomenon. As such, it can be understood according to the distinction between instrumental and intrinsic value (Dewey, 1939). Instrumental

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value refers to what an object is good for, or what good it can do. Intrinsic value refers to those qualities of an object that are considered good in themselves. Applied to persons, the duality is reflected in personal competence, on the one hand, and appearance, character, and social identity on the other. That is, individuals take on value both by merit of what they can do and what they appear to be. Informally, this is often expressed as the distinction between “respect” and “liking”. The former is founded on observable abilities, skills, and talents, the latter on moral character, attractiveness, and other aspects of social worth. The two types of value, however, are not independent, for abilities are often viewed as virtues, and virtues are often used to great effect. Despite this overlap, the distinction is worth maintaining for the purpose of clarifying the compound nature of self-esteem.

The argument for two dimensions of self-esteem is hardly new. Over the years, others have offered versions of the same basic dichotomy (Bandura, 1986; Brissett, 1972; Brown, 1998; Diggory, 1966; Franks & Marolla, 1976; Gecas, 1971; Silverberg, 1952; White, 1963). The most explicit treatment was offered by Tafarodi and Swann (1995), who labelled the two dimensions *self-competence* and *self-liking* and described them as constitutive dimensions of global self-esteem.

### 1.2. *Self-competence*

Self-competence is the valuative experience of oneself as a causal agent, an intentional being that can bring about desired outcomes through exercising its will. As a generalized trait, it refers to the overall positive or negative orientation toward oneself as a source of power and efficacy. Self-competence is closely related but not equivalent to Bandura’s (1989, 1992) *self-efficacy*, defined as “people’s beliefs about their capabilities to exercise control over events that control their lives” (Bandura, 1989, p. 1175).

In his original conception of self-efficacy, Bandura (1977) distinguished efficacy expectancy, one’s confidence that a particular action can be executed as intended, from outcome expectancy, one’s confidence that the action will bring about the desired outcome. Thus, a chef who aims to please her customers may have complete faith in her culinary skills yet remain apprehensive of the reactions of her fastidious diners. This molecular distinction between one’s ability to perform an action and the cause-and-effect relations that determine the consequences of the action, while conceptually valid, is often dissolved in the subjectivity of intentional behaviour. This is so because the goals that represent our intentions are most often defined as desired consequences and not merely the mechanics employed to realize them. Just as a basketball player takes little gratification from an artful shot that fails to go through the hoop, the above chef will take little pleasure from a perfectly cooked masterpiece that is rejected by her diners. Our eyes are usually on the prize, and it is by this yardstick that we tend to measure the success of our efforts. In other words, strong efficacy beliefs often *presuppose* goal-consistent outcome expectancies. This is especially true in relation to *general* self-efficacy, the overall assurance or faith that individuals have in their ability to achieve their goals (Sherer, Maddux, Mecandante, Prentice-Dunn, Jacobs & Rogers, 1982; Tipton & Worthington, 1984; Woodruff & Cashman, 1993). It is self-efficacy in its generalized, trait form that most closely parallels the self-competence dimension of global self-esteem.

Bandura (1990) has argued that self-efficacy is separate from self-esteem. This is clearly the case for task-specific self-efficacy. The conceptual separation also applies to general self-efficacy, but its relation to experience at this level may be so difficult to discern as to render the distinction

practically insignificant. We should recognize that human development is characterized as much by the need to know “who we are” as “what we can do”. Accordingly, one’s personal history of success and failure inevitably gives rise to a generalized attitude toward the self as agent. The more successful one has been in fulfilling the innumerable conscious intentions that constitute a lifetime of action, the stronger one feels. As an aspect of personal *identity*, this strength is experienced as positive *value*, irrespective of any secondary, moral meaning that attaches to it. Thus, the religious convert who repudiates the achievements of her past because she now sees them as profane will nevertheless retain a sense of herself as competent and effective. Her newly felt shame over achievements that once brought her pride may be deeply distressing, but it will not undermine her faith in her own will. This is so because the value of successful action is two-fold, one part being the primitive and immediate pleasure of “effectance” (White, 1963), and the other the moral interpretation of the success. The two aspects need not be consistent. All of this suggests that general self-efficacy, defined as a global expectancy, and self-competence, defined as a global dimension of self-value, are but two consequences of the same cumulative process. Namely, self-competence is the valuative imprint of general self-efficacy on identity. Consistent with this unifying interpretation, examinations of the discriminant validity of global self-esteem and general self-efficacy have failed to clearly distinguish the two constructs (Bernard, Hutchison, Lavin & Pennington, 1996; Stanley & Murphy, 1997).

A further distinction deserves mention. One side of personal efficacy is the ability to react appropriately to the demands of the social and material world. The other side is the experience of autonomy, wherein one feels free to adopt and pursue goals that represent one’s personal interests (deCharms, 1983; Deci & Ryan, 1985). Both are essential to a full and balanced sense of competence. No matter how skillfully a prisoner dances to the music of his captors’ bullets, he will never feel especially effective. Neither will one whose life is replete with choice and self-direction but devoid of success develop much confidence of will.

### 1.3. *Self-liking*

The moral significance of one’s characteristics and actions, mentioned above, reflects the intrinsic side of value. This is represented in self-esteem as self-liking. Essentially, self-liking is the valuative experience of oneself as a social object, a good or bad person. As a generalized trait, it reduces to one’s chronic, overall sense of worth as an individual with social significance. By “social”, we do not mean to suggest that self-liking is mainly our perception of the value that others accord us, although this is surely one continuing source of it. Rather, mature self-liking rests primarily on the social value that we ascribe to ourselves. Even when sitting alone in a dark and soundless room, we appear as social objects to ourselves, positioned in physical, temporal, and moral space (Harré, 1991). As such, we recreate through reflexive thought the social judgment originally conveyed to us by others (Mead, 1934; Vygotsky, 1934/1962). After all, where do our moral criteria originate if not in those around us? Substantive qualifications for “goodness” — whether of charm, beauty, integrity, kind-heartedness, or any other aspect of personal worth — must be taken from others to become private standards for self-acceptance.

