

Adverse Life Events in Late Life: Their Manifestation and Management in Daily Life

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The purpose of this study was to investigate the relationships among major life events, chronic events, daily instrumental activities, and well-being. Fifty individuals between 73 and 93 years of age reported major life events, minor hassles and uplifts, and daily activities during 5 measurement periods. In addition, positive affect was assessed in situ 5 times per day on 6 consecutive days on the basis of a random time-sampling scheme. The effects of major life events on positive affect were transmitted through minor events. However, there was no evidence that the relationship between minor events and positive affect was moderated by the occurrence of a major event. The relationship between life events and positive affect, however, was moderated by change in instrumental activities.

KEY WORDS: life events; minor events; active coping; costs; subjective well-being

In late life, the majority of life experiences seem to be adverse: social losses, illness events, changes in roles, and shifts in patterns of daily events (Zautra, Affleck, & Tennen, 1994). Researchers have interpreted evidence accumulated since the 1960s to suggest that individuals exposed to adverse life events are at greater risk for the onset of distress and illness (Turner &

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Wheaton, 1995). The reported associations among life events and dependent variables were only modest, however. Hence, critics called for more attention to intermediate processes (e.g., Rabkin & Struening, 1976).

Both minor events (Pillow, Zautra, & Sandler, 1996) and adaptive strategies (Baltes & Baltes, 1990; Brandstädter & Renner, 1990; Heckhausen & Schulz, 1995; Ormel, Lindenberg, Steverink, & Verbrugge, 1999) have been conceptualized as important mediators. The goals of this study, therefore, were to model the relationship among major and minor events and well-being and to test the effects of active coping processes on the association between life events and subjective well-being.

MAJOR EVENTS AND CHRONIC STRESSORS

Major events have been conceptualized as distinct from chronic stressors. This distinction notwithstanding, major events may manifest themselves in daily life and exert their impact on well-being through daily events—in addition to or as an alternative to their direct effect (Pillow et al., 1996). Consistent with this reasoning, the relationship between hassles and well-being was found to be stronger than that between major life events and well-being (e.g., Kanner, Coyne, Schaefer, & Lazarus, 1981). Two alternative interaction models have been conceptualized, one in which the association between minor stressors and distress is increased in the presence of a life event (vulnerability model) and one in which it is attenuated (stress-inoculation model; Pillow et al., 1996). Caspi, Bolger, and Eckenrode (1987), for example, reported evidence in support of a stress inoculation: The more life events a participant had experienced, the weaker the relationship was between daily events and daily mood.

To investigate effects of events on mood, researchers distinguished between stable aspects of subjective well-being that are influenced by personality traits and changeable aspects that are influenced by environmental change agents (Ormel & Schaufeli, 1991). Above and beyond the direct effect of personality, only recent events (Suh, Diener, & Fujita, 1996) or deviations from the average level of events (Headey & Wearing, 1989) seem to affect subjective well-being. Rather than being uniform, the impact of events differs from one individual to another as a function of the particular configuration of attribute scores at the time of occurrence of an event and of the behavioral strategies used.

BEHAVIORAL STRATEGIES

Generally, active coping is deemed to have beneficial effects. According to the model of selective optimization with compensation (Baltes &

Baltes, 1990), for example, long-term well-being should be compromised only if negative effects of life events cannot be compensated. Compensation can take various forms, such as using alternative means to reach one's goals or devoting more time or effort to habitual means. A similar strategy is the substitution of instrumental goals as proposed in social production function theory (Ormel et al., 1999). Long-term effects on well-being are expected to arise only if compensation or substitution is impossible and, therefore, higher order goal achievement is seriously jeopardized. According to this reasoning, an increase in instrumental activities following a specific life event may not only reflect the degree of readjustment required by the event but also attenuate the association between event and long-term outcomes.

