

Personal Goals and Psychological Growth: Testing an Intervention to Enhance Goal Attainment and Personality Integration

Kennon M. Sheldon

University of Missouri-Columbia

Tim Kasser

Knox College

Kendra Smith and Tamara Share

University of Missouri-Columbia

ABSTRACT We hypothesized that semester goal attainment provides a route to short-term psychological growth. In an attempt to enhance this process, we randomly assigned participants to either a goal-training program or to a control condition. Although there were no main effects of program participation on later goal attainment, important interactions were found. Consistent with a “prepared to benefit” model, participants already high in goal-based measures of personality integration perceived the program as most useful and benefited the most from the program in terms of goal attainment. As a result, they became even more integrated and also increased in their levels of psychosocial well-being and vitality. Implications for theories of short-term growth and positive change are discussed, as is the unanswered question of how to help less-integrated persons grow.

Theorists have proposed two basic processes by which personal growth occurs. In stage models of personality development, growth typically involves increasing self-awareness, self-acceptance, and social integration (Hy & Loewinger, 1996) and results when a person successfully negotiates normative or age-graded role transitions, such as the change

Journal of Personality 70:1, February 2002.

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from adolescence to adulthood (Erikson, 1963). In such models, growth occurs at particular times in life, as people are influenced by shifts in the life-tasks or social roles that they face (Snyder & Cantor, 1998). A second perspective is provided by “catastrophe” models, which emphasize that personal growth occurs in response to emotional or psychic traumas (Tedeschi & Calhoun, 1995; Tedeschi, Parks, & Calhoun, 1998) or as a result of dramatic changes in a person’s location or life circumstances (Kling, Ryff, & Essex, 1997; Showers & Ryff, 1996). In functional terms, such challenges may impel a person to attain significant new organization within his or her personality system (Carver & Scheier, 1998; Ryan, 1993). In emotional terms, such difficult experiences may help people gain new insight, rediscover important values, or escape from deep-seated or long-enduring ruts (Emmons, Colby, & Kaiser, 1998; Tedeschi et al., 1998).

Although the above perspectives disagree on the causes and timing of personal growth, they both focus on environmental stresses or difficulties as the primary impetus to positive change. Thus, in these models, development occurs largely in reaction to challenging circumstances. As a different approach, the current prospective study considered a way that short-term personal growth might occur in the absence of strong trauma, role transition, or environmental challenges—specifically, through the proactive process of striving to achieve personal goals. Personal goals represent individuals’ sometimes tentative and usually difficult attempts to achieve new levels of positive adaptation within their lives (Emmons, 1996; Snyder & Cantor, 1998). Because personal goals can be important vehicles for self-discovery and psychological need satisfaction (Sheldon & Elliot, 1999; Sheldon & Kasser, 1998), we believed that the self-initiated process of pursuing and attaining personally meaningful goals might enable people to make fairly rapid changes in their levels of psychosocial development. This is because goal striving, by definition, involves moving away from a current state towards some desired reference value. Thus, successful striving is likely to supply an important prerequisite of growth, namely, motion or change.

Two Goal-Based Conceptions of Personality Integration

To explore in detail how goal striving relates to personal growth, we draw upon the goal-based model of personality integration proposed by

Sheldon and Kasser (1995). Sheldon and Kasser noted historical traditions to define personality integration in one of two ways: in terms of self-unity and integrity or of functional and structural coherence. They called the former concept “organismic integration” (Deci & Ryan, 1991) and operationalized it by assessing the perceived locus of causality people had for their goals, that is, whether goals were motivated by the person’s deeper values and interests, by social pressures, or by feelings of guilt (Ryan & Connell, 1989; Sheldon & Elliot, 1999). This conception of personality integration derives from humanistic or existential psychological concepts and assumptions, in which personality growth involves a search for increasing personal authenticity in the face of sometimes conformist or coercive social forces (Deci & Ryan, 1991; May, 1983; Rank, 1932; Rogers, 1961). Sheldon and Kasser referred to the other aspect of personality integration as “systemic integration” and operationalized it as the perception that one’s important daily goals are linked with or are regulated by broader-term agendas and possible futures. This conception of personality integration derives from cybernetic and social-cognitive concepts and assumptions, in which personality growth involves a search for increased interconnectedness and regulatory efficiency within a hierarchically organized action system (Carver & Scheier, 1998; Emmons, 1989).

Supporting the assumption that these goal constructs are related to current level of personality development, Sheldon and Kasser (1995) found in a cross-sectional study that both types of integration correlated with growth-relevant indicators such as self-actualization, openness to experience, vitality, and current mood. That is, the more participants’ characteristic personal strivings (Emmons, 1989) were pursued for internal reasons or were helpfully linked to positive possible futures, the better off participants were at that point in time. Supporting the proposition that both constructs are relevant to the question of how positive change occurs, Sheldon and Kasser (1998) found that both types of variables moderated the effects of goal attainment upon changes in well-being. That is, the more participants’ short-term personal projects (Little, 1993) reflected their underlying values and interests, and were relevant to positive possible futures, the more participants benefited from attaining those projects. Thus, initial studies of naturally occurring goal pursuit have provided good support for Sheldon and Kasser’s (1995) model. The current study attempted to build on this model by designing

an experimental intervention to help participants better attain their personal goals and achieve personal growth.