As the judgment of personal worth becomes internalized, the power of others to sway our self-liking is reduced (Damon & Hart, 1988; Rosenberg, 1986). Young children interpret the appraisals of others with ingenuous trust. If they are told that they are good, then they believe that they are

good. Older children, in contrast, consider multiple possible “meanings” of an utterance or gesture in attempting to decipher the true intentional state of the source. Moreover, even where evaluative messages are perceived to be genuine, older children often doubt their validity, attributing them to the fallibility or irrelevance of the source, or to the misrepresentation wrought by their own social “performances” (Goffman, 1959). This explains why self-appraisal eventually comes to hold priority over appraisal by others in the development and maintenance of self-liking (Shrauger & Schoeneman, 1979). Even so, at no point in development do we become numb to the moral judgment of those whom we take an interest in. As social animals, we cannot refrain from peering into the looking glass that others hold up to us, as much as we may distrust the images we see there.

We have described self-competence and self-liking as co-equal dimensions of global self-esteem. For many who uphold a unidimensional conception of self-esteem, however, self-liking *is* self-esteem and self-competence is but one of its sources. The most influential proponent of this alternative view was Morris Rosenberg. Throughout his career, Rosenberg argued for a simple, unitary conception of self-esteem as “the feeling that one is ‘good enough’” (Rosenberg, 1965, p. 31). The simplicity was achieved by subordinating self-competence to self-liking and defining the latter as global self-esteem. In stating that self-competence “may contribute” to self-esteem, Rosenberg (1979) was conceiving of the former as a specific source of a more generalized valuation of the self rather than as a constitutive dimension. This is a significant conceptual commitment. It implies that measurement of global self-esteem is tantamount to measurement of self-liking, broadly conceived as “goodness”. However, Rosenberg’s (1965) own widely used measure of self-esteem, the 10-item Self-Esteem Scale, fails to support his conceptual position. Contrary to design, the measure reveals itself to be two-dimensional, consisting of indicators of both self-competence and self-liking (Tafarodi & Swann, 1995; Tafarodi & Milne, 2000a). More generally, the unidimensional conception does not fairly reflect our basic nature as both autonomous agents and social beings (Bakan, 1966; Guisinger & Blatt, 1994). To subordinate one dimension of self-value to the other blurs this fundamental duality.

#### *1.4. The Self-Liking/Self-Competence Scale (SLCS)*

The desire to accommodate both self-liking and self-competence in conceiving of global self-esteem has led some theorists to present an ostensibly unidimensional view that straddles both. In contrast, we believe that the distinction between the two forms of self-value is theoretically and practically important, and deserves formal representation in a compound conception of global self-esteem. In our view, self-competence and self-liking define self-esteem just as length and width define a rectangle.

To distinguish the two dimensions at the level of measurement, we created the SLCS (Tafarodi & Swann, 1995). The SLCS consists of two 10-item subscales, one designed to measure self-competence and the other self-liking. Respondents indicate degree of agreement with global statements reflecting low and high self-competence and self-liking.

#### *1.5. Limitations of the SLCS*

Despite clear and consistent evidence that the two dimensions hold unique associations with other theoretical constructs (e.g. Aidman, 1999; Bosson & Swann, 1999; Tafarodi & Swann, 1995, 1996; Tafarodi & Walters, 1999; Tafarodi, Lang & Smith, 1999; Tafarodi, Marshall & Milne, 2000; Tafarodi & Milne, 2000; Tafarodi & Smith, 2001), defenders of unidimensional self-esteem

have viewed the high correlation of the SLCS subscales ( $r = 0.69$ ) as suggesting the dominance of a single self-esteem factor over any subtle semantic distinctions among scale items. We suggest, in contrast, that the correlation of self-competence and self-liking is consistent with their hypothetical origins, which suggest considerable interdependence. Specifically, two pathways of mutual influence can be assumed.

First, because personal competence is so cherished in Western culture (Spence, 1985), we tend to take great pride in our abilities, overlaying them with moral significance. Similarly, others who benefit from our competence often praise and commend us for it, thereby affirming our social worth. Success, then, can promote self-liking as well as self-competence.

Second, the approval and acceptance that we receive from others is often accompanied by encouragement, assistance, cooperation, and general facilitation of our efforts to develop our skills and abilities. This is most apparent in the “enabling” love of parents for their children. Those who are liked, then, enjoy a clear advantage in achieving their goals. Because of these forms of mutual influence, it is not surprising that those who are high on one aspect of self-value also tend to be high on the other. The correlation of self-competence and self-liking, then, does not undermine the conception of self-esteem as a two-dimensional attitude.

The high correlation of two constructs, although not inherently problematic, does require evidence of discriminant validity (Campbell & Fiske, 1959; Macmann & Barnett, 1994), including the unique predictive utility of each construct beyond the other (Sechrest, 1963). This has been clearly confirmed using the SLCS (see Tafarodi & Milne, 2000, for a review). Even so, the high intercorrelation does limit the proportion of unique variance that each subscale affords in predictive application. Removing shared variance by residualizing one subscale score on the other can reveal the distinctive associations of each, but may also distort the latent constructs these shrunken indicators are assumed to represent (Lees & Neufeld, 1994). The extent to which this problem can be reduced depends on the true correlation of self-competence and self-liking, independent of shared method variance. This correlation is rather difficult to estimate, given the likely influence of method factors, the most obvious being the *halo effect* (Murphy, Jako & Anhalt, 1993). The form of halo effect that applies to the SLCS is an inappropriate transfer or generalization of positive (or negative) judgment across distinct groups of items. Such an effect would result in inflated subscale intercorrelations and, in the extreme case, blurred factor structure.

Other aspects of method may contribute to inflation of the subscale intercorrelation. The SLCS’s reliance on concurrent self-report implies that ratings of self-competence and self-liking items are made while in the same psychological state and with the same individual response tendencies. Contextual factors that vary across individuals and have generalized effects on responding will necessarily inflate the variance–covariance matrix. The semantic qualities of some of the SLCS items may compound this problem. For example, the item “I do not have much to be proud of” has been confirmed as an indicator of self-competence, presumably because most respondents take a lot of pride in their achievements. By focusing on pride, however, the item also holds relevance for self-liking, increasing its secondary loading on that dimension. Given these limitations of measurement, the true extent of overlap between the two dimensions of self-esteem is unknown. Insofar as the subscale intercorrelation is inflated by method factors, however, its reduction through scale modification would improve the utility of the instrument.

