Self-Complexity and the Authenticity of Self-Aspects: Effects on Well Being and Resilience to Stressful Events

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Two studies examine the relations of self-complexity (Linville, 1987) and the authenticity of self-aspects to well being. Study 1 results show that self-complexity is largely unrelated to well being, whereas the authenticity of the self-aspects that constitute it is associated with greater well being. Study 2 uses a two-week, prospective design to replicate Linville's finding of a buffering effect of complexity on the negative outcomes associated with stressful events. In addition, study 2 results revealed either null or negative relations of complexity to well being, whereas the authenticity of self-aspects was again positively related to well being. The findings are discussed with respect to the meaning of self-complexity for personality functioning, and the importance of having one's self-aspects be authentic.

According to many theorists, the diversity of roles, demands and models of identity to which people are exposed within modern cultures has fostered a greater complexity to human personalities (Baumeister & Muraven, 1996; Ryan & Deci, 2003). People adapt to such diverse demands and roles by adopting different styles, modes of behavior and "faces" that they can employ within different life contexts (Gergen, 1991). How this increased differentiation or complexity impacts upon health and well being remains, however, a matter of debate.

A popular paradigm for investigating personality complexity and its relations with well being was developed by Linville (1985, 1987). Her procedure assesses the extent to which people report multiple aspects to their personality, and it is the number and independence of these "self-aspects" that comprise what she calls *self-complexity*. Linville speci-

fically highlights a potential adaptive advantage of greater self-complexity--namely that it can serve as a buffer to stress. With greater self-complexity (i.e., more, and less interrelated, self-aspects) a person's "eggs are not all in one basket", and thus a blow to any one self-aspect should have less negative impact on well being.

At the same time, the idea that less inter-related elements would conduce to greater well being seems to contradict traditional clinical wisdom (Ryan, 1993) as well as some recent empirical evidence. Donohue, Robins, Roberts and John (1993), for example, argued that insofar as differentiation or complexity refers to the existence of dissimilar and/or functionally independent parts to one's personality, it may represent a "fragmented" self. They showed that the tendency to see one's self as different in different roles predicted poorer general adjustment. Linville (1987) too, despite the salience of her buffering hypothesis, suggested that complexity may be associated with "chronic, low-level stress, perhaps because of role conflicts or multiple demands on time and attention" (p. 672).

A meta-analysis by Rafaeli-Mor and Steinberg (2002) also suggests that the benefits of self-complexity remain unclear. Their analysis of 70 studies relating Linville's self-complexity measure to well being suggested that: a) when considered as an individual difference, self-complexity is modestly and negatively related to well being; and b) the hypothesis that complexity buffers one against stress has received, at best, mixed support.

The present research revisits the relations of self-complexity to well being by investigating a hypothesis derived from *Self-determination theory* (SDT; Deci & Ryan, 1985; Ryan & Deci, 2004). We argue that it is not complexity *per se* that hinders well being, but rather the presence within one's self-concept of aspects that are poorly integrated, and thus represent *inauthentic* ways of being. Accordingly, we examine the effects of both self-complexity and the authenticity of the self-aspects that constitute it on stress and well being over time. Before turning to specific predictions we first review work on self-complexity and SDT, respectively.

Linville's Self-Complexity Model

Linville (1985, 1987) views the self-concept as a multi-faceted cognitive construct composed of self-aspects. Self-aspects are defined as idiographic representations of the self that correspond to various roles, relationships, contexts, or activities. Linville hypothesizes that these representations are maintained in memory as nodes within an associative network, and that each self-aspect has a unique set of associations with various cognitive, affective, and evaluative nodes as well as with other

self-representations. The strength of associations among self-aspects varies, as some self-representations are more highly interconnected than others. She further maintains that individuals differ in self-complexity as a function of (a) the number of aspects composing the self-concept and (b) the degree to which these self-aspects are interrelated. Highly complex persons view themselves in terms of multiple, relatively independent self-aspects, whereas less complex persons report fewer and less distinct self-aspects. Linville measures self-complexity using a self-description task in which participants sort cards inscribed with personality traits or characteristics into groupings that represent various aspects of themselves. Complexity scores are calculated using Scott's (1969) $\underline{H}$ statistic, which reflects the number of groupings and the degree of trait repetition among them (see method).

