Research Article

Within-Person Relationships Among Daily Self-Esteem, Need Satisfaction, and Authenticity

Whitney L. Heppner,[1] **Michael H. Kernis,**[1] **John B. Nezlek,**[2] **Joshua Foster,**[3] **Chad E. Lakey,**[4] **and Brian M. Goldman**[5]

[1]*University of Georgia,* [2]*College of William & Mary,* [3]*University of South Alabama,* [4]*East Tennessee State University, and* [5]*Clayton State University*

ABSTRACT—*This study examined the within-person relationships among daily self-esteem, felt authenticity (i.e., the operation of one's "true self"), and satisfaction of psychological needs for autonomy, competence, and relatedness. We also included measures of affect to control for the variance these constructs might share with affect. Over a 2-week period, 116 participants responded daily to measures of these variables. Multilevel random-coefficients modeling revealed that authenticity, autonomy, competence, and relatedness were all positively and significantly related to daily reports of self-esteem, even when we controlled for the contributions of pleasant and unpleasant affect. We discuss the roles of authenticity and psychological needs in daily feelings of self-worth.*

What influences the way that people feel about themselves from day to day? This issue is important because people vary in how much they exhibit daily fluctuations in their contextually based feelings of self-worth (i.e., *stability* of self-esteem; Savin-Williams & Demo, 1983). Moreover, it is now well established that the stability of self-esteem, over and above the level of self-esteem, is important to psychological functioning (for a review, see Kernis, 2005). For example, greater instability of self-esteem relates to greater increases in subsequent depression among individuals who experience substantial daily hassles (Kernis et al., 1998) or failure (Roberts & Monroe, 1992); greater reactivity of self-feelings tied to everyday positive and negative events, especially those that concern self-esteem and social rejection (Greenier et al., 1999); and lower clarity of self-concept and less

Address correspondence to Whitney Heppner, Department of Psychology, University of Georgia, Athens, GA 30602-3013, e-mail: whithepp@uga.edu.

self-determination in pursuing personal goals (Kernis, Paradise, Whitaker, Wheatman, & Goldman, 2000).

Although research has shown that daily self-esteem covaries with daily affect (e.g., Nezlek, 2005) and with constructs such as self-concept clarity (e.g., Nezlek & Plesko, 2001), little is known about within-person relationships between self-esteem and intrapsychic variables such as satisfaction of psychological needs (Deci & Ryan, 2000) and felt authenticity (Kernis & Goldman, 2006). Self-esteem research and theory generally emphasize felt competence and social acceptance as factors that influence dispositional self-esteem (e.g., Harter, 1999, 2003). Although between-person relationships at the trait level constitute a good starting place to formulate hypotheses regarding within-person relationships at the state level, relationships at the two levels are independent of one another (Nezlek, 2001). Two constructs may be positively related at the within-person level and negatively related at the between-person level, and vice versa. Moreover, relationships at the two levels of analysis may reflect different psychological processes (Tennen, Affleck, & Armeli, 2005).

Adherents of self-determination theory (e.g., Deci & Ryan, 1995; Moller, Friedman, & Deci, 2006) contend that satisfaction of needs for autonomy, competence, and relatedness is central to healthy self-esteem. The relative absence of need satisfaction is thought to interfere with healthy self-esteem and lead people to focus on satisfying various contingencies of self-worth that undermine self-esteem (Moller et al., 2006). In a study consistent with these assertions, people high in dispositional autonomy were found to also have high dispositional self-esteem (Deci & Ryan, 1985). To our knowledge, however, no research has examined whether daily need satisfaction relates to daily self-esteem.

Other, contrasting theoretical perspectives emphasize subsets of these needs as influential for self-esteem. Sociometer theory

(Leary & Baumeister, 2000), for example, emphasizes only satisfaction of relatedness needs. In fact, some proponents of sociometer theory argue that if satisfying autonomy and competence needs relates to self-esteem, this influence should be indirect, mediated by the satisfaction of relatedness needs (Leary, 2006). That is, although autonomy and competence may correlate with self-esteem, these relationships will disappear after controlling for relatedness needs. In contrast, Harter's (2003) and Tafarodi and Swann's (2001) self-esteem models emphasize the importance of competence and relatedness to high self-esteem, but ignore the potential importance of autonomy.

Differences among these various theoretical perspectives can be summarized as follows: Whereas self-determination theory holds that autonomy, competence, and relatedness each relate uniquely to daily self-esteem, sociometer theory holds that only relatedness has unique effects, and Harter (2003) and Tafarodi and Swann (2001) hold that competence and relatedness have unique effects, but are silent on the role of autonomy. Thus, our first goal in the study reported here was to test whether satisfaction of all or only some psychological needs relates to daily self-esteem. On the basis of self-determination theory, we predicted that satisfaction of each need would relate independently to higher daily self-esteem.