Aside from the high subscale intercorrelation, the SLCS is also limited by high population means for both subscales. Whereas the theoretical midpoint of both 10–50 subscales is 30, the

college population means are 42.18 and 37.75 for self-competence and self-liking, respectively (Tafarodi & Swann, 1995). Although elevated means are not atypical for self-esteem measures (Taylor & Brown, 1988), the resulting reduction in discrimination within the high range of the trait is undesirable. Furthermore, the resulting score distributions, especially that of self-competence, are clearly skewed, presenting difficulties for normal-theory statistical inference. Lowering the means through modification of the instrument would obviously improve matters.

### 1.6. *The SLCS — Revised Version*

To remedy the foregoing limitations, we revised the original instrument to create the SLCS — Revised Version (SLCS-R). In Study 1, we sought to confirm that this modified instrument had retained its intended structure. This was tested using confirmatory factor analysis (CFA), with special attention to discriminant validity. We also examined the extent to which the changes were corrective of the psychometric limitations described above. In Study 2, we adopted a multitrait–multimethod approach to examine both the convergent and discriminant validity of the SLCS-R across multiple reporters of self-competence and self-liking (self, mother, father).

## 2. Study 1

### 2.1. *Overview*

CFA of the SLCS-R items was used to compare four competing measurement models, each representing a distinct theoretical conception of global self-esteem. The fit of the models with the responses of a large sample of university students was assessed. The best-fitting model was taken to reflect the dimensionality of the scale.

### 2.2. *Method*

Participants were 1325 students (889 women and 436 men) enrolled in an introductory psychology course at the University of Toronto. The modal age was 19. Participants provided responses to the 16 SLCS-R items as part of a mass testing session conducted at the beginning of the academic year.

The SLCS-R was created by revising the original instrument as follows. Ten original items suspected of inflating the subscale inter-correlation because of their possible joint relevance for self-competence and self-liking were eliminated and replaced with six cleaner items. Six other items were modified by adding qualifiers that increased the extremity of the statement (e.g. “never”, “sometimes”, “very”). Our intention was to lower the subscale means by reducing the proportion of respondents using the endpoints (labelled *strongly disagree* and *strongly agree*) of the five-point rating scale. The remaining four items were retained in unchanged form. These changes reduced the original 20-item instrument to 16 items (two eight-item subscales, each balanced in positive and negative items; Appendix), offering greater economy. In contexts of high content homogeneity, increasing the number of items beyond eight offers only modest increases in reliability that are generally not worth the increase in administrative burden (Nunnally & Bernstein, 1994).

### 2.3. Results

#### 2.3.1. Simple statistics

The self-competence–self-liking correlation was 0.57 for women and 0.59 for men. The range of both 33-point scales is 8–40 and the theoretical midpoint is 24. Mean self-competence was 25.61 (S.D. = 5.62) for women and 27.23 (S.D. = 5.59) for men. Mean self-liking was 28.34 (S.D. = 6.99) for women and 30.14 (S.D. = 6.77) for men. For self-competence items, Cronbach's coefficient  $\alpha$  was 0.83 for women and 0.82 for men. For self-liking items, coefficient  $\alpha$  was 0.90 for women and 0.90 for men. In contrast to the original instrument, the distribution of self-competence subscale scores was not markedly asymmetric around the mean (skewness =  $-0.05$ ). The same was true of the self-liking distribution (skewness =  $-0.46$ ).

A non-select subsample ( $n = 138$ ; 31 men and 107 women) completed the SLCS-R a second time, 3 months later, permitting retest reliability to be gauged. The test–retest correlations were 0.78 for self-competence and 0.75 for self-liking. Correcting for attenuation due to internal inconsistency (Allen & Yen, 1979), these correlations translate into 3-month stability estimates of 0.94 for self-competence and 0.83 for self-liking.

Recall that one goal in revising the instrument was to move the means closer to the theoretical midpoint. A simple proportional index of non-centrality, or displacement from the midpoint, is the ratio of the absolute value of the difference between mean and midpoint scores to the maximum value for this difference. This index ranges from 0 to 1, with smaller values reflecting better centering. The self-competence ratios were 0.10 and 0.20 for women and men, respectively. The self-liking ratios were 0.27 and 0.38 for women and men, respectively. These ratios are clearly superior to those of the original instrument: self-competence ratios of 0.59 and 0.63 and self-liking ratios of 0.36 and 0.42 for women and men, respectively (Tafarodi and Swann, 1995).

#### 2.3.2. CFA of item structure

The SLCS-R items are only ostensibly interval scales, as there is no evidence that the equal intervals of the metric represent equal increments of the underlying trait. For example, there is little justification for assuming that respondents who rate an item at 1 are exactly half as similar in self-esteem to those who rate the item at 2 as they are to those who rate the item at 3. The SLCS-R items therefore provide only an ordinal level of measurement (Allen & Yen, 1979). Furthermore, with only five possible values, the ordinal item scale is a categorical, collapsed representation of the underlying continuous trait. Correlations among such items will underestimate those that would have resulted had the items been at least quasi-continuous. Bollen and Barb (1981), for example, found approximately 10% attenuation when correlating five-category variables as compared to their continuous counterparts. The problem appears to be worse when variables are highly skewed (Wylie, 1976).

Attenuated intercorrelations among ordered categorical indicators present an obvious challenge for structural equation modelling, given its reliance on the sample variance–covariance matrix for estimation. Consistent with this, Bernstein and Teng (1989) found that CFA using ordered categorical variables led to excessive rejection of one-factor models. One solution to attenuation is the use of polychoric correlations to estimate associations among the underlying continuous variables approximated by the categorical variables (Muthén, 1984). This strategy was adopted here.