A Goal-Training Program

The goal-training program we developed was designed to enhance participants' sense of ownership of their listed goals and also their ability to regulate their experience as they pursued those goals. Although applied and organizational researchers have experimented with a variety of interventions to increase participants' task-specific goal commitment and efficiency (see Locke & Latham, 1990), to our knowledge, no personal-goal researchers have attempted to put their theoretical models to work to enhance individuals' well-being, growth, and overall functioning. This is somewhat surprising, given that idiographic personal goals have been recognized as important routes to well-being for more than 20 years (Klinger, 1977; Palys & Little, 1983). In fact, personal-goal constructs appear to offer a very promising focus for therapeutic efforts, because goals are, in theory, more malleable and modifiable than many other personality constructs (such as temperament or traits), and also because they represent the person's energized initiatives to achieve positive self-change (Wadsworth & Ford, 1983) and enhanced meaning and purpose in life (Ryff & Singer, 1998).

Our brief intervention consisted of a 60-minute group session and a 30-minute individual counseling session, in which multiple methods were used to present and reinforce a set of strategies for enhancing goal functioning. The specific strategies were derived from both organismic and systemic concepts of personality integration. As described in more detail in the methods section, as a means of enhancing organismic integration, subjects were encouraged to think of ways to make their goals more enjoyable and to feel greater ownership of their goals. To help improve systemic integration, participants were encouraged to keep a balance in their goal system and to keep in mind the higher-level goals their current goals were serving. We hoped these four strategies would help participants to better regulate their goal-related experience and better attain their goals, thus improving their chances of experiencing personal growth.

Of course, we recognized that not all individuals would benefit from a standardized intervention of this type, and thus we were also interested in determining what characteristics of individuals might lead them to

make maximal use of the intervention. Two possibilities occurred to us. On the one hand, it may be that individuals who are already functioning fairly well may see such an intervention as a way to do even better. That is, those who are already most integrated at present may be most “prepared to benefit” from the program. On the other hand, people who are having more difficulties in life may be most receptive to the tools and techniques provided, because they can see that things are not going well for them. That is, those who are less integrated at present may see the most “room for improvement” and may thus benefit most from the program. Given the early stages of this research, we did not venture a prediction concerning this issue.

Defining Growth (Dependent Measures)

Assessing personality growth or development is difficult (Tedeschi et al., 1998; Wrightsman, 1994), especially in a relatively short-term (3-month) study such as ours. We attempted to document personal growth in three ways. First, we focused on changes in growth-relevant indicators over the course of the term. As one indicator, we administered the Ryff well-being scales (Ryff, 1995) at both the beginning and end of the semester. These scales index an individual’s level of adjustment and satisfaction in six important psychosocial domains, and our assumption was that those who manifested aggregate positive change in these six domains over the course of the study would have experienced personal growth (Ryff & Singer, 1998). We also conducted repeated measures of participants’ psychological vitality, that is, their sense of aliveness and vigor (Ryan & Frederick, 1997). Felt vitality is conceptualized as the phenomenological concomitant of self-regulated functioning (Ryan & Frederick, 1997), and, thus, enhanced vitality seemed a worthy criterion of growth. In addition, to establish consistency of the results with past longitudinal work (Brunstein, 1993; Sheldon & Elliot, 1999; Sheldon & Kasser, 1998), we assessed changes in participants’ levels of positive versus negative affect. We also operationalized growth by administering the organismic and systemic integration measures again near the end of the semester, enabling us to directly examine changes in goal-based personality integration as a function of the intervention and of goal attainment. As a final way of assessing growth, at the end of the semester, we asked participants about their own retrospective sense of how much

positive self-change and new self-actualization had occurred during the period of the study.

HYPOTHESES

First, we expected initial levels of personality integration to predict goal attainment, consistent with past findings (Sheldon & Elliot, 1998, 1999). This was based on the assumption that more integrated persons are better regulated and are more likely to devote sustained effort to their goals. Second, we expected participants in our intervention condition to make better progress in their goals during the subsequent semester, compared to participants who did not receive the intervention. That is, we hoped that intervention participants would derive functional benefits from taking part in the program. Third, we examined the interaction of initial levels of personality integration with the intervention. This was to compare a “prepared to benefit” model, in which those who are already most integrated are most ready to make use of growth-relevant opportunities, and a “room for improvement” model, in which those who are less integrated at present are most needful of, and receptive to, growth opportunities. As mentioned above, we did not venture any predictions regarding this issue. As a fourth hypothesis, we expected that goal attainment would predict positive increases in growth-relevant outcomes, consistent with past longitudinal studies demonstrating positive effects of goal attainment upon emotional well-being (e.g., Brunstein, 1993). That is, in accordance with our assumption that goal striving offers a proactive route to personal growth, we believed that people who attained their goals would evidence greater positive change in our chosen measures of adjustment and development, compared to those who did not attain goals.

METHOD

Participants

Participants were 90 members of a lower-division psychology course at the University of Missouri, 33 men and 57 women, who participated for extra course credit. Most participants were sophomores. Sixty-eight participants were Caucasian, 9 were African American, 9 were Asian, 2 were Hispanic, and 2 were “other.” Participants were informed they could withdraw at any time and that doing so would have no effect on their grades.

Overview

All participants completed a take-home questionnaire at the beginning of the semester, in which they listed six personal goals and made ratings concerning the degree of integration of the goals. In this questionnaire, participants also rated their recent mood, vitality, and psychosocial well-being. Participants were then randomly assigned to take part either in the goal intervention or in another extra-credit study that was not relevant to their goals. Intervention participants were first scheduled into an hour-long group session, which took place within 2 weeks of initial questionnaire completion, run by two graduate students in a Ph.D. program in counseling psychology. At the end of the group session, these participants were scheduled for a follow-up session 1 week later, in which they spoke for 30 minutes (alone) with one of the counselors. All 90 participants completed an in-class questionnaire approximately 6 weeks after the first questionnaire, in which they rated their degree of progress in the six personal goals. Finally, all participants completed a final in-class questionnaire near the end of the semester, in which they again rated their recent mood, vitality, and well-being, and again completed the goal-integration measures. Participants also completed retrospective measures of self-actualization and positive change in the final questionnaire packet.