Recent research and theory (Goldman, 2006; Kernis, 2003) also suggest that *authenticity*, defined as the unimpeded operation of one's true self in one's daily enterprise (Goldman & Kernis, 2002), is important to healthy self-esteem. For example, dispositional authenticity correlates positively (e.g., $r = .47$) with level of self-esteem (Kernis & Goldman, 2006). Nevertheless, the relation between authenticity and self-esteem has yet to be examined at the within-person or state level. Thus, our second goal was to test the hypothesis that daily authenticity and daily self-esteem would be positively related.

Our third goal was to provide additional evidence that self-esteem and affect are distinct constructs. Stated differently, we sought to show that liking oneself overall is not the same thing as experiencing pleasant (or not experiencing unpleasant) emotional states. Previous research has demonstrated that although self-esteem and affect are related to each other at the within-person level, these relationships are far from perfect. For example, Nezlek (2005) reported that daily self-esteem was related to daily achievement and social events independently of the relationships between daily events and affect. On the basis of these findings, we hypothesized that relationships among daily self-esteem, authenticity, and need satisfaction would remain significant after we controlled for daily pleasant and unpleasant affect.

METHOD

Participants

One hundred sixteen undergraduate students (39 men, 77 women; mean age = 19.3 years) participated in exchange for credit toward a research-participation requirement.

Procedure and Measures

For approximately 2 weeks, participants completed a set of online measures each night around 10 p.m. Each of the daily measures began with the stem "Today I felt . . . ." To assess the three psychological needs, we used six items (adapted from Sheldon, Elliot, Kim, & Kasser, 2001): two measures of autonomy ("that my choices were based on my own interests and values"; "that my choices expressed my 'true self'"), two measures of competence ("that I was taking on and mastering hard challenges"; "very capable in what I did"), and two measures of relatedness ("close and connected with other people who are important to me"; "a strong sense of intimacy with the people I spent time with"). We also created two face-valid items to assess daily felt authenticity: "that I wore a number of social 'masks'" (reverse-scored) and "that throughout the day I was in touch with my 'true self.'" We assessed self-esteem with the items "that I had many positive qualities" and "quite satisfied with who I am." Finally, we also assessed pleasant ("joyful," "energized," "calm," "content") and unpleasant ("angry," "sad," "dejected," "stressed," "frustrated") affect.

The daily measures were presented in two parts: In Part 1, items measuring need satisfaction, self-esteem, and authenticity were interspersed; Part 2 contained the affect items. The Part 1 instructions were as follows:

> The following measure has a variety of statements regarding how you felt about various aspects of your day today. Please take a moment and reflect on what your day was like, the people with whom you interacted, the events that took place, and so forth. There are no right or wrong responses, so please answer honestly. After reading each response, click on the circle that most accurately characterizes your response to it.

In Part 2, participants were instructed to "rate the extent to which you felt each of the following emotions over the course of the day today."

Participants responded to all items using scales from 0 through 9. For the need-satisfaction, authenticity, and self-esteem items, the anchors were *strongly disagree* and *strongly agree*. For the affect items, the anchors were *not at all* and *a great deal*.

Participants provided a total of 1,307 days of data ($M = 11.27$, $SD = 1.68$). The minimum number of days of data provided by participants used in analyses was 7, and the maximum was 14.

RESULTS

The data constituted a multilevel structure in which we treated daily observations (i.e., daily reports of need satisfaction, felt authenticity, self-esteem, and affect) as nested within people.[1]

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[1]Participants also completed instruments measuring trait self-esteem, stability of (state) self-esteem, and contingency of self-esteem on external sources or standards. Analyses of whether individual differences in trait self-esteem, stability of self-esteem, and contingency of self-esteem moderated the within-person relationships reported here yielded only isolated effects with no coherent pattern.

TABLE 1

Estimated Within-Person Correlations Among the Daily Predictors

Predictor	1	2	3	4	5	6	7
Autonomy							
1. Choices were based on own interests and values							
2. Choices expressed "true self"	.47						
Competence							
3. Took on and mastered hard challenges	.42	.28					
4. Felt capable	.43	.50	.31				
Relatedness							
5. Felt close and connected with people	.45	.33	.31	.40			
6. Felt strong sense of intimacy with people	.39	.39	.25	.43	.63		
Authenticity							
7. Wore a number of social "masks" (reverse-scored)	.31	.35	.28	.28	.25	.23	
8. Felt in touch with "true self"	.45	.48	.35	.49	.46	.45	.32

Note. All predictors were standardized. See the text for the exact wording of the measures.