A second challenge that the SLCS-R poses for CFA is the non-normality of item distributions. All item means fell between 3.1 and 4.1 on the five-point rating scale, and two exhibited clear skew (absolute value > 1). The Shapiro–Wilk test of non-normality (Shapiro & Wilk, 1965) was significant for all items ( $P_s < 0.0001$ ). Common estimation methods such as maximum likelihood and normal theory generalized least squares, when applied to clearly non-normal variables, lead to inaccurate test results due to inflation of the  $\chi^2$  goodness-of-fit statistic and underestimation of the standard errors of estimated parameters (Potthast, 1993; West, Finch & Curran, 1995). Improved model testing under such conditions is provided by alternative estimation methods such as Browne's (1984) asymptotically distribution free (ADF) estimator or appropriate re-scaling of  $\chi^2$  statistics and standard errors (Satorra & Bentler, 1994). ADF estimation was used here, given evidence for its adequate performance with skewed variables when models are modest in complexity and sample size is > 1000 (Hu, Bentler & Kano, 1992; Muthén & Kaplan, 1985). Weights were defined as asymptotic covariance estimates. Model specification and testing were conducted using the CALIS procedure in SAS 6.12.

### 2.3.3. Measurement models

Four competing theoretical models of global self-esteem were tested. These are shown in Fig. 1. In the *Unidimensional* model, all 16 items are defined as indicators of a single factor representing the unitary conception of global self-esteem. This model represents the claim that the semantic distinction between self-competence and self-liking is of negligible significance for understanding self-esteem, as the two types of items measure a single psychological quality.

In the *Valence* model, the eight positively worded items are defined as indicators of a positive self-esteem factor and the eight negatively worded items are defined as indicators of a negative self-esteem factor. This model represents the claim that the two poles of self-esteem represent substantively distinct dimensions (Barber, 1990; Kaplan and Pokorny, 1969; Kohn & Schooler, 1969; Openshaw, Thomas & Rollins, 1981; Owens, 1993; Shahani, Dipboye & Phillips, 1990).

In the *Hybrid* model, the eight positively worded items are defined as indicators of a positive self-esteem factor as in the previous model. The negative items, however, are split into self-competence and self-liking indicators, consistent with their design. This three-factor model represents the contention of Aidman (1998) that the self-competence–self-liking distinction holds only for the negative expression of self-esteem (i.e. “self-incompetence” and “self-disliking”), with the positive expression being undifferentiated.

Finally, the *Competence–Liking* model represents the a priori compound structure of the instrument, with eight self-competence and eight self-liking indicators.

For all models, error covariances were constrained to zero to avoid opportunistic fitting. Factor intercorrelations were freely estimated for the three multi-factor models. Given the impractical power-sensitivity of absolute  $\chi^2$  as a large-sample CFA test statistic, three commonly used relative fit indices were used to evaluate model goodness of fit. These were the Comparative Fit Index (Bentler, 1995), the Non-Normed Index [(Bentler & Bonett, 1980; equivalent to the Tucker–Lewis Index (Tucker & Lewis, 1973)], and the Normed Index (Bentler & Bonett). The Root Mean Squared Error Approximation (Steiger & Lind, 1980), an index of average reproduction discrepancy, was also examined.

All results pertaining to model comparison held equally for men and women. Therefore, quantitative results will be presented for the total sample. Consistent across models, all standar-



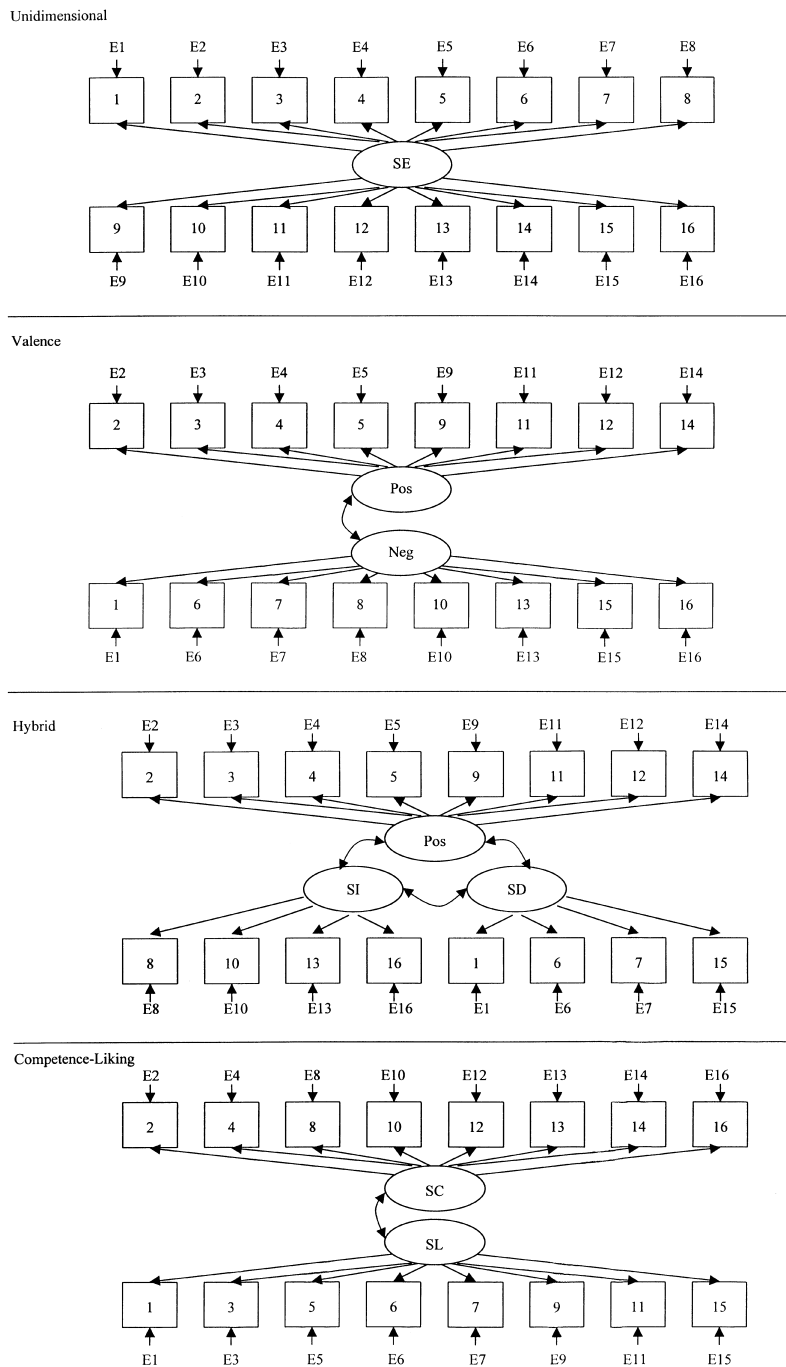


Fig. 1. Self-Liking/Self-Competence Scale-Revised Version (SLCS-R) measurement models tested in Study 1. Items are identified by their ordinal position (1–16) in the administration version of the scale (Appendix). SE, self-esteem; Pos, positive self-esteem; Neg, negative self-esteem; SC, self-competence; SL, self-liking; SI, self-incompetence; SD, self-disliking; E, error/unique.