Linville proposed that the occurrence of a negative event activates the self-aspect that most closely corresponds to the given context. Negative thoughts and feelings then become associated with the activated self-representation. For example, if a pre-med student fails an important chemistry exam, her "aspiring physician" self-aspect may become salient and colored with feelings of inadequacy. These negative affects and cognitions then spread to other self-aspects that have strong associations with the activated self-representation. This "spillover" effect led Linville (1987) to formulate the self-complexity buffering hypothesis. She argued that more complex individuals have fewer associations among self-representations than less complex individuals, and thus the impact of a stress-inducing event will be more contained for these more complex individuals. Further, for more complex persons, any given self-aspect constitutes a smaller proportion of the overall self-concept. Based on these premises, Linville (1987) predicted and found that persons with more self-complexity experienced fewer depressive and physical symptoms when faced with stressful events.

Self-aspects as varying in Authenticity

Recent work in SDT (see Ryan & Deci, 2000) provides a different perspective on the functional value of different aspects of personality. According to SDT, different behaviors, values and self-presentations can be understood as more or less authentic, or representative of the "true self" of the individual (Deci & Ryan, 1995). Drawing on existential and relational literatures (e.g., Wild, 1965), Ryan (1993) defined authentic aspects of personality as those that are fully self-endorsed, volitionally enacted, and personally meaningful to the individual. In this perspective, when acting in accord with authentic interests and values, people's motivation, quality of experience, and well being are enhanced. By contrast, inauthentic actions are often driven by heteronomous forces or

"introjected" regulations and thus they conduce to more internal conflict, compromised forms of motivation, and lower well-being. Applying this thinking to the self-complexity phenomenon suggests that having self aspects that are inauthentic will detract from wellness (Ryan & Deci, 2004).

The relations between the authenticity of more or less distinct parts of one's personality and wellbeing have been investigated in one prior study. Sheldon, Ryan, Rawsthorne and Illardi (1997) examined the within-person consistency of "big five" personality characteristics (McCrae & Costa, 1999) across major life roles. They found that the more people described themselves distinctively in the traits they displayed in different roles, the worse their overall well being. Further, these negative effects were in large part accounted for by people's engagement in roles in which they had to be "inauthentic," and thus could not enact their "true self."

The Present Research

Two studies examined the effects of self-complexity and the authenticity of the self-aspects that constitute it on stress and well being. Assuming that the self-aspects generated in Linville's task correspond to various roles, contextual selves, or identities, we had participants rate each on items that assessed its relative authenticity. Overall self-complexity and authenticity were then used as concurrent (study 1) and prospective (study 2) predictors of well being.

STUDY 1

Overview

Study 1 investigated our hypotheses concerning the associations between individual differences in self-complexity, the authenticity of self-aspects, and well being. Specifically, we expected weak negative correlations between self-complexity and well being, and positive correlations between well being indices and authenticity. Our main focus was on depression and physical symptoms, as these variables have been most reliably related to self-complexity in prior studies (Rafaeli-Mor & Steinberg, 2002). We also included measures of anxiety and subjective vitality. Anxiety represents an indicator of ill-being that is conceptually distinct from depressive symptoms, and yet is often related to stress. We assessed subjective vitality because past research suggests that it is directly related to perceived autonomy (Nix, Ryan, Manly & Deci, 1999; Ryan & Frederick, 1997), an issue closely related to authenticity (Ryan & Deci, 2004). Finally, we tested, in an exploratory vein, for interactions between the authenticity of self-aspects and overall self-complexity, and between these variables and gender.