The consequences of mobilizing resources for goal pursuit may not always be positive, however. Active coping, particularly in the case of misguided persistence, can inflict psychic, physical, and social costs (Cohen, Evans, Stokols, & Krantz, 1986; Schönplflug, 1985; Schönplflug & Battmann, 1988). For some individuals, the costs may be too high to be affordable. Behavioral responses to loss may be particularly costly in late life with its unfavorable balance of gains and losses (Freund & Baltes, 2002). Aged individuals may be better off with other forms of coping such as accommodative processes or secondary control (Brandtstädter & Renner, 1990; Heckhausen & Schulz, 1995). Otherwise, they may suffer long-term (side-) effects on their well-being.

The cumulation of evidence notwithstanding, there remains a host of unsettled issues regarding conceptualization and measurement of life events and outcomes. A threat to the validity of self-report-based research, particularly with elderly samples, is memory biases (Schwarz & Knäuper, 2000). Although age-related performance differences are larger for recall than for recognition, as required when rating event lists, interindividual differences in cognitive functioning still have to be taken into account in life-event research. Accuracy of the reports is also influenced by features of their elicitation, such as the time frame for recalling events, which is related to phenomena such as forgetting or telescoping.

One important outcome, subjective well-being, has frequently been characterized by two broad dimensions, positive affect (PA) and negative affect (NA). PA is related to specific events and activities (Clark & Watson, 1988); NA, in contrast, seems to be related to event reporting and health complaints (Watson & Pennebaker, 1989). The latter association partly reflects the common influence of negative affectivity (Brett, Brief, Burke, George, & Webster, 1990). Because in a relational conception (e.g., Lazarus, DeLongis, Folkman, & Gruen, 1985) stress and distress do overlap but are not identical, it may be particularly important to measure the components of the stress process as independently as possible. According

to Spector, Zapf, Chen, and Frese (2000), steps in this direction include (a) reducing the affective tone of items, (b) using different measurement methods for independent and dependent variables, and (c) using longitudinal designs, which allow one to partition the prior from the subsequent measure of a variable and thereby control for the effects of a stable third variable such as negative affectivity. In addition, outcome measures that are conceived as independent of negative affectivity could be used more frequently (e.g., PA; Watson & Tellegen, 1985).

HYPOTHESES

From the reasoning presented above, we deduced three sets of hypotheses.

Rival models of the relationship between life events, minor hassles and PA exist:

- 1a. The relationship among life events and PA is partly mediated by minor hassles.
- 1b. The relationship between minor hassles and PA is attenuated by the prior experience of a life event.
2. *Behavioral strategies*: The effect of life events on PA is amplified by an increased level of instrumental activities.

To test the hypotheses, we combined traditional life-event checklists and ratings of hassles and uplifts with the assessment of everyday activities via *yesterday interviews* (YIs; Moss & Lawton, 1982) and ecological momentary assessments of PA and NA. In advance, we addressed two methodological issues related to the use of self-reported life events: (a) reliability and stability of the measures and (b) the degree to which interindividual differences in cognitive functioning explain variance in event self-reports.

In summary, the present study has the following characteristics: (a) We used different measurement methods for independent and dependent variables and used a longitudinal design that enabled us to partial out the prior from the subsequent measure of a variable and thereby rule out the effects of stable third variables such as negative affectivity; (b) we controlled for interindividual differences in cognitive functioning and education known to be related to event reporting and exposure, respectively; and (c) in addition to the effect of the number of major events encountered, we considered the effect of single events.

METHOD

Overview and Sample Description

In the course of the third measurement occasion of the Berlin Aging Study (BASE), a sample of 109 individuals (45% women) was recruited for participation in this 1-year longitudinal study consisting of five measurement periods (MPs). Participants' age ranged from 72 to 99 years with a mean of 81.1 years ($SD = 5.8$). All participants were community dwelling. Selectivity analyses (Klumb & Baltes, 1995) showed this sample to be a positive selection of the BASE intensive-protocol sample ($N = 516$) but the effects were small. Eighty-two of the participants had remained by the fifth MP; only 51 of them took part in the complete protocol, including an intensive time-sampling procedure. The composition of this latter group of participants, again, resulted from selective attrition: Participants who participated in the complete protocol positively differed from those who dropped out with regard to their general intelligence and the size of their social network (Geng, 1996).