Measures

Personal goals. In the initial questionnaire, given in January, we asked each participant to generate projects or concerns that would last at least until the end of the semester (Little, 1993; Sheldon & Kasser, 1998). The questionnaire first instructed participants to brainstorm a large set of candidate goals and then asked them to put away the questionnaire “at least overnight.” Participants then selected from this list a set of six final goals that they felt would be most relevant to their lives during the upcoming semester. Goals addressed issues such as academic achievement, peer and parental relationships, vocational objectives, physical appearance, and athletic performance.

As a means of assessing the degree of organismic integration associated with these goals, we asked participants to rate the extent to which they would be pursuing each goal for each of four different reasons: external, introjected, identified, and intrinsic. As mentioned above, these four reasons represent a continuum of perceived locus of causality for action (Ryan & Connell, 1989; Sheldon & Kasser, 1998), ranging from “not at all internalized” to “completely internalized.” A 1 (*not at all*) to 9 (*completely*) scale was used, and an aggregate T1 Organismic Integration variable was computed for each participant by summing the averaged identified and intrinsic ratings and subtracting the averaged introjected and external ratings (Sheldon & Elliot, 1999; Williams,

Grow, Ryan, Grolnick, & Deci, 1996). Cronbach's alpha for this composite, computed after recoding the external and introjected ratings, was .77.

In order to assess the degree of systemic integration associated with these goals, we asked participants to rate how much each goal was helpfully linked to six "possible futures" (Sheldon & Kasser, 1995, 1998). These possible futures were construed as higher-level or longer-term objectives, with which semester goals might or might not be consistent. The possible futures included self-acceptance/personal growth, intimacy/friendship, societal contribution, physical attractiveness, popularity/recognition, and financial success. Ratings were made on a 1 (*no help*) to 9 (*very much help*) scale. An aggregate T1 Systemic Integration score was computed by averaging these 36 ratings (Sheldon & Kasser, 1995).¹ Cronbach's alpha for this composite was .88.

The first questionnaire packet also asked participants to rate how competent they expected to be in each goal (Bandura, 1989), using a 1 (*not at all*) to 7 (*extremely*) scale. This was done to control for the possibility that the effects of goal progress are reducible to subjects' initial expectancies regarding competent goal performance (Sheldon & Elliot, 1999; Sheldon & Kasser, 1998). These six ratings were averaged to compute a T1 Expectancy variable ($\alpha = .62$).

Midway through the semester, participants completed an in-class questionnaire. Contained within this questionnaire was the question, "How well are you doing in each goal?" Participants were provided with copies of their goals to enhance the validity of these ratings. Ratings were made on a 1 (*not at all well*) to 7 (*extremely well*) scale, and the six ratings were averaged to create a Midsemester Progress variable ($\alpha = .57$). Although progress was also measured retrospectively at the end of the semester, we use the Midsemester Progress variable here because it is temporally unconfounded with the outcome variables.

Both integration measures were administered again near the end of the semester in order to assess positive change in these constructs from the beginning to the end of the semester. However the Time 2 instructions were somewhat altered, to take account of the retrospective versus prospective nature of the two assessments. The organismic integration measure was given with these revised instructions: "During the latter part of the semester, why were you pursuing your

1. Notably, an unexpected difference emerged between intervention and control participants. Specifically, intervention participants were found to be higher in T1 Systemic integration than were control participants, despite the fact that we used random assignment to determine who received the intervention. This difference persisted at Time 2. Intervention and control participants did not differ significantly in organismic integration or in any other Time 1 or Time 2 variables. Although problematic, we believe concern is mitigated by the fact that, throughout the study, the same basic pattern of results was found for both organismic and the systemic integration measures.

six goals?" This enabled us to assess positive changes in the felt autonomy (Ryan, Sheldon, Kasser, & Deci, 1996) or self-concordance (Sheldon & Elliot, 1999) of the goals, from the beginning to the latter part of the semester. The systemic integration measure was given with these revised instructions: "Please consider how each goal has affected each possible future. Has pursuing this goal taken you closer to these possible futures?" This enabled us to assess positive changes in the perceived helpfulness of goals to longer-term objectives from the beginning to the latter part of the semester. T2 Organismic integration and T2 Systemic integration variables were computed from these ratings, in the same way that the Time 1 measures were computed (alphas = .77 and .92, respectively).

Outcome measures. In both the initial and the final questionnaires participants completed measures of how they had been feeling in the last week or so. First, they completed the Ryff Well-being scale, administered with a 1 (*strongly disagree*) to 6 (*strongly agree*) scale (Ryff, 1995). This 18-item measure has six subscales: autonomy, mastery, relationships, purpose, growth, and meaning. In both assessments we averaged across the 18 items, to compute T1 Ryff Well-being and T2 Ryff Well-being scores (alphas = .64 and .71, respectively). Participants also completed the Vitality scale (Ryan & Frederick, 1997) at both times. This seven-item measure assessed participants' current sense of aliveness and vigor, using the same 6-point scale as was employed with the Ryff measure. T1 Vitality and T2 Vitality were computed by averaging each set of ratings (alphas = .83 and .84, respectively). Finally, during both initial and final assessments, participants completed the 20-item PANAS (Watson, Tellegen, & Clark, 1988), using a 1 (*not at all*) to 7 (*frequently*) scale. Positive affect and negative affect scores were computed by averaging the appropriate ratings, for each time point (alphas ranging from .84 to .89). T1 Affect balance and T2 Affect balance scores (Bradburn, 1969) were computed by subtracting the negative affect score from the positive affect score. This balance score captures the extent a person is happier than sad and has been used in several of our past studies (Elliot & Sheldon, 1998; Sheldon & Elliot, 1999; Sheldon, Elliot, Kim, & Kasser, 2001).

