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## ABSTRACT

This paper explores the concept that the experience of growth may be structurally similar to the emotional experience of religion and hope. It develops this view by focusing on two studies that involve a series of coping and outcome variables, together with analysis of Park, Cohen, and Murch's (1997) instrument on stress related to personal growth. One study involved parents who lost a child of their own due to an accident or incurable illness, and the second, involved a questionnaire study with spinal cord injured persons. The findings strongly support the view that non-normative life-events may lead to a more coherent worldview, a view that might be more tolerant, more human, and more open to new thoughts. Evidence was found linking the experience of personal growth with involvement in social activity and it also found positive relationships with the variables of distress. It concludes that persons whose lives seem to be meaningful might have a good capacity to link together even detrimental events and still hold a strong sense of coherence. (Contains 16 references.) (JDM)

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**”European and American perspectives on  
posttraumatic growth”:**

**A model of personal growth: Life challenges and  
transformation following loss and physical handicap**

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## Introduction

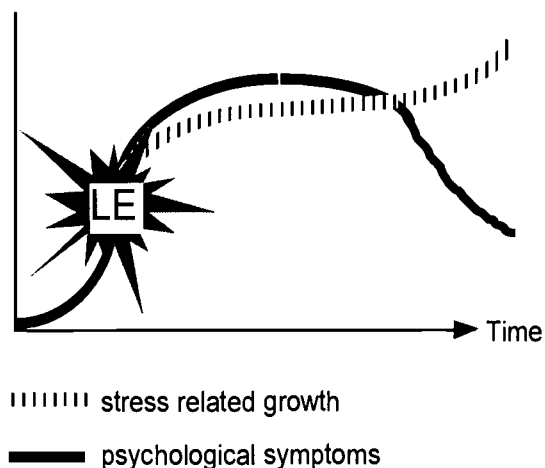
Usually we define personal growth as a change in a person's conception of the world or of herself following a major life-event. Personal growth means strive for meaning, it means having new goals and values, and it means adaption to new life circumstances. But, what is the nature of personal growth? In my talk I will present thoughts based on two empirical studies, and based on interviews of bereaved who lost a spouse. I would like to explain my view that personal growth is a kind of "emergency coping", which, although not related to health in a direct way, may prevent a worse outcome. The experience of growth maybe structurally similar to the (emotional) experience of religion and hope.

What are the empirical findings to support this view? I will focus on two investigations that involved a series of coping and outcome variables together with Park, Cohen, & Murch's (1997) instrument on stress related personal growth (SRGS). The first study involved parents who lost a child of their own due to an accident or incurable illness, the second study involved a relatively large questionnaire study with spinal cord injured persons. Both studies were cross-sectional and both studies have been conducted in Switzerland.

I would like to suggest a model of personal growth that is both a coping strategy and a secondary process linked directly to the organization of our mind. We as human beings are used to think that our past life has led in a rather straightforward way to the state of affairs we are living in now. But has it really? Isn't it completely fictitious that we think that our lives have a direction? Our mind enables us to put things together, just because they are linked by a simultaneous appearance. This is not new, in fact, this is how behaviorism started. I would like to suggest, that in incoherent times, where we are confronted with events that do not fit snugly in our schematic organization, we are forced to use this mechanism to maintain stability and order. What we call personal growth is probably a genuin, even biologically wired capacity, enabling us to make

order out of chaos. Therefore, personal growth has no linear relationship with symptoms, nor with other strategies usually useful in organizing our lives. It is a different mechanism, much more basic and much more important. However, it must be related to threatening events.

The non-linear interactional model of stress related growth



Following this model, personal growth is both a coping strategy and an outcome following a major life-event. It is related to symptoms, because following a life event, usually people get distressed and more symptomatic. But it is a relation that is nonlinear. In addition, it is an interactional model: The more distress a person experienced following a serious life-event, the the more she or he will experience growth when recovering from symptoms. In this model, people with relatively few distress following a life-event should experience little to nothing personal growth. To formulate a tentative hypothesis:

**People who are highly distressed, should experience a moderate level of personal growth, and people who had experienced high distress following the event but do not at the time now, should report high levels of personal growth. On the other hand, people who had**

**experienced a major life-event but no psychological symptoms, should report no stress related growth.**

## **Study 1 (Bereaved parents)**

I will start with the bereaved parents. Usually, parents are deeply disturbed following the loss and often, the feeling of loss keeps on for the entire life (Rubin, 1993).

Between 30 to 50% of the parents report a reduction in health following the loss (Shuchter & Zisook, 1993). The question arises, how the experience of personal growth can come out of this. In fact, some parents were deeply hurt when confronted with the thought that they may have "profited" from the loss of their child. But, at a certain point, often parents reported that they had become more open towards others and towards new ideas or religion as a result of the loss, in a way similar to the reports from the spousally bereaved.

### ***Method***

We recruited 176 parents who lost a child in a questionnaires study. The parents were addressed a) by a self-help organization and b) by a university child-care facility. The questionnaires given to the parents were almost identical and for the purpose of this presentation the two samples were put together.

Cause of death of a child varied from cancer to acute traumatization and age of the children varied from several months up to 20 years.