The 8-day MP had the following structure: Day 1 comprised the hassles and uplifts ratings for the previous 4 weeks and the briefing session for the intensive time sampling. Days 2 to 7 were the 6-day sampling period. On Day 8, a YI reconstructing the activities of Day 7 took place as well as a debriefing. On Day 1 of MPs 1 and 5, major life events were assessed in addition. Individuals who did not contribute intensive time samples were interviewed only on Days 1 and 8. Table 1 displays the temporal location of the measurement occasions together with the respective instruments.

Measures

Life Events and Chronic Hassles and Uplifts

The Life Events Scale LQAlt-LE (Filipp, 1992) contains 15 negative and 2 positive (marriage and becoming a grandparent) life events, the occurrence of which had to be rated for the 5 years preceding the interview (at MP 1) and for the time interval between the first and last assessment (at MP 5). The scores consisted of the total number of negative events reported to have happened during the respective time intervals. Table 2 displays percentages of the most frequent negative events. The four events with the highest incidence between 1990 and 1994 also had the highest 1-year incidence; the exact rank order differed only slightly.

To assess the occurrence of minor events, we used a short version of

Table 1. Overview of the Measurement Occasions and Instruments

Occasion or instrument	Week 1		Week 10		Week 20		Week 30		Week 40	
	1st I	EMA & YI 1	2nd I	EMA & YI 2	3rd I	EMA & YI 3	4th I	EMA & YI 4	5th I	EMA & YI 5
Life events checklist	xxxx (5 years)								xxxx (1 year)	
4-week hassles ratings	xxxx		xxxx		xxxx		xxxx		xxxx	
4-week uplifts ratings	xxxx		xxxx		xxxx		xxxx		xxxx	
Activity level		xxxx		xxxx		xxxx		xxxx		xxxx
Time samples of PA		xxxx		xxxx		xxxx		xxxx		xxxx
Time samples of NA		xxxx		xxxx		xxxx		xxxx		xxxx

Note. xxxx represents the location and extension of measurements. I = Interview; EMA = ecological momentary measurements; YI = Yesterday Interview; PA = positive affect; NA = negative affect.

Table 2. Sample of Negative Items From the Life Events Scale

Major negative event	% endorsement, 1990–1994 (MP 1, $n = 108$)	% endorsement, 1995–1996 (MP 5, $n = 108$)
Death of close other	59	15
Hospital stay	54	32
Diagnosis of severe illness	37	22
Close other had problems	36	20
Close other lost job	15	
Accident	14	
Severe lawsuit	12	
Moved from one house or apartment to another	11	

Note. Percentages are not given when an event was not among the most frequent on a measurement occasion. MP = measurement period.

Filipp's (1994) 56-item instrument. At the beginning of each of the five MPs, the frequency of 10 hassles (e.g., argument, loss of an object) and 10 uplifts (e.g., enjoyable meal, pleasant visit) had to be rated on 4-point scales for the four weeks preceding the interview. The scales ranged from *never* (0) to *frequently* (3); scale means were used as hassles and uplifts scores.

Cognitive Functioning

We used the Digit Letter Test (Lindenberger, Mayr, & Kliegl, 1993), a measure of perceptual speed, as an indicator of cognitive functioning. On a large table visible throughout the whole procedure, each of nine different letters was assigned to a digit. Participants were presented with tables containing six digits, and their task was to name the corresponding letters. The score consisted of the number of correct answers given within 3 min. Stimulus presentation and data collection were supported by a Macintosh SE30 personal computer equipped with a Micro Touch Systems touch-sensitive screen. The mean sum score in the sample was 89.96 ($SD = 22.37$).

Daily Instrumental Activities

To assess the participants' time use, we used YIs (Moss & Lawton, 1982). In the course of this interview, the previous day had to be recalled from waking up to falling asleep, reconstructing the activities the respondent carried out along with their durations.