Method

Participants   Participants were 89 undergraduates (63 women, 25 men, 1 unidentified) who received credit toward course requirements. The mean age was 19.74 years (range = 18-27).

Measures and Procedure   Self-complexity was assessed using Linville's (1987) self-description task. Participants were provided with 33 index cards, each inscribed with a trait adjective, 10 blank cards, and a recording sheet. The 33 adjectives represented both positive and negative characteristics and included terms such as "assertive," "irresponsible," and "reflective." Each trait card was imprinted with a number in the lower right-hand corner. Blank cards allowed for additional entries. The recording sheet contained rows for recording up to 20 trait groupings and columns for providing descriptive labels. Verbal instructions for completing the task were exactly those used by Linville (1987). Following these instructions, the experimenter answered any remaining questions. After 25 minutes, anyone who had not completed the task was asked to finish within 5 minutes.

Self-complexity scores were calculated with the $\underline{H}$ statistic (Scott, 1969), a measure of dispersion that represents the number of independent dimensions composing each person's trait sort. The measure is defined as,

$$\underline{H} = \log_2\underline{n} - (\underline{n_i}\log_2\underline{n_i})/\underline{n}, \qquad \text{(eq. 1)}$$

where $\underline{n}$ is the total number of trait adjectives and $\underline{n_i}$ is the number of trait terms in a given combined sub-group. High self-complexity results from trait sorts composed of a high number of groupings with low repetition of trait adjectives between groupings. The H statistic has been the most commonly used assessment of self-complexity (Rafaeli-Mor & Steinberg, 2002).

Authenticity of Self-aspects.   To assess the authenticity of each self-aspect, we used the 5 item, factor analytically based, scale used by Sheldon et al. (1997). Sample items include "I experience this aspect of myself as an authentic part of who I am" and "I am only this way because I have to be" (reverse-scored). To complete the ratings, participants transcribed each of their self-aspects from the recording sheet to a line on a form titled "Self-Description Questionnaire". Beneath each line were listed the items concerning authenticity. Proceeding one self-aspect at a time, participants were asked to "envision each self-aspect and reflect on the thoughts, emotions and behavior most commonly experienced in relation to that part of yourself or your life." They were then directed to consider the 5 statements as they related to the self-aspect in question and to indicate their agreement with each on a 9-point scale. A total score based on all 5 items was used in analyses. Sheldon et al. reported that the reliability of these items varied across roles within a range from .72 to

.82. Participants identify different numbers of self-aspects, so we estimated internal consistency by arbitrarily selecting the second self-aspect listed by all participants and calculating Cronbach's alpha for the five items pertaining to it, resulting in an alpha of .75.

Depressive symptoms were assessed with the 20-item *Center for Epidemiological Studies Depression Scale* (CES-D, Radloff, 1977). Participants rated the severity of symptoms over the past two weeks using a 4-point (0-3) scale with individually specified anchors (Cronbach's Alpha = .89).

The *Perceived Stress Scale* (PSS; Cohen, Kamarack, & Mermelstein, 1983). Participants rated on 5-point scales, ranging from 1 (*never*) to 5 (*fairly often*), how often over the past two weeks they had experienced the thoughts or emotions represented in 14 items (e.g., "...how often have you found that you could not cope with all the things you had to do?"). Cronbach's alpha equaled .83.

Anxiety was measured with Spielberger, Gorsuch, and Lushene's (1970) 20-item *State-Trait Anxiety Scale*. Items concern how participants felt during the past month, including "I was tense" and "felt at ease" (reverse scored). Items were rated on a 7-point Likert-type scale, from 1 (*strongly disagree*) to 7 (*strongly agree*). Cronbach's alpha equaled .91.