dized factor loadings were  $>0.60$  and highly significant ( $P < 0.0001$ ). The latent factor intercorrelation was 0.93 for the Valence model and 0.78 for the Competence–Liking model. For the Hybrid model, the latent factor intercorrelations were 0.80 and 0.92 for Positive Self-Esteem with Self-Incompetence and Self-Disliking, respectively, and 0.81 for Self-Incompetence with Self-Disliking. Goodness-of-fit results appear in Table 1.

As the Unidimensional model is essentially a constrained version of the others, its fit was statistically compared against them using simple  $\chi^2$  difference tests. The Unidimensional model provided significantly worse fit than did the Valence model,  $\chi^2_{\text{diff}}(1) = 105$ ,  $P < 0.0001$ , the Hybrid model,  $\chi^2_{\text{diff}}(3) = 222$ ,  $P < 0.0001$ , and the Competence–Liking model,  $\chi^2_{\text{diff}}(1) = 264$ ,  $P < 0.0001$ . These comparisons are tantamount to testing the null hypothesis that the factor intercorrelations are equal to one. Thus, they also provide evidence for the discriminant validity of the highly correlated factors in both two-dimensional models.

The Valence model provided significantly worse fit than did the hierarchically related Hybrid model,  $\chi^2_{\text{diff}}(2) = 117$ ,  $P < 0.0001$ . Because the two best-fitting models, Hybrid and Competence–Liking, are not hierarchically related, it was not possible to formally test their differential fit. Nonetheless, the better fit of the Competence–Liking model is evident from its superior values on all fit indices. Furthermore, of all models tested, only the Competence–Liking model exceeded the conventional acceptability criterion of 0.90 (accounting for more than 90% of the covariation among the observed variables) across all relative fit indices. This supports the a priori dimensional structure of the SLCS-R as representing two distinct constructs, self-competence and self-liking. The fit of data to design, while clearly acceptable, was far from perfect. Examination of modification indices revealed that the bulk of the misfit was attributable to correlated errors. Inspection of the pattern of correlated errors, however, did not reveal meaningful additional distinctions among items, recommending against post hoc re-specification of the model. To improve fit in this way in the context of scale validation would be inappropriate and potentially misleading (Cliff, 1983).

#### 2.4. Discussion

Analysis of the SLCS-R revealed subscale means that were closer to the centre of the scale than had previously been the case. Consistent with this, the resulting distributions no longer showed

Table 1  
Goodness of fit for Self-Liking/Self-Competence Scale-Revised Version (SLCS-R) measurement models in Study 1<sup>a</sup>

Model	d.f.	$\chi^2$	CFI	NNI	NI	RMSEA
Null	120	7341	–	–	–	–
Unidimensional	104	920	0.89	0.87	0.87	0.08
Valence	103	815	0.90	0.89	0.89	0.07
Hybrid	101	698	0.91	0.90	0.90	0.07
Competence-Liking	103	656	0.92	0.91	0.91	0.06

<sup>a</sup> CFI, Comparative Fit Index; NNI, Non-Normed Index; NI, Normed Index; RMSEA, Root Mean Squared Error Approximation.

pronounced asymmetry around the means. These enhancements promise improved differentiation of respondents who are high on either latent dimension of self-esteem.

The estimated latent factor correlation was 0.78, which compares favourably with the estimate of 0.90 found for the original SLCS (Tafarodi & Milne, 2000). Because these estimates are effectively disattenuated for unreliability, the slight decrement in reliability attributable to reducing the subscales by two items cannot account for the improvement. Rather, the appreciable increase in non-common variance reinforces the conceptual separation of the correlated dimensions. Consistent with this, the discriminant validity of the subscales was formally tested and confirmed.

Though reduced, the factor correlation is still high. The method factors discussed above, especially the halo effect, presumably account for a share of the overlap. The ideal resolution of this problem would be concurrent reliance on additional measures of self-competence and self-liking that are not vulnerable to self-report method factors. Implicit, behavioral measurement is one possibility (Greenwald & Banaji, 1995). However, the significance of such measures as even correlates of the subjective experience of self-esteem is still under investigation.

A more modest approach to examining the validity of two dimensions within a multitrait-multimethod framework (Campbell & Fiske, 1959) is to have independent reporters complete the SLCS-R in reference to the same person (Fiske, 1982). This would not necessarily reduce the halo effect, insofar as this method factor distorts the responses of all reporters. It would, however, eliminate reporter-specific variance, allowing for convergent or “triangulated” measurement of self-liking and self-competence. Admittedly, the net effect of this multiple reporter approach on the estimated magnitude of the latent correlation cannot be known in advance (i.e. it could increase it as well as decrease it). Nonetheless, structural estimation based on multiple reporters has the advantage of intersubjectivity and is therefore preferable to single-reporter estimation. Moreover, it allows for the simultaneous testing of convergent and discriminant validity. We adopted this strategy in Study 2.

### 3. Study 2

#### 3.1. Overview

A sample of university students and their parents provided reports of the students’ self-esteem using the SLCS-R. The three independent reports were modelled as multiple indicators of self-competence and self-liking. Convergent and discriminant validity were tested using CFA.