We analyzed the data with a series of multilevel random-coefficients models following guidelines suggested by Nezlek (2001).

Our original intention was to examine relationships between daily self-esteem and authenticity, autonomy, competence, and relatedness using daily aggregates of the items for each construct. However, despite the face validity of these items, initial analyses (items nested within days and days nested within persons and estimated within-person correlations) did not indicate that the two items measuring each construct had sufficient internal consistency. For example, although one authenticity item ("that I wore a number of social 'masks' ") did not correlate strongly with the autonomy items, the second authenticity item ("that throughout the day I was in touch with my 'true self' ") correlated more strongly with each of the autonomy items than it did with the other authenticity item. In too many cases, individual items correlated as highly with items intended to measure another construct as they did with the other item intended to measure the same construct. Table 1 presents the within-person correlations among the items measuring autonomy, competence, relatedness, and authenticity.

In light of these correlations, we decided to analyze individual items, rather than to create summary scores of the two-item sets reflecting need satisfaction and authenticity. Specifically, we entered the eight individual need-satisfaction and authenticity items simultaneously as predictors of daily self-esteem. Given that our hypotheses concerned need satisfaction as a broad, multifactor construct, we felt that including the individual items provided a stronger test of these hypotheses than creating a two-item scale (with unclear internal consistency) for each of the constructs. It should be noted that measures of daily self-esteem and daily positive and negative affect were internally consistent (reliabilities of .56, .58, and .62, respectively).

Prior to analysis, we standardized all variables (across all observations). We group-mean-centered all predictors, and all coefficients were modeled as randomly varying and were fixed following guidelines offered by Nezlek (2001). As Table 2 shows, scores on seven of the eight individual items were significantly and positively related to daily self-esteem. The only nonsignificant item was "that I was taking on and mastering hard challenges" (competence).

Next, we examined whether each of these eight items related to daily pleasant and unpleasant affect. The results, displayed in Table 2, differed somewhat from those for daily self-esteem. Six items related positively to daily pleasant affect, whereas five items related negatively to daily unpleasant affect (the coefficient for one of these items—"close and connected with other people who are important to me," a relatedness item—was not significant). One autonomy item ("that my choices expressed my 'true self' ") was not related to either pleasant or unpleasant affect. Surprisingly, one competence item, "that I was taking on and mastering hard challenges," was related inversely to pleasant affect and positively to unpleasant affect.

Finally, we examined relationships between the eight predictors and daily self-esteem, controlling for the overlap between self-esteem and affect (by including pleasant and unpleasant affect in the model). Table 2 shows that the results were very similar to those of the analysis that did not control for affect. Six of the eight predictors remained significant or, in one case ("that I wore a number of social 'masks,' " an authenticity item), marginally significant, despite the large number of predictors. In this model, "a strong sense of intimacy with the people I spent time with" (relatedness) and "that I was taking on and mastering hard challenges" (competence) were not significantly related to self-esteem.

DISCUSSION

Our results provide support for self-determination theory, as daily autonomy, daily competence, and daily relatedness were each uniquely related to daily self-esteem. We also found that experiencing one's true self is integral to daily self-esteem, as felt authenticity was uniquely related to self-esteem after con-

TABLE 2

Within-Person Relationships Between Daily Need Satisfaction and Authenticity and Daily Self-Esteem and Affect

Predictor	Self-esteem		Pleasant affect		Unpleasant affect		Self-esteem with affect controlled	
	b	t	b	t	b	t	b	t
Intercept	−0.01	−0.12 (115)	−0.00	−0.07 (115)	0.01	0.30 (115)	−0.01	−0.12 (115)
Autonomy								
Choices were based on own interests and values	0.09**	3.86 (115)	0.11**	4.51 (1268)	−0.06†	−1.93 (1268)	0.07**	2.81 (115)
Choices expressed "true self"	0.12**	5.26 (115)	0.00	0.01 (1268)	0.00	0.01 (115)	0.12**	4.82 (115)
Competence								
Took on and mastered hard challenges	0.02	0.94 (115)	−0.04*	−1.97 (1268)	0.07*	3.40 (1268)	0.03	1.61 (115)
Felt capable	0.17**	8.13 (115)	0.12**	4.93 (1268)	−0.16**	−5.45 (115)	0.15**	7.33 (115)
Relatedness								
Felt close and connected with people	0.06*	2.65 (115)	0.08*	2.84 (115)	−0.03	−1.02 (115)	0.05**	2.70 (1266)
Felt strong sense of intimacy with people	0.05*	2.25 (115)	0.14**	5.78 (1268)	−0.10*	−3.47 (115)	0.03	1.28 (115)
Authenticity								
Wore a number of social "masks" (reverse-scored)	0.04*	2.00 (115)	0.05†	1.94 (115)	0.14**	5.86 (1268)	0.03†	1.87 (115)
Felt in touch with "true self"	0.19**	7.09 (115)	0.22**	6.65 (115)	−0.12*	−3.55 (115)	0.15**	6.16 (1266)
Pleasant affect	—	—	—	—	—	—	0.14**	5.00 (115)
Unpleasant affect	—	—	—	—	—	—	−0.06*	−2.30 (1266)