Subjective Vitality Scale (SVS; Ryan & Frederick, 1997) is a 7-item scale focused on physical and mental aliveness and vigor (e.g., "I nearly always feel alert and awake" and "In general, I do not feel very energetic" (reverse scpred) Items were rated on 7 point scales from 1 (*strongly disagree*) to 7 (*strongly agree*). Cronbach's alpha in this sample equaled .88

Physical symptoms were assessed using Emmons' (1991) 9-item checklist, which includes items such as headaches, shortness of breath, and stomach ache/pain. Ratings were made on a 7-point scale and the mean of the 9 items served as the scale score (Cronbach's alpha = .70).

Results

The maximum possible self-complexity score (see eq. 1) attainable was 5.04. In this sample SC scores ranged from 1.64 to 4.72 (mean = 2.94; SD = .75). The number of self-aspects ranged from 3 to 16. As expected, Self-complexity (SC) was not significantly related to the overall authenticity of self-aspects (r = -.03, ns), suggesting that one's degree of authenticity is not a function of complexity per se. Because the number of self-aspects differs between individuals, authenticity scores were thus based on a different number of responses for each subject. However these summary scores were not significantly related with the number of self-aspects reported (r = .11, ns). Preliminary analyses also examined for gender differences on all variables. Only one effect

emerged, with men reporting higher PSS scores. As other main effects and interactions for gender were not found, subsequent analyses were collapsed across gender.

Self-complexity was unrelated to the mental health-related variables, and was unrelated to perceived stress (see Table 1). In contrast, the aggregated authenticity ratings of self-aspects were moderately to strongly related to these outcomes. Specifically, the authenticity variable was associated with lower physical and depressive symptoms, lower anxiety, lower stress and greater subjective vitality. No interaction effects concerning gender, SC and authenticity were in evidence.

TABLE 1 Correlations among Self-Complexity, Authenticity of Self-Aspects, and Well-Being Variables (study 1)

Variable	Self-Complexity	Authenticity
Self-Complexity	--	-.03
Authenticity	-.03	--
Depression Symptoms (CES-D)	.05	-.52***
Anxiety (STAI)	-.04	-.53***
Physical Symptoms (Emmons)	.04	-.34**
Subjective Vitality	.02	.51***
Perceived Stress	.01	-.56***

$N = 89$ ** $p < .01$ *** $p < .001$

Discussion

Results of study 1 supported our primary hypotheses. Self-complexity *per se* was not predictive of mental health outcomes, whereas differences in the authenticity of self-aspects were positively related to a variety of outcomes. This suggests that while the number and overlap of self-aspects does not directly relate to well being, the relative authenticity of one's self-aspects does.

The weak but significant negative relations between self-complexity and well being that we anticipated based on the meta-analysis of Rafaeli-Mor and Steinberg (2002) were not obtained. However, it should be noted that their overall conclusion was based on multiple studies, some of which found weak negative relationships, and some of which, like ours, found null results. We know of no studies in which self-complexity has, as a main effect, been positively associated with well being. Linville (1987) acknowledged that there may be chronic stress associated with greater complexity, but her emphasis was on its potential buffering

effect. In study 2 we attempted to replicate both her buffering effect, and our study 1 findings concerning self-aspect authenticity.

STUDY 2

Overview and hypotheses

This prospective study was designed to: (a) retest the direct effects of complexity and the authenticity of self-aspects on stress and well-being found in study 1; (b) retest Linville's (1987) self-complexity buffering hypothesis; and (c) examine relations between self-complexity and overall authenticity. In line with Rafaeli-Mor and Steinberg (2002) and results from study 1 we expected to find either no effect of self-complexity on well being, or modest negative effects. In addition, we expected to replicate the study 1 finding that the more one's self-aspects are authentic, the greater one's well-being. Finally, we expected to find support for Linville's (1987) hypothesis that self-complexity can buffer the effects of stressful events on well being. Such results would suggest that although being complex may soften the impact of some stressful events, complexity may have costs if it entails the adoption or enactment of inauthentic aspects of personality.