In the final questionnaire, participants also completed the 15-item Self-actualization measure (Jones & Crandall, 1986), using a 1 (*not at all true of me*) to 5 (*very true of me*) scale. This measure, which is based on Maslow's (1971) work, assesses the degree to which participants evidence traits identified as characteristic of the self-actualized (i.e., growth-motivated) person. Instructions asked participants to indicate "how well each statement describes your life experience during the semester as a whole"; thus, this measure indexed participants' retrospective sense of the growth-relevant quality of the past semester. A T2 Self-actualization score was computed by averaging these ratings after appropriate recodings (alpha = .69). As a second retrospective measure of

positive change, in the final questionnaire we also asked participants to rate, for each of their six personal goals, “to what extent did you make positive improvements in the motivation behind each goal during the semester?” A 1 (*not at all*) to 7 (*very much*) scale was used, and a T2 Positive motivational change variable was computed by averaging the six ratings ($\alpha = .78$).

Intervention Procedure

To impart a relatively standardized structure upon each session, a script was written for both group and individual sessions. However, in the interest of spontaneity and flexibility, counselors did not attempt to follow the scripts word-for-word. These scripts are available from the first author by request.

Group session. Forty-two participants (14 men and 28 women) who had been randomly selected for the intervention came to a group session. Groups were led by the two counselors and attended by approximately 10 other participants. The other 48 participants (19 men and 29 women) did not attend any sessions, instead participating in other studies. After introducing themselves, the counselors explained that the purpose of the session was to help the participants think about the goals they had selected for the coming term, and perhaps give them some tools to use in pursuing the goals. To initiate a process of reflection, participants were first asked to consider the underlying motivations for their goals. Specifically, they were asked to reflect on the personal meaningfulness (or lack of meaningfulness) of their goals, and to consider why impersonal or nonmeaningful goals sometimes seem necessary. Participants were asked to publicly share their impressions regarding these issues.

Next, the counselors presented and talked about four strategies that might be used when one feels alienated from, or overwhelmed by, one’s goals. A single-example goal (the highly typical “Get a 3.7 GPA this semester”) was chosen to help illustrate each strategy. Two of the strategies were inspired by the organismic integration model and were designed to help people feel more autonomous in their pursuit of the goals (Ryan & Connell, 1989). The “Own the goal” strategy concerned thinking back, during times when one is having difficulties with the goal, to the deeper or core values that the goal expresses. We hoped that this would enhance participants’ identified motivation for the goal. For example, the goal of getting a 3.7 GPA might be seen as a means of developing one’s potential, or of expressing one’s commitment to lifelong education. The “Make it fun” strategy concerned thinking of ways to enhance participants’ intrinsic motivation for striving. For example, the goal of getting a 3.7 GPA might be enhanced by creating study groups with friends or by finding times or settings in which the goal might be more enjoyable or challenging. The two strategies inspired by the systemic model of integration were “Remember the big picture,” and

“Keep a balance.” The “Remember the big picture” strategy involved reflecting upon the longer-term goals that one’s current goals serve, ideally enhancing participants’ ability to self-regulate according to these higher-level reference standards. For example, the goal of getting a 3.7 GPA might be supported by recalling the broader purpose of getting into vet school. The “Keep a balance” strategy concerned spreading effort out among all goals and the necessity of spending time doing other things one enjoys in order to avoid burnout. For example, the goal of getting a 3.7 GPA might be enhanced by paying attention to other goals and needs, such as exercising more often or spending quality time with friends.

Following presentation of these ideas, participants were assigned to small groups in which they discussed how each strategy might be applied to their own frustrating or impersonal goals. After this discussion each of the smaller groups presented some example applications to the larger group. Finally, participants were led through a 10-minute guided visualization in which they were first encouraged to relax and were then asked to reflect about both a personal (meaningful) goal and a nonpersonal goal they held. Specifically, participants were asked to consider the origins of each of the two goals and the ultimate motivations behind them. Why had they chosen each goal, and what kinds of messages had they received from others regarding each goal? Next, participants were asked to pay careful attention to differences in how personal and impersonal goals feel as they are pursued. The counselors suggested that the distressed or uncomfortable feelings that accompany some goal efforts can be used as important information. Thus, rather than simply trying to avoid or escape such feelings, one might instead recognize that the feelings are symptomatic of difficulties, to which one or more of the four strategies might be applied. At the end of the group session, participants were asked to continue thinking about the material and their goals and to consider during the following week whether or not they wanted to keep all of the six goals they had originally identified.

Individual session. Approximately 1 week after the group session, participants met individually with a counselor for 30 minutes. First, participants identified their two most impersonal or problematic goals. The counselor reviewed the four strategies and then helped the participant to consider how the strategies could be applied to cope with any emotional difficulties or uncertainties that the participant might encounter while pursuing the goal. The counselor then requested that the participant continue thinking about the strategies during the semester and that he or she try to apply the strategies as needed. Finally, participants were asked not to speak with other participants or classmates about the study. The phone number of the University Counseling Center was furnished, in case participants wished to talk further about the issues.