Note. All predictors were standardized. For the *t* tests, degrees of freedom are given in parentheses.
†$p < .07$. *$p < .05$. **$p < .01$.

trolling for the contribution of need satisfaction. An important implication of these findings is that self-esteem is derived from processes both internal and external to the person. As predicted by sociometer theory (Leary & Baumeister, 2000), the extent to which participants felt intimate and connected with other people predicted daily feelings of self-worth. In addition, and in contrast to sociometer theory and many other social-psychological perspectives, both autonomy and felt authenticity were related to daily self-esteem, after controlling for relatedness and competence. These results are important because constructs such as autonomy and authenticity have been virtually ignored in mainstream self-esteem theories and perspectives (for exceptions, see Deci & Ryan, 1995; Goldman, 2006; Kernis, 2003; Moller et al., 2006; Ryan & Brown, 2006).

Our measures of autonomy in this study focused on the feeling that one's choices are consistent with one's core values and self-aspects. This emphasis on choice is consistent with early treatments of the autonomy construct (Deci & Ryan, 1985). More recent discussions of autonomy have emphasized the extent to which individuals fully endorse their own actions, a perspective that includes choice, but is considerably broader (Ryan & Deci, 2002). According to these recent discussions, autonomy influences multiple aspects of the self-system, including one's thoughts, feelings, and behaviors (Hodgins & Knee, 2002).

To our knowledge, being in touch with one's core self has not been empirically studied as an aspect of autonomy separately from choice. We believe that it will be important to make this distinction in future research, for both theoretical and empirical reasons. Conceptually, making choices about one's behavior is but one aspect of being authentic and fully functioning (Rogers,

1959). Empirically, the authenticity items we used (measuring the absence of social masks and being in touch with one's true self) were related to daily self-esteem independently of the relationships between self-esteem and measures of choice. We recognize, however, that some readers may think of our authenticity items as measures of autonomy (in the broad sense), and such considerations suggest that the boundary between the constructs of autonomy and authenticity may be somewhat unclear. Our point is that being in touch with oneself even when not making choices is important and should be studied separately from whether one is making choices per se.

Although we implicitly took a "bottom up" approach to self-esteem by examining the extent to which authenticity and need satisfaction predict self-esteem, we do not mean to imply that these interrelations necessarily are unidirectional. Just as authenticity and need satisfaction may promote high self-esteem, as suggested here, high self-esteem may promote need satisfaction and authenticity (cf. Brown, 1993). Our view is that self-esteem, authenticity, and need satisfaction constitute a system of variables that likely have reciprocal relations with one another. Given our interest in understanding predictors of self-esteem, we chose to "break into" the system where we did. We recognize, however, that we cannot say definitively that daily need satisfaction and authenticity cause daily self-esteem. Prospective longitudinal designs may be helpful in shedding light on this question.

We also found that daily need satisfaction and authenticity were related to daily self-esteem after controlling for variance shared with affect. These independent relationships support other findings indicating that affect and self-esteem are not

identical constructs (e.g., Nezlek, 2005; Nezlek & Plesko, 2003). Although being authentic, having one's needs satisfied, and having high self-esteem may be associated with feeling good per se, our results suggest that need satisfaction and authenticity relate to self-esteem through something other than merely good mood. For example, authenticity and need satisfaction may serve to confirm one's sense of self and to clarify or strengthen one's identity.

In sum, consistent with previous research and theory, our findings indicate that people feel better about themselves overall when they feel competent and socially connected. However, that is not the entire picture. What also is important to daily feelings of self-worth is to carry out one's daily activities in ways that reflect personal integrity and choice. Incorporating these underpinnings of daily self-esteem more fully into theories of self-esteem will greatly enhance understanding of the role of self-esteem in psychological functioning and well-being.

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