Method

Participants Participants were 113 undergraduates (40 men, 72 women, 1 unidentified) who received course credit for their involvement. Their mean age was 19.16 years (range was 16 to 32). They completed measures in small group sessions ($N < 10$) scheduled approximately two weeks apart. In session 1, they provided measures of self-complexity and the authenticity of their self-aspects. They then completed measures of stressful events, depressive symptoms, physical symptoms, and perceived stress for the previous few weeks. In session 2 measures of stressful events, depression, physical symptoms, and perceived stress were repeated.

Measures

As in Study 1, self-complexity was assessed using identical procedures and scoring, and perceived stress was assessed using the PSS. In the study 2 sample the PSS alpha was .87 and .85 at times 1 and 2, respectively. Authenticity was again measured using the Sheldon et al (1997), scale used in study 1. As in study 1, we arbitrarily selected the second self-aspect listed by participants and calculated the alpha for the authenticity items pertaining to it, which was .84.

Depressive Symptoms were again assessed using the 20-item *Center for Epidemiological Studies-Depression* scale (CES-D, Radloff, 1977). We also added the short form (13 item) *Beck Depression Inventory* (BDI,

Beck & Beck, 1972). Each BDI item consists of 5 statements representing a depressive symptom ranked on 1 to 5 scales by order of severity. Participants select the statement that best characterizes their recent experience. Alphas at times 1 and 2 were .92 and .89 for the CES-D and .82 and .86 for the BDI.

Physical symptoms.   Physical symptoms were assessed using the *Cohen-Hoberman Inventory of Physical Symptoms* (CHIPS, Cohen & Hoberman, 1983). The 39-item scale lists a variety of physical ailments common to college students rated using a 5-point scale. Time 1 and 2 alphas were .89 and .87, respectively.

Stressful events. Stressful life events were assessed using a modified version of the *College Student Life Events Scale* (CSLES, Levine & Perkins, 1980). The scale has 123 items depicting major and minor stress-inducing events characteristic of college-aged persons, drawn from domains including interpersonal, academic, financial, sexual, and living arrangements. Subjects check off whether each event has happened to them during the past two weeks and, if so, whether the event had a positive, negative, or neutral impact. Three scores were obtained by summing items for positive, negative, and total events. Preliminary analyses indicated that the negative event score was the best predictor of time 2 outcomes, thus subsequent analyses used only negative event scores.

Results

Self-complexity scores.   The observed values in the present sample ranged from .27 to 4.72 ($M = 3.12$, $SD = .87$). An unexpected gender difference was found, $t(110) = -2.19$, $p < .05$, with women ($M = 3.26$, $SD = .88$) demonstrating greater complexity than men ($M = 2.89$, $SD = .83$). The number of trait groupings generated in the task ranged from 2 to 14 ($M = 6.8$, $SD = 2.5$), but number of self-aspects did not differ by gender. This suggests that the gender difference in complexity was due to women making greater distinctions between self-aspects.

Authenticity of self-aspect scores ranged from 3.33 to 8.68 ($M = 6.64$, $SD = .95$). A significant gender difference, $t(110) = -3.30$, $p < .001$, showed women ($M = 6.81$, $SD = .88$) scoring higher than men ($M = 6.33$, $SD = 1.01$). No gender x authenticity interactions were found.

Life-Events, Depression, Symptoms, and Perceived Stress. A MANOVA tested for sex differences in the stressful events and well-being outcomes at times 1 and 2. No effect was found, Wilk's lambda = .91, $F(9,102) = 1.18$, $p = .31$. The mean number of negative events was 7.4 ($SD = 5.4$), and the maximum was 27. Time 1 to 2 test-retest correlations were .64, .67, .66 and .59 for the CES-D, BDI, physical symptoms, and CSLES measures, respectively.