At the end of the individual session, participants completed a questionnaire in which they rated how useful they believed each of the four strategies would be, on a scale ranging from 1 (*not at all*) to 7 (*very much*).²

RESULTS

Preliminary Analyses

There were no mean gender differences on any of the major study variables. Furthermore, gender did not interact with the major results presented below. Therefore, we exclude gender from further consideration.

Unfortunately, 12 participants dropped out of the study prior to the final questionnaire assessment (most because they had dropped the class), leaving an n of 78 for the final change analyses. We conducted attrition analyses and discovered that these 12 participants were no different in their scores on the Time 1 variables or on the midsemester progress variable than participants who completed all of the measures. Therefore, it is unlikely that results are biased by the loss of n at Time 2.

Table 1 presents descriptive statistics for all major study variables. As can be seen, the sample as a whole reported somewhat less organismic integration at Time 2 than at Time 1 ($t(77) = 3.13, p < .01$), and somewhat more vitality ($t(77) = 2.58, p < .05$). We do not attempt to explain or control for these effects.

Table 2 presents correlations between the integration measures and the growth-relevant variables, as measured at Time 1. These cross-sectional associations were of interest primarily as replications of prior findings (Sheldon & Kasser, 1995). Organismic integration (i.e., participants' sense of autonomy or self-concordance regarding their goals) was positively associated with all three well-being measures at Time 1, consistent with previous results. Also consistent with past results, systemic integra-

2. At the end of this session participants also indicated whether they wished to change any of the original goals, based on fresh consideration of their motivations and situation. Although we thus allowed for the possibility that participants might want to switch goals, we did not wish to strongly encourage this because of the potential measurement difficulties induced (i.e., if the person switches to a different set of goals, the initial integration measures may no longer be valid). It appears we were successful in this strategy, as only 7 goals out of 252 were changed. Very few control condition participants changed their goals when given the opportunity, and there was no significant difference between the control and intervention conditions in terms of how many goals were changed.

Table 1
Descriptive Statistics for All Major Study Variables

	Time 1 (<i>n</i> = 90)		Time 2 (<i>n</i> = 78)	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
Organismic Integration	5.20	3.56	3.83	3.84
Systemic Integration	4.60	1.21	4.35	1.41
Ryff Well-being	4.46	.51	4.49	.54
Vitality	3.84	.88	4.08	.97
Affect Balance	1.65	1.52	1.57	1.67
Retrospective				
Self-Actualization	—	—	3.61	.46
Retrospective Positive				
Motivational Change	—	—	4.67	1.28

Note. There were no significant mean differences between the control and the intervention group for any of the variables, with the exception of Time 1 and Time 2 Systemic Integration (see footnote 1). Thus we do not present means separately for these two groups.

Table 2
Correlations of Time 1 Integration Measures With Time 1 Well-Being and With Midsemester Progress (*n* = 90)

	Time 1 Ryff Well-being	Time 1 Vitality	Time 1 Affect Balance	Midsemester Progress
Organismic Integration	.31 **	.26 *	.44 **	.17 +
Systemic Integration	.07	.07	.07	.26 *
Aggregate Integration	.25 *	.21 *	.32 **	.26 *

Note. ** $p < .01$, * $p < .05$, + $p < .10$.

tion (i.e., participants' sense that their goals are helpfully linked to longer-term objectives) was not significantly associated with the Time 1 outcome measures. This difference can be explained from the perspective of self-determination theory (Deci & Ryan, 1985, 1991), in which those who are organismically integrated are expected to be securely in touch with important sources of well-being, whereas those who are "merely" well-regulated or functionally coherent might or might not have higher

well-being, depending on what goals they pursue, and why (Ryan et al., 1996).

Hypotheses Tests

Our first specific hypothesis was that participants higher in personality integration, as measured at the beginning of the study, would be making better progress in their goals at the mid-point of the study. Table 2 presents the correlations between the two integration measures and midsemester progress. Consistent with the first hypothesis, systemic integration was significantly correlated with midsemester progress. Furthermore, organismic integration was also associated with progress (although the correlation was only marginally significant). Table 2 also presents results for an aggregate personality integration measure, which was created by standardizing and combining the organismic and systemic measures. This aggregate integration variable was significantly associated with progress.

Our second hypothesis stated that participants receiving the goal intervention would make more progress at their goals than would control participants. A matched groups *t*-test showed no such main effect. Although those receiving the intervention reported slightly more progress ($m = 4.62$ vs $m = 4.58$), this difference was not significant ($t(88) = .22$). Thus, it appears that undergoing the goal-training program provided no straightforward advantage for intervention participants.

To examine the possible effects of the intervention in greater detail, we analyzed intervention participants' ratings of how useful they expected each of the four strategies would be ($n = 42$). These four ratings were all significantly intercorrelated (r s ranging from .29 to .62), and a principal components analysis revealed only one factor accounting for 57.3 % of the variance; we therefore averaged the four ratings to compute a single "Strategies will be useful" variable. This variable was positively correlated with midsemester progress ($r = .35, p < .05$). Thus, it appears that at least some of the intervention participants derived later benefits, namely, those who initially resonated with the ideas and believed they would be helpful.

Next, we considered who these people might be. To address this question, we first examined the association of the two Time 1 personality integration measures with the "Strategies will be useful" variable. The systemic integration measure was strongly correlated with the usefulness

variable ($n = 42$, $r = .49$, $p < .01$), whereas the organismic integration measure was not significantly correlated with usefulness ($r = .19$, $p < .25$). This difference in results suggests that systemically integrated persons were quite ready to seize potentially useful strategies, whereas organismically integrated persons were not as enthusiastic or easily convinced. However, the aggregate integration measure was quite positively correlated with usefulness ($r = .45$, $p < .01$), suggesting that, in general, personality integration is associated with openness to new ideas and approaches (Sheldon & Kasser, 1995).