Coding of the reported activities into 59 activity categories and 29 subcategories by different coders yielded kappas between .65 and 1.00, with

a median of .76 (i.e., substantial intercoder agreements). Conceptually, activities were trichotomized into regenerative activities responding to physiological needs; instrumental activities such as grocery shopping and cleaning, performed predominantly because of their outcomes; and leisure activities such as playing games or listening to music, performed predominantly for their own sake. We distinguished instrumental and leisure activities on the basis of the third-party criterion (Reid, 1934; see also Klumb & Baltes, 1999a, for more details). In the present context, we included only the level of instrumental activities (in minutes).

Subjective Well-Being

We assessed subjective well-being with a time-sampling procedure. A portable beeper prompted the participants to fill in a sampling form in a small booklet at five times distributed randomly across the day (software: Lang & Helle, 1994). Two consecutive signals had a minimum distance of 15 min, and the average intersignal interval was 2.5 hr ($SD = 20$ min). This procedure took place on 6 consecutive days—the sampling period—with different random patterns. Separate booklets, which differed in color and label as a function of the day of the week, carried the forms. Data collected in this fashion are assumed to be uncompromised by memory, selection, or aggregation problems because of the immediacy of responding. Although still based on self-reports, this approach is as close to direct observation as one can get (see Fahrenberg & Myrtek, 1996).

Eight mood adjectives had to be rated along 5-point scales on which 0 indicated *no experience of the particular affect* and 4 indicated *the affect was experienced very intensively*. Four items originated from the Positive-Affect–Negative-Affect Scales (PANAS; Watson, Clark, & Tellegen, 1988); the remaining four were adopted from the YI (Klumb & Baltes, 1999b). The positive adjectives *interested*, *active*, *happy*, and *relaxed* were combined to form the unit-weighted composite PA. The negative adjectives *depressed*, *irritable*, *bored*, and *lonely* were combined to form the unit-weighted composite NA.

Analytic Strategy

The analytic tool for testing the substantial hypotheses were hierarchical regression analyses: We adopted Baron and Kenny's (1986) definition of *mediation* and tested the model with three separate regression analyses: We regressed (a) hassles on life events, (b) PA on life events, and (c) PA on both life events and hassles.

To test the interactive effect of negative life events and minor hassles on PA, we used two moderated regressions. The respective interaction terms consisted of the product from the level of hassles reported for the last 4 weeks of the study period (centered around the sample mean to reduce multicollinearity) and an indicator variable for the occurrence of a life event, namely a hospital stay and the death of a close other, both of which were about equally distributed in the sample.

To test the interactive effect of life events and instrumental activities on PA, we used a moderated regression. The interaction term consisted of the product of the level of negative life events (centered around the sample mean to reduce multicollinearity) and a dummy-coded variable that took the value 1 if the level of instrumental activities remained constant or increased across the study period ($n = 26$) and the value 0 if their level decreased ($n = 27$).

RESULTS

Reliability and Stability

Means, standard deviations, reliabilities, and temporal stabilities of major negative life events, hassles and uplifts, activity categories, as well as PA and NA are displayed in Table 3 for the first and last MPs. Negative life events had the lowest α reliability, but this is a desirable property of event inventories because it indicates low redundancy between the single events (Zautra et al., 1994). For both the first and second half of the year, instrumental activities had a daily duration of about 3 hr. Because the activity category consisted of aggregates over two or three adjacent MPs, the reported internal consistencies capture the lability of the phenomena as much as measurement error (Nesselroade, 1988). Temporal stability of the aggregate was substantial: 48% of the variance in instrumental activities reported in the second half of the year could be explained by the activity level in the first half of the year.

Negative life events had the lowest temporal stability (.26); only 7% of the between-subjects variance within the last MP was explained by the level of events measured in the first MP. With 29% and 35% of the variances within the last MP explained by the scores measured in the first MP, hassles and uplifts were remarkably stable, in contrast. After a correction for attenuation (division of the correlation by Cronbach's α), the stability of life events increased to .56 and the stabilities of hassles and uplifts to .80 and .90, respectively.