Table 2 presents correlations among key variables. First, self-complexity was not correlated with authenticity ($r = -.03$, ns). Second, the authenticity of self-aspects was negatively related to the number of stressful events at time 1 ($r = -.20$, $p < .05$) and time 2 ($r = -.22$, $p < .05$). Conversely, a positive correlation was found between complexity and negative events at time 1 ($r = .17$, p <.07) and time 2 ($r = .23$, $p < .05$). In turn, the number of stressful events at time 1 was associated with greater depressive and physical symptoms, and with perceived stress at both times 1 and 2. These correlations also reveal a positive relation between complexity and BDI-measured depressive symptoms at time 1 and with physical symptoms at both times 1 and 2. Authenticity, in contrast, showed a significant negative association with all outcome measures (with the exception of physical symptoms at time 2) at both times 1 and 2.

TABLE 2   Correlations among Stressful Events, Self-Complexity, Authenticity, and Well-Being (study 2)

Variable	Negative Stressful Events (T1)	Self-complexity	Authenticity
Self-Complexity	.17	--	-.02
Authenticity	-.26*	-.02	--
Physical Symptoms (T1)	.39**	.21*	-.32**
Depression CES-D (T1)	.41**	.14	-.36***
Depression BDI (T1)	.37**	.25**	-.30**
Perceived Stress (T1)	.34**	.12	-.41***
Physical Symptoms (T2)	.23*	.20*	-.18
Depression CES-D (T2)	.26**	.08	-.30**
Depression BDI (T2)	.23*	.06	-.24*
Perceived Stress (T2)	.23*	.09	-.23*

Note. $N = 113$.   T1 = Time 1; T2 = Time 2.   *$p < .05$ **$p < .01$ *** $p < .001$

Regression Model of Self-Complexity and Authenticity on Well-Being. Main effects and interactions of gender, self-complexity and authenticity on well being were tested using multiple regression. Physical symptoms, depression, and perceived stress at time 1 were predicted in step 1 from gender, complexity and authenticity scores, entered simultaneously. In step 2, all 2- and 3- way interactions were entered. Results are summarized in Table 3.

Main effects revealed that gender was not related to well-being. Self-complexity was associated only with higher scores on BDI-measured depression. Higher authenticity was negatively associated with depressive symptoms, physical symptoms and perceived stress.

Table 3 also reveals several interactions. A Gender x Complexity interaction regarding perceived stress, F (1, 105) = 5.85, $p < .01$, indicated that for women greater complexity was associated with lower stress, while for men it was associated with higher stress. Gender did not interact with complexity in predicting depressive or physical symptoms. The Complexity x Authenticity interaction, significant only for physical symptoms, indicated that although in general greater authenticity was associated with fewer physical symptoms, the effects of authenticity were somewhat more ameliorative for those high in complexity. Finally, a 3-way interaction of Complexity x Authenticity x Gender indicated that, for both men and women, as authenticity increases stress decreases. For men this effect was more pronounced for those with high complexity, whereas for women it was more pronounced for those low in complexity.

TABLE 3   Standardized Regression Coefficients from Model Testing
Main Effects and Interactions of Self-Complexity (SC),
Authenticity, and Gender on Well-Being Variables

	CES-D	BDI	CHIPS	STRESS
Step 1				
Gender	.06	.12	.05	.19
Self-Complexity (SC)	.12	.23*	.19*	.07
Authenticity	-.38**	-.32***	-.33***	-.45***
Step 2				
Gender x SC	-.16	-.02	-.01	-.37*
Gender x Authenticity	.04	-.15	.08	-.20
SC x Authenticity	-.19	-.13	-.33***	.02
Betas	.13	.04	.00	.28*