Interestingly, none of the Time 1 well-being measures were associated with the “strategies will be useful” variable. In other words, although some have found that initial well-being itself predicts positive functioning (Feist, Bodner, Jacobs, Miles, & Tan, 1995; Sheldon & Elliot, 1999), the current results suggest that those who were already “healthier” at Time 1 had no particular advantage in terms of perceiving utility in the goal strategies presented. Instead, it appears that only those who were fairly integrated at Time 1 expected to benefit from goal-training opportunities. Recall that our third hypothesis did not choose between “prepared to benefit” and “room for improvement” models of program benefit; however, the above results suggest that the former model may be closer to the truth.

To explicitly test this idea, we conducted regression analyses to predict midsemester progress from experimental condition, initial personality integration, and the interaction between these two variables. Three analyses were conducted: one for organismic integration, one for systemic integration, and one for the aggregate integration variable; interaction product terms were computed by multiplying the two centered predictors (Cohen & Cohen, 1983). In the first analysis, organismic integration was found to significantly interact with the intervention to predict midsemester progress ($\beta = .24$, $p < .03$). The interaction involving systemic integration was not significant, although the effect was in the same direction ($\beta = .16$, $p < .13$). In the third analysis, the interaction involving the combined integration measure was significant ($\beta = .27$, $p < .02$).

To better understand these patterns, we computed predicted values of midsemester progress for four hypothetical participants who were either 1 standard deviation above or below the mean on the combined integration measure and who were either in the intervention or the control condition. In the control condition, those low in integration scored 4.51 on the progress variable, and those high in integration scored 4.69 on the

progress variable. In the intervention condition, those low in integration scored 3.93 on the progress variable, and those high in integration scored 5.05 on the progress variable. Thus, as can be seen, participating in the intervention appeared to amplify the effects of integration (or the lack of it) upon progress.

Our fourth and final hypothesis stated that making progress in goals should predict positive increases in growth-related outcomes from the beginning to the end of the semester, and should also predict positive retrospective judgments regarding the semester. To test the change-related hypothesis, we conducted a series of regression analyses in which the Time 2 variables were the dependent measures, and the Time 1 measures and the midsemester progress variable were the predictors. Three analyses were conducted: one for the Time 2 Ryff Well-being measure, one for the Time 2 Vitality measure, and one for the Time 2 Affect balance measure.

Table 3 presents the regression coefficients resulting for midsemester progress in the three analyses of change. In every analysis, the Time 1 outcome variable (i.e. the test-retest coefficient) was significant. More importantly, participants high in midsemester progress showed increases in their vitality and affect balance, and marginally significant increases in Ryff well-being. These results again suggest that attaining personal goals contributes to increased positive mood and reduced negative mood (Brunstein, 1993; Sheldon & Elliot, 1999; Sheldon & Kasser, 1998), and, new to this study, also indicate that goal progress leads to increases in felt aliveness and in psychosocial adjustment.

We then repeated the latter three analyses, controlling for Time 1 Expectancy. This was done in order to rule out this important motivational construct as an alternative explanation for the results (Bandura, 1989).³ Results were essentially the same, suggesting that the positive effects of goal attainment upon well-being are not reducible to initial expectancies (Sheldon & Elliot, 1999; Sheldon & Kasser, 1998). Notably, in these analyses, initial expectancies themselves did not predict positive change

3. Other personal goal research has controlled for the effects of other constructs such as goal difficulty (Sheldon & Elliot, 1998), approach versus avoidance status (Sheldon & Elliot, 1999), and commitment (Sheldon & Kasser, 1998). In addition, personal goal research has controlled for global personality dispositions, such as neuroticism (Sheldon & Houser-Marko, 2001), life-skills (Elliot, Sheldon, & Church, 1997) and Type A personality (Elliot & Sheldon, 1998).

Table 3
 Predicting Time 2 Outcomes From Midsemester Progress:
 Standardized Regression Coefficients ($n = 78$)

	Midsemester Progress
Change in Ryff Well-being	.18 +
Change in Vitality	.22 *
Change in Affect Balance	.26 *
Self-Actualization (retrospective)	.24 *
Positive Motivational Change (retrospective)	.51 **
Change in Organismic Integration	.29 **
Change in Systemic Integration	.21 **
Change in Aggregate Integration	.32 **

Note. In all but the Self-Actualization and Positive Motivational Change analyses, the Time 1 version of the variable is controlled for in the regression equation.

** $p < .01$, * $p < .05$, + $p < .10$.

in any of the outcome variables, consistent with the results of Sheldon and Kasser (1998). Apparently, it is the experience of pursuing and actually attaining one's goals during a period of time that promotes positive change, not merely being optimistic at the beginning of that period.

Table 3 also presents the coefficients resulting when midsemester progress was examined as a predictor of change in the organismic and systemic integration measures. That is, might those who began with more integrated motivation tend to "pull even further ahead" over time, due to their stronger ability to attain goals? As can be seen, progress predicted positive change in all three integration measures, suggesting that the answer to the latter question is "yes." Further, the correlations between progress and growth were not found to differ depending on whether participants were in the intervention or the control condition.

Finally, Table 3 presents the bivariate associations between midsemester progress and participants' retrospective ratings of self-actualization and positive motivational change occurring during the semester. As can be seen, those who were doing well in their goals midway through the semester were more likely to report greater self-actualization and positive change at the end of the semester. These relationships were also found to be independent of Time 1 expectancies.