The temporal stability of PA and NA was moderate. After a correction for attenuation, the stabilities of PA and NA increased to .57 and .46,

Table 3. Descriptive Statistics, Reliability, and Stability Information for Independent and Dependent Variables (Measurement Occasions in Parentheses)

Variable	<i>M</i>	<i>SD</i>	<i>n</i>	Cronbach's α	Temporal stability
Negative life events (1)	2.84	1.90	108	.51	.26**
Negative life events (5)	1.22	1.19	108	.43	
Hassles (1)	0.67	0.43	108	.71	.54***
Hassles (5)	0.59	0.38	108	.64	
Uplifts (1)	1.72	0.47	108	.61	.59***
Uplifts (5)	1.54	0.50	108	.70	
Production (1-2, min)	172	102	108	.58	.70***
Production (3-5, min)	167	117	108	.86	
PA (1)	2.73	0.75	81	.90	.51***
PA (5)	2.20	0.79	51	.89	
NA (1)	0.47	0.49	81	.80	.35*
NA (5)	0.24	0.33	51	.73	

Note. For the activity categories, reliability is confounded with temporal lability because of the pooling of adjacent measurement occasions. PA = positive affect; NA = negative affect.

* $p < .05$. ** $p < .01$. *** $p < .001$.

respectively. That the unattenuated stability coefficients of well-being measures were considerably lower than their α values implied that some of the unaccounted variance could be attributed to external change agents. In general, the moderate stabilities of PA and NA allowed for an influence of both stable personality dispositions and situational factors.

Impact of Cognitive Functioning on Event Reporting

When we analyzed the effect of cognitive functioning, we found the digit-letter score to be positively and reliably associated with event self-reports and uplift ratings pooled across all MPs ($r = .22, p < .05$ and $r = .24, p < .05$, respectively). This result indicates either that individuals with superior functioning were able to recognize more events or that these individuals actually experienced more events. There was no association, however, between the digit-letter score and hassles ($r = -.03$). Despite the small portion of variance explained, it seemed advisable to take differences in cognitive abilities into account when testing the substantive hypotheses.

Mediation Versus Moderation

The first set of hypotheses contained two competing models, a mediational one and a moderating one. The mediation of the effects of negative life events on PA through chronic events was tested first. The model test consisted of three analyses, the results of which are displayed in Table 4. In the first analysis, we found a modest effect of the level of negative life events across the study period on chronic hassles reported for the last 4 weeks of the study period. In the second analysis, we found a moderate

Table 4. Results of Regression Analyses Testing the Mediation Model

Variable	ΔR^2	ΔF	β
Analysis 1: predicting daily hassles (5, $n = 58$)			
Set A	.06	2.37	
Negative events (5)	.06	4.98*	.24*
Analysis 2: predicting positive affect (5, $n = 58$)			
Set A	.10	2.65	
Negative events (5)	.12	7.74**	-.36**
Analysis 3: predicting positive affect (5, $n = 58$)			
Set A	.09	2.41	
Hassles (5)	.20	12.89**	-.40**
Negative events (5)	.07	5.04*	-.27

* $p < .05$. ** $p < .01$.

effect of negative life events across the study period on level of PA aggregated across the time samples of the fifth measurement period. In the third analysis, we found that partialing out the effect of hassles reported for the 4 weeks before assessing PA substantially reduced the association between life events and PA. The effect of life events stayed reliable, indicating a partial rather than a full mediation.¹ There was no support for the moderation model, however. We did not find evidence for an interaction between the occurrence of either one of the life events and the last 4-weeks' hassles rating: $\Delta R^2 = .00$, $\Delta F(1, 46) = 0.00$; $\Delta R^2 = .02$, $F(1, 46) = 1.35$, for a hospital stay and the death of a close other, respectively.

Behavioral Strategies

According to the last hypothesis, change in instrumental activities should moderate the association between life events and PA. The level of recent negative life events accounted for 4% of the variance in regressed change in productive activities from the first to the second half of the study. The size of the effect was about 15 min (14-min increase in the duration of productive activities with every additional event) and, except for the event *loss of personal property*, also held up for single events. The size of the effect disappeared, however, when the level of life events assessed at MP 1 was controlled for. There was a relationship between the level of recent negative life events and PA averaged across MP 5 (see Table 5).