#### 3.2. Method

Participants were 298 students (219 women and 79 men) enrolled in an introductory psychology course at the University of Toronto. Their modal age was 19. Recruitment was restricted to students who had lived with both parents from 4 to 16 years of age, ensuring that only parents in a position to know their children well were included. Participants provided responses to the 16 SLCS-R items, followed by a number of other self-report measures that are not relevant here. Administration was conducted in small groups of 6–10. Participants also provided the mailing

addresses of their parents. Separate questionnaires, together with postage-paid return envelopes, were sent to mothers and fathers. Each parent was invited to participate in the study. Participating parents were instructed to fill out the questionnaire independent of both their spouse and their child (the student). The parent questionnaires were parallel to those completed by the students, with the wording of the SLCS-R items modified to refer to the student involved in the study. For example, parents responded to “My child feels great about who he/she is”, where students had responded to “I feel great about who I am”. Anonymity was ensured through use of numerical coding rather than identifying information to match student and parent responses.

### 3.3. Results

#### 3.3.1. Simple statistics

Questionnaires were returned by 108 mothers and 104 fathers. Matching produced 90 mother–father pairs. These were the parents of 73 female and 17 male participants. The small number of male students precluded meaningful examination of gender differences in the results that follow. The sample was screened for univariate and multivariate outliers on the variables analysed below. None were found.

The modest pair response rate (30%) recommended exploration of possible differences between students whose parents did versus did not respond. The gender ratio was roughly comparable, continuity-adjusted  $\chi^2(1) = 3.30$ ,  $P = 0.07$ . The two groups did not differ in self-competence,  $t(296) = 1.06$ ,  $P = 0.29$ , or in self-liking,  $t(296) = 1.60$ ,  $P = 0.11$ . The self-competence–self-liking (self-reported) correlation was 0.69 and 0.64 for students whose parents did and did not respond, respectively. These correlations were comparable, Fisher’s  $z = 0.81$ ,  $P = 0.42$ . Both correlations, especially that for students whose parents responded, were somewhat higher than the 0.58 found in Study 1. The disparity with Study 1, however, was not significant in the case of students whose parents failed to respond, Fisher’s  $z = 1.20$ ,  $P = 0.23$ , or for those whose parents did respond, Fisher’s  $z = 1.75$ ,  $P = 0.08$ .

#### 3.3.2. Testing convergent and discriminant validity

A minimal prerequisite for interpreting independent reports as indicators of a common construct is that the reporters intercorrelate. This was confirmed. Self-report of self-competence (SSC;  $\alpha = 0.83$ ) correlated with mother’s report (MSC;  $\alpha = 0.84$ ) at 0.34 and father’s report (FSC;  $\alpha = 0.88$ ) at 0.35, and self-report of self-liking (SSL;  $\alpha = 0.90$ ) correlated with mother’s report (MSL;  $\alpha = 0.91$ ) at 0.45 and father’s report (FSL;  $\alpha = 0.93$ ) at 0.39 (all  $P$ s < 0.002). Similarly, the two parents’ reports of self-competence and self-liking correlated at 0.57 and 0.46, respectively ( $P$ s < 0.0001). These correlations are but part of the multitrait–multimethod matrix. Traditional guidelines for examination of convergent and discriminant validity involve comparisons of different regions of this matrix (Campbell & Fiske, 1959). For example, the validity diagonals, or monotrait–heteromethod correlations, should exceed the heterotrait–heteromethod correlations. Comparison of correlations among observed variables (trait–method units), however, is distorted by the reliabilities of the variables. This, along with several other limitations, renders direct examination of the matrix a poor basis for conclusions about validity (Marsh, 1989; Widaman, 1985). The latent variable framework of CFA overcomes the limitations of the traditional method. We adopted the CFA approach here, assessing validity through comparison

of distinct measurement models (Widaman, 1985). These models are depicted in Fig. 2 and outlined below.<sup>1</sup>

In the *Unidimensional* model, the six trait–method units (SSC, SSL, MSC, MSL, FSC, FSL) were defined as indicators of a single trait/method. In the *Competence–Liking* model, SSC, MSC, and FSC were defined as indicators of self-competence and SSL, MSL, and FSL were defined as indicators of self-liking. The self-competence–self-liking correlation was freely estimated. In the *Unidimensional–Reporter* model, three correlated errors were added to the Unidimensional model to represent the method (reporter) factors. Note that this model is statistically equivalent to an explicit “method” model with no trait factors and freely estimated intercorrelations among the three method factors. Marsh and Bailey (1991) have recommended the use of correlated errors rather than explicit factors to represent method factors in multitrait–multimethod models, given the tendency of the former to produce fewer improper solutions and more accurate parameter estimates. Finally, in the *Competence–Liking–Reporter* model, correlated errors were added to the Competence–Liking model to represent the method factors.

All models were fit to the data using the maximum likelihood method. Normal-theory estimation was warranted by the six variable distributions. Goodness of fit was assessed using the same indices as in Study 1. The results appear in Table 2. Clearly, only the Unidimensional–Reporter and Competence–Liking–Reporter models provided acceptable fit. The hierarchical nesting of models allowed for direct tests of incremental fit. The significance of covariance attributable to the three reporters was confirmed by comparing the Competence–Liking and Competence–Liking–Reporter models,  $\chi^2(3) = 81$ ,  $P < 0.0001$ . This supports the presence of method effects.

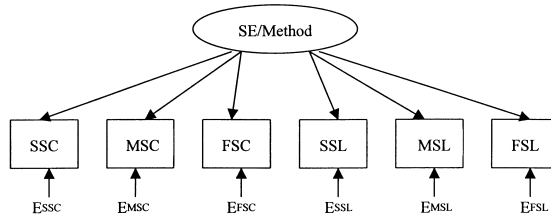
The discriminant validity of self-competence and self-liking was confirmed by comparing the Unidimensional–Reporter and Competence–Liking–Reporter models,  $\chi^2(1) = 6$ ,  $P = 0.01$ . Thus, as in Study 1, self-competence and self-liking were empirically separable. Finally, recall that the Unidimensional–Reporter model can be alternatively specified as an exclusive method model with correlations among the three method factors (reporters). This model would provide exactly the same fit. Because of this statistical equivalence, the superior fit of the Competence–Liking–Reporter model over the Unidimensional–Reporter model also confirms convergent validity, suggesting significant covariance attributable to the latent traits. Consistent with this, all standardized trait–method factor loadings in the Competence–Liking–Reporter model were  $> 0.40$  and highly significant. The latent self-competence–self-liking correlation was 0.90, higher than the 0.78 found in Study 1. This increase reflects the higher correlation of self-competence and self-liking at the observed level, noted earlier.