DISCUSSION

In this study, we attempted to go beyond theories of growth that focus on individuals' reactions to role transitions, trauma, or stress, by testing the hypothesis that personal goal attainment provides a proactive way of obtaining short-term personal growth. In an attempt to enhance this effect, we also tested an intervention to increase participants' levels of longitudinal goal attainment. As noted in the introduction, personal goals may be particularly apt foci for theoretically informed interventions to enhance adjustment and personal thriving (Ryff & Singer, 1998; Wadsworth & Ford, 1983) because goal variables are assumed to be less stable than other personality constructs (Emmons, 1989) and also because goals are invested with considerable motivational energy (Kuhl, in press; Sheldon & Elliot, 1999). Despite these compelling advantages, personal goal researchers and counselors have been slow to work together to develop a means of enhancing personal growth and well-being.

To address this, we designed two educational sessions totaling 90 minutes, in which intervention participants were encouraged to reflect upon and take greater possession of their goals and were also taught four specific strategies they might use for regulating their goal-related experience. These strategies ("Own the goal," "Make it fun," "Remember the big picture," and "Keep a balance") were derived from Sheldon and Kasser's (1995) organismic and systemic models of integrated goal functioning. Our counselors employed a variety of different methods to help participants think about these strategies and also encouraged participants to employ the strategies throughout the semester that followed.

Several intriguing findings emerged. First, people higher in initial personality integration tended to be higher in initial well-being, and they also made more progress in their goals during the term. These results are consistent with prior work (Sheldon & Elliot, 1998, 1999; Sheldon & Kasser, 1995) and again indicate that more integrated persons are better adjusted, both emotionally and functionally. Second, those higher in initial personality integration also tended to benefit more from the goal training, in that they reported the highest degree of later progress. Thus, although the intervention had no main effects on goal functioning, we did succeed in providing helpful resources for at least some of our sample. Third, goal progress itself predicted increases in growth-relevant outcomes, such as increased vitality, psychosocial well-being, affect

balance, and personality integration, and also predicted higher retrospective ratings of self-actualization and positive change having occurred during the semester. The latter findings support our assumption that goal striving can provide a proactive route to new well-being and personal growth.

By what processes did goal attainment lead to enhanced well-being and perhaps personal growth? Sheldon and Elliot (1999) discussed two basic ways that progress toward goals might increase well-being, corresponding to “bottom-up” and “top-down” models of well-being (Diener, 1984; Feist et al., 1995). First, the process of moving toward goals may provide people with many small satisfying experiences along the way, which cumulate to influence their general emotion and growth-related appraisals. Diener, Sandvik, and Pavot (1990) offered a memory-based model of this bottom-up process, proposing that people make global well-being judgments by first recalling salient positive and negative experiences that have occurred in the recent past, and then basing their judgments upon the relative proportion of each type of experience which comes to mind. Applied to the current study, it seems likely that those who experienced substantial success in their goals during our study also had many satisfying experiences during this period of time (Sheldon & Elliot, 1999), which collectively influenced the positivity of their growth-related judgments at Time 2. For example, a person who did well at the goal of “Making new friends” likely had numerous feelings of intimacy and relatedness over the course of the semester, the later recollection of which influenced global well-being appraisals.

As a second possibility, attaining goals may result in enhanced well-being via a “top-down” route. For example, goal attainment may bring radical positive changes in one’s self-concept (i.e., one now views oneself and one’s capabilities in a totally new way), or life-circumstances (i.e., one gains valuable new opportunities or a new intimate relationship), changes which can induce radical shifts in one’s happiness and growth-related judgments. Personal goal attainment may also induce important changes in a person’s basic attitudes or philosophies regarding living (Emmons, 1996), which may also transform the person’s general mood and well-being. For example, a woman who attained the goal of “making the dean’s list” might find that a whole new world of educational possibilities had opened up and might also derive a new view of the academic system and of herself as an effective agent within that system.

The latter, top-down route to enhanced well-being is more consistent with conventional models of personality growth, which typically emphasize the “leap” to new levels or stages of development following the resolution of some crisis (Wrightsmann, 1994). However, we believe the bottom-up route to growth should not be underestimated; people having many small satisfying experiences may actually attain greater “organismic thriving and health” as a result, just as a plant receiving a steady complement of sunlight and water is likely to thrive to a maximal extent (Ryan, 1995). From this perspective, growth may involve gradual or incremental change (Wrightsmann, 1994), as well as sudden or radical change. Unfortunately, the current study data cannot distinguish between top-down (radical) and bottom-up (incremental) models of positive change. Probably both are occurring, and future research could seek more detailed information.

One of the most interesting findings of the study was that only individuals who were already fairly well-integrated at the beginning of the study expected, and actually found, the intervention to be beneficial for their goal functioning. One potentially helpful perspective for understanding this finding is provided by dynamical systems models (see Vallacher & Nowak, 1994). According to such models, dynamic systems differ in the extent to which they tend to stay within a single state or phase space, as compared to shifting back and forth between phase spaces or even moving to ever-new functional states (Holt, 1998). The latter type of nonlinear process allows for the most potential change and complexity, and such systems tend to be “poised” (Holt, 1998) for continuous evolution, as they flexibly adapt themselves to the new circumstances that they themselves help to create (Carver & Scheier, 1998). An especially notable feature of such systems is that when they are “perturbed” (as by our intervention program), they tend not to return to their original state, but, instead, tend to move towards a new, more highly organized state (Nowak, Lewenstein, & Vallacher, 1994).⁴

4. Prigogine’s Nobel Prize-winning concept of “dissipative” systems is apt in this context (Glansdorf & Prigogine, 1971). Dissipative systems effectively neutralize entropy by using disturbances as prompts to develop new complexity. Human action systems exemplify a unique type of dissipative system, in that “disturbances” can occur via conscious choice (Nowak & Vallacher, 1998; for example, we can abruptly choose to change spouses or careers, to move to Zanzibar, or to stop smoking). This potential for self-induced non-linear change illustrates in yet another way the unique and important role that conscious goal striving can play in the evolution of human personality (Ford & Ford, 1988).