The interaction of the effects of negative life events and change in instrumental activities on PA was positive and statistically reliable, $\Delta R^2 = .06$, $F(1, 48) = 4.10$, $p < .05$. It disappeared, however, when education and cognitive functioning were controlled for. This differential association is displayed in Figure 1: An increase in instrumental activities amplified rather than attenuated the relation between life events and PA.

DISCUSSION

In this study, we modeled the relationships among major and minor life events and well-being and tested the effects of active coping processes on the association between life events and subjective well-being. More than 50% of the study participants reported the death of a close other to have happened to them within the 5-year period between 1990 and 1994. Death

¹We tested the significance of the indirect effect of life events on PA via hassles; according to Equation 1, it was not reliable:

$$\text{Indirect effect} = ab / (b^2 s_a^2 + a^2 s_b^2 + s_a^2 s_b^2)^{-2} = 1.54 \text{ (ns)}. \quad (1)$$

Table 5. Results of Hierarchical Regression Analysis Predicting Productive Activity

Variable	Change			β
	Cum. R^2	R^2	ΔF	
Production (1-2)	.49	.49	89.47***	.68***
Negative events (5)	.52	.02	4.07*	.15*

* $p < .05$. *** $p < .001$.

of a close other followed by hospital stay, diagnosis of a severe illness, and problems experienced by a close other were the negative life events with the highest prevalence for both of the assessed time periods. This result is congruent with research reviewed by Zautra and colleagues (1994).

Methodological Issues

A comparison of the temporal stabilities revealed negative life events to be rather unstable, whereas hassles and uplifts were remarkably and equally stable, unlike findings of Headey and Wearing (1989; see also Suh et al., 1996). Obviously, this difference originates in the very nature of the phenomena. To some degree, however, it may also reflect the ways in which the reports were generated: Unlike life-event checklists, both hassle and uplift ratings require reference to subjective states; they reflect an individual's response to an event as much as its actual occurrence (Zautra et al., 1994). A third explanation for the difference in stability may be differential controllability: Compared with discrete life events, which are rather exogenous, chronic events may afford greater influence, for example, of personality dispositions. In line with this reasoning, the moderate

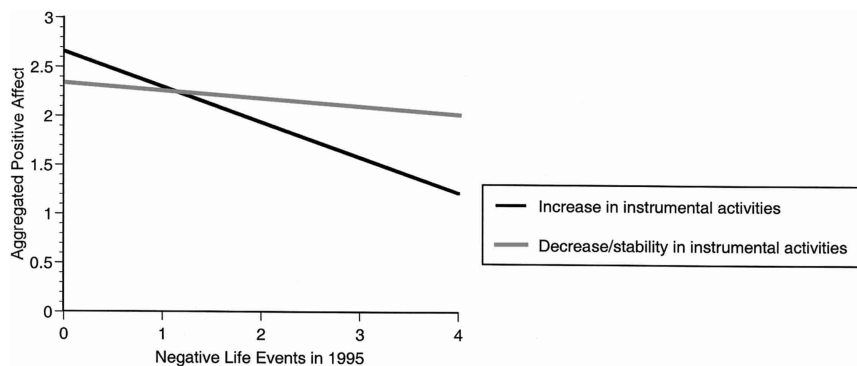


Figure 1. The association between recent negative life events and positive affect for two levels of change in instrumental activities (less than or equal to zero = *low*; greater than zero = *high*).

stabilities of PA and NA allowed for an influence of both stable personality dispositions and situational factors.

In accordance with the literature on memory biases, we replicated the existence of the most common methodological challenge of life-event studies: There was a (small) effect of cognitive functioning on life-event as well as uplift reporting. Because the present study relied exclusively on self-report, we decided to control for interindividual differences in cognitive functioning when testing substantial hypotheses. We recognize that this approach is inferior, however, to monitoring events more frequently, using multiple sources of information, or further limiting cognitive demands by using appropriate aids.