$N = 113.$ $* p < .05, ** p < .01, *** p < .001$; SC = Self-complexity

Buffering Model. We tested Linville's (1987) buffering hypothesis with the following regression model: $Y_2 = b_0 + b_1 (Y_1) + b_2 (Stress_1) + b_3 (Complexity_1) + b_4 (Complexity_1 \times Stress_1)$ where Y_2 is the value of the

outcome variable (e.g., depression, physical symptoms) at time 2, Y_1 is the value of the outcome variable at time 1, $Stress_1$ is the value of stressful events reported at time 1, and $Complexity_1$ is the value of H statistic at time 1. The $Stress_1$ x $Complexity_1$ interaction term serves to test the buffering hypothesis. A significant negative coefficient indicates a moderating effect of self-complexity such that the effects of stress on well being decrease as self-complexity increases (Linville, 1987). (see Table 4).

TABLE 4   Standardized Regression Coefficients (ßs) for Self-Complexity Buffering Model (study 2)

Outcome	Independent Variables			
	Outcome (T1)	Stressful Events (T1)	Self-Complexity	Events x Self-complexity
Depression CES-D (T2)	.64**	-.002	-.004	-.09
Depression BDI (T2)	.70**	-.01	-.11	-.12+
Physical Symptoms (T2)	.66**	-.04	.08	-.14*
Perceived Stress (T2)	.59**	.03	.01	-.08

Note. $N = 113$. T1 = Time 1 T2 = Time 2. The events x self-complexity interaction is the basis of testing Linville's (1987) buffering hypothesis.
$+ p < .10$ $*p < .05$ $**p < .01$

Time 1 wellbeing scores accounted for 35 to 45 percent of the variance in time 2 outcomes. However, when time 1 outcome scores were controlled, negative events reported at time 1 failed to account for significant variance in time 2 outcome scores. This unanticipated finding is inconsistent with Linville's (1987) results, which indicated that when controlling for initial symptoms, the effects of stressful events at time 1 persisted over time to predict symptom levels at time 2. In her model, this effect was also moderated by self-complexity, whereas in this study, no additive effect for complexity (i.e., an effect for complexity on change) was predicted, and none was found.

However, the Stress x Complexity interaction, which provides the basis for testing the buffering hypothesis, was significant for physical symptoms ($ß = -.14, p < .05$) and approached significance for the BDI ($ß = -.12, p < .10$). Although the interaction terms for CES-D depression scores and perceived stress failed to reach significance, the coefficients

were in the expected direction. Gender did not moderate the complexity buffering effects.

Brief Discussion

The results of study 2 extended our primary findings from study 1, and provided further insight into the self-complexity and authenticity constructs. Consistent with Rafaeli-Mor and Steinberg (2002), self-complexity, as a main effect, was either unrelated or negatively related to adjustment. Specifically, greater self-complexity was related to BDI-measured depressive symptoms at time 1, and physical symptoms at both time points. Noteworthy was the trend for self-complexity to be associated with more negative stressful events at both time 1 ($r = .17$, ns) and time 2 ($r = .23$, $p < .05$). It appears that maintaining multiple self-aspects may be associated with chronic low-level stress. Mixed support for a self-complexity buffering effect was also obtained. The impact of negative events on physical symptoms decreased with increasing complexity. Parallel effects were found for BDI-measured depression, but fell short of accepted significance levels.

The predicted effects of the authenticity of self-aspects on well being were strongly supported, with greater authenticity associated with lower depressive symptoms, physical symptoms, and perceived stress. This relation remained when controlling for stressful life-events.

Of further interest was the relation between authenticity and stressful events. Individuals reporting greater authenticity tended to experience fewer negative life-events. This finding suggests that a more authentic lifestyle conduces to less stress, whereas in-authenticity may even lead individuals to "get into trouble," perhaps by invoking maladaptive or disadvantageous behavior. For example, the CSLES life-events measure used in the present study contains many items that could reflect a lack of authentic engagement in aspects of life (e.g., "social or extracurricular activities interfered with school work"). This suggests directions for future research into the role of authenticity in preventing negative outcomes and events.