These concepts suggest that those who have attained the highest levels of integration thus far may also be those who have accrued the most forward momentum in their lives (Pals & John, 1998). Already in motion and most open to new experience (Sheldon & Kasser, 1995), integrated people may be best-prepared to transform themselves even further. Put another way, highly integrated individuals may have already been undergoing the incremental process of growth mentioned above, and our intervention procedure may have helped them to take even larger steps (Young-Eisendruth & Foltz, 1998). In contrast, those who have not attained a high degree of development may be relatively more motionless or static at present (Tesser & Achee, 1994). Perhaps bound by ambivalence or conflicts (Emmons & King, 1988), they may not have the resources to escape from their ruts or limiting habits. Rather than seizing the opportunities afforded by programs such as ours, these individuals may instead resist them, due to an implicit commitment to maintaining the status quo. In this light, the potentially liberating effects of external traumas (Tedeschi & Calhoun, 1995), life-changes (Showers & Ryff, 1996), and role-impositions (Erikson, 1963) becomes clear.

Unfortunately, our brief intervention did not benefit individuals low in initial integration, arguably the population most in need of help. If indeed such individuals are “stuck in ruts,” it appears that it may take a different approach to unstick them. For example, future studies could use insight-based techniques to help participants explore the deeper reasons and historical roots for their goal choices (Wadsworth & Ford, 1983). Although this would probably lengthen the intervention, realistically, it might take 8 to 10 sessions (as in the brief psychotherapy model; Hughes, 1990) for a program such as ours to have maximum impact. Another reason the intervention may not have worked for everyone was that a crucial element of successful psychotherapy was not present in this study, namely, participants’ having chosen to undergo the “therapy” (Ryan, Plant, & O’Malley, 1995). That is, our experimental participants did not decide on their own to attend our program, but were instead randomly assigned to the program. Perhaps the less-integrated individuals in our study would have been less likely to choose to attend our program, and thus they benefited less when they were randomly assigned to such an opportunity. One way to perhaps enhance such participants’ investment would be to spend more time convincing them of the value of goal pursuit and our program (Locke & Latham, 1990).

Yet another possibility for improving the intervention would be to focus more on changing participants' goals. Although we did not encourage participants to select new goals in the current study because of the potential measurement difficulties this would have induced, past research suggests this could be a fruitful avenue to explore. In a sense, the current program focused on the "why" of goals, trying to help participants reconsider and perhaps reframe the reasons they were pursuing the particular set of goals they identified. However, the "what" (or content) of goals is also associated with personality integration and well-being (Carver & Baird, 1998; Kasser & Ryan, 1996; Ryan et al., 1996; Sheldon & Kasser, 1995). That is, some goals, by their nature, may be inherently less satisfying to pursue and attain. If so, then some participants, in order to really benefit from the program, may have needed to choose different goals altogether. For example, a person absorbed in popularity or acquisition concerns may need to abandon them and adopt new goals if he or she is to truly thrive.

A number of limitations of the present results should be noted. First, it is unclear whether participants who increased their levels of psychosocial well-being and personality integration were able to maintain such increases. Recent research suggests that well-being is quite heritable (Lykken & Tellegen, 1996) and thus likely to return to initial levels eventually, following any fluctuations. To the extent that the measures we used to detect growth are really measures of conventional well-being, then there is a good possibility that those who increased lapsed back to baseline following the study's conclusion. However, even if this is true, we suggest that such transient positive changes can pave the way for later more enduring changes. In other words, as people gain more experience in a new way or level of functioning, they become better able to maintain that new level of functioning the next time they reach it (Sheldon & Houser-Marko, 2001), so that eventually they may become part of the minority of persons who do succeed in altering their baseline well-being. This intriguing idea remains to be tested. A related limitation is that it is uncertain whether the indicators of growth or development we used are adequate to detect genuine personality development. Ideally, stage-based measures of moral, emotional, or ego development (Hy & Loevinger, 1996) could be brought to bear to strengthen the case. However, because little change occurs in ego-development and related measures after the age of 20 (Calhoun, 1998), such indices may offer too high or too problematic a standard for growth. A third limitation is that our sample

was rather homogeneous in age and ethnicity, and thus the generalizability of our effects to the population as a whole remains to be demonstrated. Finally, the issue of whether findings would generalize to non-Western cultures, in which individual striving may be less important for personal adaptation (Triandis, 1996), awaits research attention.

CONCLUSIONS

As theorists, we adhere to an organismic perspective, according to which humans are self-organizing, dynamic systems who vary in the extent to which they “thrive,” in large part because they vary in the extent they harness (versus suppress) their innate impulses for self-expansion and transformation. Thus, we agree with Rogers’ (1961) claim that a need for growth or self-actualization is perhaps the primary human metamotivation and that this propensity can be quite fragile. Despite its fragility, we believe the role of the active human self in constructing and expanding its own personality, literally, in “growing itself,” remains of paramount importance. Thus, any technique or program (such as our goal-training intervention) which demonstrates promise for enlisting or strengthening these proactive potentials deserves further study and consideration.

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