Mediation Versus Moderation

Consistent with previous findings (e.g., Pillow et al., 1996), the hypothesized partially mediated effects model was confirmed. The effects of negative life events on positive affect were transmitted both through a direct route and through minor stressors. Hence, major events still explained variability in well-being after controlling for minor ones. As expected from an earlier conceptualization by Kanner and colleagues (1981), the proportion of the variance in well-being accounted for by minor events was larger than that explained by major events. No support was found for the rival model that proposed a moderation of the relation between minor events and mood by the occurrence of a major event (e.g., hospital stay and the death of a close other). The attenuation effect reported by Caspi and colleagues (1987) could not be replicated for any of the events, however. This may be attributable to differences in the time frames. Moreover, in the present study, only mood was assessed through time samples; minor events were assessed retrospectively.

Behavioral Strategies

Every additional major event was found to increase the average duration of instrumental activities by 14 min. This finding is congruent with both the assumption of social production function theory (Ormel et al., 1999) that life events affect second-order means of production and the model of selective optimization with compensation (Baltes & Baltes, 1990), which emphasizes compensatory efforts. Events such as illness episodes and social losses may require more time and effort for performing the same everyday activities and/or the performance of new ones such as care ac-

tivities (for self or other), both resulting in a prolonged overall duration of instrumental activities.

As expected, the association between life events and PA was moderated by the level of instrumental activities: Only for individuals whose level of instrumental activities increased across the study period but not for those whose level decreased or remained constant, there was a long-term effect of life events on PA. This result may indicate that—irrespective of its effectiveness, which was not assessed in the present context—active coping has costs. Adaptive processes exhaust psychic and physical energies (Cohen et al., 1986; Schönflug, 1985) and if these costs exceed a critical limit, goal disengagement may be more adaptive than prolonged perseverance because it frees resources for the attainment of the remaining goals and for taking up alternative ones (Schönflug & Battmann, 1988; Wrosch, Scheier, Carver, & Schulz, 2003).

Taken together, the reported findings add up to the following picture. The outcomes immediately influenced by life events are chronic events and instrumental activities. The effect of life events on PA is mediated by daily events and moderated by instrumental activities. An increase in instrumental activities was found not to be an adaptive stress management strategy, probably because the costs it inflicted were too high in this group of people, with an unfavorable balance of resource losses and gains.

Strengths and Limitations

First, for older individuals, event base rates are generally higher than for younger ones, making the checklist approach to life events more viable. Second, including behavioral measures as intermediate outcomes seems to be a worthwhile strategy because they have both theoretical and practical significance. Third, the combination of different methodological approaches to assessing change in daily life is one of the present study's strengths. Fourth, the longitudinal design allowed us to establish the direction of effects and to partition prior from subsequent measures. Fifth, a further strength is the use of PA rather than NA as an outcome that is investigated less often and has less overlap with predictors (e.g., Watson & Pennebaker, 1989).

Several limitations of the study have to be mentioned, as well. First, because of the sample size, the power to detect the hypothesized associations, particularly the moderated ones, was limited. Second, differences in personality affect the definition, recall, and reporting of events. Post hoc corrections notwithstanding, it cannot be ruled out that the pattern of associations between predictors and criteria is partly a consequence of assessment procedures and their (psychometric) properties (e.g., reference to subjective states, conceptual overlap, internal consistency). Both hassles

and uplifts and major life events were assessed retrospectively for periods of different length. In situ assessments of hassles and uplifts are preferable because they are more reliable and, more important, the highest associations between events and well-being seem to be same-day and cross-day relationships (e.g., Marco & Suls, 1993; Stone & Neale, 1984). Finally, selective attrition is a challenge for most longitudinal research and was observed in the present study. Selectivity analyses showed the effects to be small, however (Geng, 1996). For future research, it may be ideal to focus on the significance of single life events for an individual's goal system and to include measures of the effectiveness of coping strategies.

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