Wald testing revealed that fixing the correlation of error variances for mother-reported self-competence and self-liking (the “mother” method factor) to zero did not produce significantly

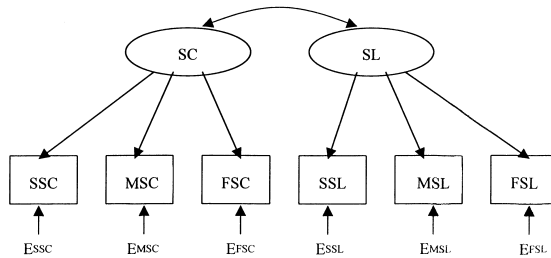
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<sup>1</sup> Marsh (1993) recommends the use of two-tiered factor models in assessing multitrait–multimethod data. Specifically, trait–method units are defined as first-order factors, each with multiple indicators (scale items or item parcels). Traits and methods are then defined as second-order factors inferred from the first-order factors. In application to multiple reporter data, this strategy improves estimation of convergent validity by accounting for autocorrelated error variances across reporters for the same items or item parcels. We therefore conducted supplementary, two-tiered model testing, using three-item parcels to represent each trait–method unit. Only 1 of 18 estimated autocorrelations was significant, suggesting little advantage of this approach for these particular data. Given the hazards of complex models for small-sample estimation, the absence of autocorrelation justified reliance on the standard, single-tiered factor structure (Widaman, 1985).

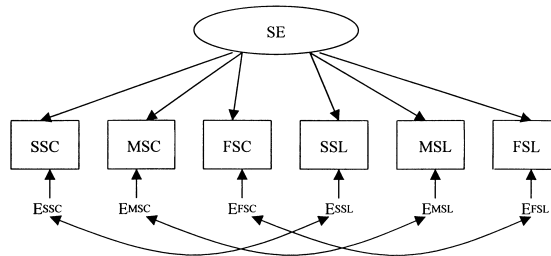
Unidimensional



Competence-Liking



Unidimensional-Reporter



Competence-Liking-Reporter

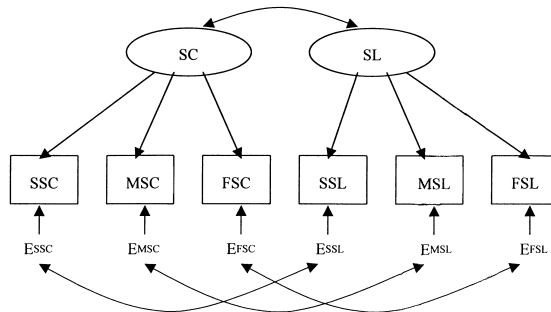


Fig. 2. Multiple reporter measurement models tested in Study 2. SSC, self-reported self-competence; MSC, mother-reported self-competence; FSC, father-reported self-competence; SSL, self-reported self-liking; MSL, mother-reported self-liking; FSL, father-reported self-liking; E, error/uniqueness.

Table 2  
Goodness of fit for Multiple Reporter measurement models in Study 2<sup>a</sup>

Model	d.f.	$\chi^2$	CFI	NNI	NI	RMSEA
Null	15	282	–	–	–	–
Unidimensional	9	94	0.68	0.47	0.67	0.33
Competence–Liking	8	88	0.70	0.44	0.69	0.34
Unidimensional–Reporter	6	13	0.97	0.93	0.95	0.12
Competence–Liking–Reporter	5	7	0.99	0.98	0.98	0.07

<sup>a</sup> CFI, Comparative Fit Index; NNI, Non-Normed Index; NI, Normed Index; RMSEA, Root Mean Squared Error Approximation.

worse fit,  $P=0.07$ . This parameter was therefore removed for parsimony. The final multitrait–multimethod model appears in Fig. 3.

### 3.4. Discussion

In this study, students and their parents provided independent reports of the students’ self-esteem using the SLCS-R. Discriminant validity was confirmed in the multimethod context. Thus, the justification for distinguishing the two dimensions of self-esteem is not limited to self-reports, but applies more broadly to alternative methods of SLCS-R application. This finding, together with the appreciable convergence of self, mother, and father ratings for both dimensions, invites the use of multiple reporters to control for some of the response tendencies that plague self-reports (e.g. defensive responding). Although parent reports are hardly free of such tendencies, the overlap with self-reports would be partial, allowing the uniqueness to be absorbed into error variance.

Admittedly, the use of the same paper-and-pencil measure with multiple reporters does not overcome the inherent limitations of the measure, which apply equally to all reporters. For example, the likelihood of a halo effect is presumably similar across independent reporters. The inflationary bias of this central response factor would therefore not be controlled for in latent variable estimates. The failure of the multitrait–multimethod approach to reduce the factor correlation is therefore not unusual, irrespective of any peculiarities of the sample. Insofar as the correlation of

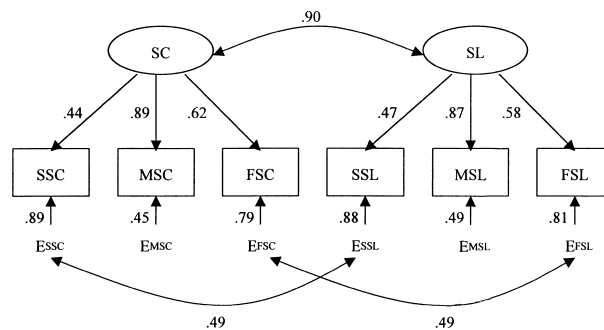


Fig. 3. Final multiple reporter measurement model. Parameter estimates are standardized. All factor loadings and covariances are significant at  $P < 0.0001$ .

self-competence and self-liking is genuinely moderate to high to begin with, the inflationary impact of uncontrolled method factors would be potentiated in multiplicative fashion (Campbell & O'Connell, 1982). This suggests the need for alternative measures that do not rely on ratings of direct, valuative statements.