The regression model also revealed a significant Authenticity x Complexity interaction, such that those with low complexity and low authenticity reported most physical symptoms, while those who were highly complex and highly authentic fared best. This finding suggests a potential synergism between authenticity and complexity with regard to health outcomes. Although this interesting finding is worth further investigation, it was not evident using the less extensive symptom checklist employed in study 1.

GENERAL DISCUSSION

Research on self-complexity has been vigorously pursued since Linville's (1985) model was introduced. In part this is due to the plausibility of the idea that complexity allows one to compartmentalize life events, and thus buffer one against stresses and strains in any given domain. At the same time many theorists have questioned whether complexity may not also carry with it psychological costs (e.g., Donohue et al., 1993). This debate has been intensified by Rafaeli-Mor and Steinberg's (2002) meta-analysis, which revealed mixed results for the self-complexity model, with some studies finding support for a buffering effect, but most not. In addition, Rafaieli-Mor and Steinberg found a mild negative relation between self-complexity and adjustment, presumably because there is stress in having to enact multiple and potentially conflicting self-aspects. Our results paralleled these meta-analytic findings. We found few direct effects of complexity on well being, and those that did emerge (study 2) were negative. We also found some mixed support for the buffering model in study 2, particularly with regard to physical symptoms.

SDT offers an important caveat to the idea that more complexity to personality—simply adding more parts—enhances self-functioning. It suggests that self-aspects can be authentic or inauthentic, and that only the latter facilitates well being (Ryan, 1993; Ryan & Deci, 2004). That view was supported in both studies, as greater authenticity of self-aspects predicted not only better mental health, but also lower perceived stress. In study 2, in which life events were assessed, the authenticity of self-aspects also predicted fewer negative events. Thus it appears that it is not how complex one is, but rather the quality of ones self-aspects, that may be critical in predicting mental health. In addition, more authenticity may be prophylactic by fostering fewer negative life events.

The construct of authenticity as used in this research concerned the degree to which aspects of a participant's self-concept were experienced as self-endorsed; inauthentic self-aspects were ones with which the person did not identify, and with respect to which he or she felt little authorship. This definition of authenticity fits within a long tradition in existential-phenomenological studies which suggest the importance of the experiential distinction between ones "true self" and false, fragmented or otherwise alienated modes of being (Goldman & Kernis, 2002; Ryan & Deci, 2004). Authenticity so defined is sometimes discussed as a form of integrity, in that an authentic aspect of self is accepted and owned by the person, and thus accompanied by a sense of autonomy (Ryan, 1993). Authenticity is, therefore, a variable that Gramzow, Sedikides, Panter and Insko (2000) might classify as *self-regulatory*, whereas self-complexity is one that they would classify as

self-structural. Our interest was precisely in examining the interplay between self-regulation and self-structure with regard to well being outcomes and buffering effects.

Among the limitations of these studies was the use of self-rating procedures and self-report outcomes. Although this is consistent with prior self-complexity studies, research employing non-self-report measures is always advantageous. Another limitation concerns the use of the H statistic as the index of self-complexity. As discussed by Rafaeli-Mor and Steinberg (2002), this statistic is heavily weighted by the number of self-aspects generated, and less so by their overlap. Nonetheless, it has been the mainstay of this research tradition, which is why we used it as our principal focus. Finally, our samples were made up of students, and studies with other populations would enhance generalizability.

In sum, our results suggest that self-complexity is itself a complex phenomenon. Although self-complexity may provide somewhat of a buffer from stressful events, it may also in itself pose a degree of stress and strain. Combining this view of complexity with the framework of self-determination theory suggests that a critical issue in personality development is the integration of acquired self-aspects. The degree to which the multifaceted parts of self are experienced as authentic-- personally valued, meaningful and volitional --appears to be important both to adjustment and to the avoidance of negative events in life. Thus, no matter how complex one becomes, it remains important to stay true to oneself.

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