The pursuit of indirect or implicit measurement would in no way conflict with the conception of self-esteem as a conscious, reflexive phenomenon. Self-competence and self-liking are complex amalgams of cognition and affect, not crude “feelings”. To posit unconscious forms of self-competence and self-liking that are dissociated from conscious beliefs about the self is rather perplexing in that it suggests a multiplicity of self-identity. By definition, people can be trusted to know the extent to which they value themselves. The advantage of implicit measurement is its ability to overcome method factors that distort the direct *communication* of that valuation via self-report instruments. In our view, Greenwald and Banaji's (1995) implicit self-esteem effects are the non-communicative, behavioural consequences of what people privately think about themselves and not windows upon some deeper form of self-esteem.

#### 4. General discussion

We have argued in this paper for differentiating two dimensions of self-esteem in theory and measurement. That human beings experience themselves as both wilful agents and social objects gives rise to two distinct forms of personal valuation, self-competence and self-liking. We began by clarifying our conception of this duality to resolve the ambiguities and omissions of previous accounts (Tafarodi, 1998; Tafarodi & Swann, 1995; Tafarodi & Milne, 2000). In doing so, we described the differences, commonalities, and interrelations of the two dimensions.

Measurement of global self-esteem has often merged self-competence and self-liking together, as exemplified by Rosenberg's (1965) Self-Esteem Scale, which has been shown to decompose into indicators of both dimensions and to share 83% of its total variance with the SLCS (Tafarodi & Milne, 2000). To provide improved, differentiated measurement of self-esteem, we modified an earlier instrument to create the SLCS-R. Analysis of responses to the SLCS-R revealed a number of intended benefits, including reduced subscale and factor intercorrelations and greater normality and centering of score distributions. Furthermore, the two-dimensional structure of the instrument was confirmed in Study 1 against competing conceptions of global self-esteem. Most importantly, self-competence and self-liking were not empirically reducible to a single construct, supporting discriminant validity. In Study 2, we went beyond self-reports, confirming both convergent and discriminant validity in a multiple reporter context. The reproduction of the high factor intercorrelation in this context, however, suggests the need for supplementary methods of measurement that do not rely on explicit or direct ratings. Without such methods, the true extent to which self-competence and self-liking are interdependent in development and therefore concordant in subjective experience will not be known.

The structural findings are consistent with our conceptual framework, wherein the two aspects of self-esteem are posited to have distinct causes, consequences, and correlates. Insofar as this framework is valid, there is much to be gained by formally distinguishing self-competence and self-liking in theory and research. In application, this will most often require focusing on the variance that is unique to each.



#### 4.1. *A higher love?*

Does the high intercorrelation of self-competence and self-liking suggest the possibility of a third, higher-order dimension of global self-esteem? Positing a superordinate construct to account for a high correlation is justified when: (1) the correlation cannot be more parsimoniously explained by unidirectional or bidirectional effects between the two subordinate constructs; and (2) the superordinate construct holds clear surplus meaning beyond the subordinate constructs. Neither justification holds here, as the analogy of height and weight helps illustrate.

The intercorrelation of height and weight is at least as high as that between the two dimensions of self-esteem. Even so, it would seem odd to suggest that this is so because height and weight are both influenced by a third, “size” variable. Rather, the association is more simply explained by the observation that taller people tend to have greater body volume than shorter people and therefore weigh more. There is little need to introduce an additional concept here. The sufficiency does not, of course, preclude some composite of height and weight from proving useful beyond the separate constructs in the context of prediction. Such surplus meaning, however, is captured in the height  $\times$  weight interaction. There is no theoretical justification for interpreting the interaction as anything more than just that — an interaction between two highest-order constructs.

The case of self-competence and self-liking is similar. Their strong association is readily explained by the reciprocal determination hypothesized to bind them through development, described at the outset. These paths of influence are enough to explain any overlap of self-competence and self-liking beyond measurement-related covariance. As in the case of height and weight, an additional concept is unnecessary.

Neither would a third, more global dimension of self-esteem provide surplus meaning. Just as height and weight jointly constitute what we think of as body “size”, self-competence and self-liking jointly constitute “general” self-esteem. In both cases, the higher-order concept holds no independent experiential or functional meaning; it serves only to represent a correlated composite of dimensions. Such concepts are merely expedients of discourse, not self-standing theoretical constructs.

Finally, we should recognize that correlation between constructs is not inherently problematic. Presumably, height and weight would remain highly correlated even if perfectly measured, yet this in no way casts doubt on their conceptual separation. Analogously, a strong residual association of self-competence with self-liking after all shared method variance is partialled out would not threaten their confirmed discriminant validity. Natural covariance is as much an aspect of psychological as physical reality. Collapsing together all observed dimensions that share a high proportion of their variance would result in a conceptual system that was cripplingly simplistic.

## 5. Conclusion

The prescriptive significance of the present research is clear. A clarification of self-esteem as self-competence and self-liking helps remedy the conceptual disorder that plagues the field. The wide differences in theoretical viewpoints noted by critics of the literature have been due in part to focus on one or the other dimension. A balanced understanding of the nature and importance of both dimensions would go far in reconciling seemingly discrepant perspectives and preventing

further confusion. Toward such understanding, we offered here a clarified, formal description of self-competence and self-liking as constitutive aspects of global self-esteem. Furthermore, we facilitated its application in research by enhancing and validating a simple, straightforward, and economical measuring instrument. We hope that the results of this effort will be a sharper picture of what is arguably our most important attitude.

### Acknowledgements

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### Appendix. Self-Liking/Self-Competence Scale-Revised Version (SLCS-R) items

1. I tend to devalue myself. (L–)
2. I am highly effective at the things I do. (C+)
3. I am very comfortable with myself. (L+)
4. I am almost always able to accomplish what I try for. (C+)
5. I am secure in my sense of self-worth. (L+)
6. It is sometimes unpleasant for me to think about myself. (L–)
7. I have a negative attitude toward myself. (L–)
8. At times, I find it difficult to achieve the things that are important to me. (C–)
9. I feel great about who I am. (L+)
10. I sometimes deal poorly with challenges. (C–)
11. I never doubt my personal worth. (L+)
12. I perform very well at many things. (C+)
13. I sometimes fail to fulfill my goals. (C–)
14. I am very talented. (C+)
15. I do not have enough respect for myself. (L–)
16. I wish I were more skillful in my activities. (C–)

Note. C, self-competence; L, self-liking; –, negative item; +, positive item.

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