### **Instruments**

We used the Constructive Thinking Inventory (Epstein, 1989) as a general coping trait instrument, the Impact of Event-Scale (Horowitz, Wilner & Alvarez, 1979) and the Beck depression inventory (BDI) as measures for stress related signs and symptoms,

and the Cierpka (1987) "Familienbögen" as a measure for family interaction quality. The latter instrument measures the family interaction in several scales; for this study, we focused on the affective quality of family relations. Reliability for this scale is satisfying (.76); the scale indicates the affective climate (from cold to warm and friendly) between the family members. In addition to these theoretical scales we asked for a variety of demographic variables, e.g., age, gender, religious activity, and relationship with others.

### **Results**

In our sample more than 80% reported to be in good health, and about 13% reached clinically relevant values in depression (BDI, cut off = 18 and more). Following the death of their child more than 20% experienced the retreat of their partners, more than 30 % reported the retreat of their friends. More than 60% of the parents reported high levels of intrusive thoughts, and stress-related avoidance.

The findings on stress related growth were complex. We found that stress related growth and physical and psychological health (here depression) were not related (-.09, n.s.). Bereaved mothers reported experiencing more growth than fathers ( $t(2, 169)=3.1, p<.01$ ) but they were also more depressed than bereaved fathers ( $t(2,196) = 3.54, p<.001$ ).

We found some evidence that parents who reported more growth had more additional caregiving burdens (Plaschy, 1998),

More than 47% reported to have new friends and relationships with others since the loss of the child. Having new friends and acquaintances was related to more personal growth ( $t(162) = 3.49, p < .001$ ).

Except for the quest of meaning, the relationship of personal growth and coping strategies was found to be weak. Bereaved parents who were high in the sense of coherence and constructive thinking reported more personal growth. We found, that

having a strong sense that the world is meaningful had the strongest relationship with stress related growth (.27,  $p < .001$ ). Constructive thinking was only weakly related to growth (.15,  $p < .05$ ).

*Table 1:*

*Main effects of coping variables with stress related growth*

| CTI  | SOC   |       | Family |               | IES | BDI | Desir. | Defe. |     |
|------|-------|-------|--------|---------------|-----|-----|--------|-------|-----|
|      | compr | manag | mean.  | comm. pos-aff |     |     |        |       |     |
| .15* | -.04  | .11   | .27**  | .07           | .13 | .11 | -.10   | -.01  | .06 |

N=170-171

There was no direct relationship with personal growth and communicative style in the families. Stress related growth did not relate linearly to depression, stress related intrusions and avoidance, social desirability or a defensive style.

When regressed on various variables, stress related growth was not predicted well. Typically, with various regression models, we were able to explain between 15 and 20% of the variance. The best model was based on the following predictors: Stress-related signs and symptoms, coping traits, affective quality of family interaction, gender, and having new friends and acquaintances.

Although there was no direct relationship of communication in the family with stress related growth, affective quality predicted some additional variance in personal growth, indicating that affective quality might be a moderator for personal growth.

The best linear model for personal growth explained 23% of the total variance in personal growth in the bereaved parents sample.

*Table 2: Predictors of Stress related Growth (linear model)*

|                             | BETA | T       |
|-----------------------------|------|---------|
| Meaningfulness              | .38  | 4.15**  |
| New friends                 | .22  | 2.68**  |
| Stress Symptoms (IES)       | .20  | 2.10 *  |
| Affective Quality in Family | .18  | 2.15 *  |
| Gender                      | -.19 | -2.20 * |
| Constructive Thinking       | .09  | .87     |

Adjusted R Square .20 ; F = 7.00\*\* (DF 5, 116)

\*\* p < .01; \* p < .05

The statistical significance for gender indicates that growth following the death of a child is gender dependent: For men, growth is largely predicted by having new friends, for women, growth is predicted by a high sense of meaningfulness and communicative positive affect in family interactions. However, the model is not very satisfying: Personal growth is, to a large degree, not explained by better known constructs in psychology.

For a better understanding of the role of coping and growth, the role of stress related growth was studied in a group of spinal cord injured outpatients.



## Study 2 (Spinal Cord Injured)

In the second study, we asked spinal cord injured persons to complete a battery of questionnaires mailed to them in collaboration with the "Schweizer Paraplegiker-Vereinigung" and the "Rehabilitation-Center Basel".

Out of 877 mailed questionnaires, 273 were returned and 9 questionnaires could not be used because of too many missing data. The average age of the participants was 46 years (from 14 to 94, SD 14.6), and most of the responders worked at least part time (35.6%), or even full time (8%). About half of the cohort suffered from an incomplete (50.8%) and of a complete (49.2%) paralysis. Most participants were paralysed because of an accident (72.3%); second was illness (16.2%); iatrogen following medical procedures was 3.7%; born with a paralysis (2.2%); paralysed since birth (2.2%); and both accident and illness, or not listed causes was 3.4%.

Of the sample, 51.2% were married, 30.6% single, 11.2% divorced, 2.3% remarried, 2.3% separated, and 2.3% widowed. Most of the participants lived either with their partner (31.4%), within their family (36.4%). But there were also 26.7% who lived in single households.

The average duration of paralysis was 14.6 years (SD11.8) when asked to participate in our study.

### Instruments

Included in this battery were among other instruments the SCL-90 (Derogatis, 1977). Stress related symptoms were measured with the Impact of Event Scale (IES, Horowitz, Wilner, & Alvarez, 1979). For coping and stress related growth Parks short version of the SRGS (1997), a measure for emotion regulation, and the COPE (Carver, Scheier, & Weintraub, 1989) were given to the participants. In addition we used specific measures.

## *Results*

As in the study with the bereaved parents, personal growth related to the spirituality coping (.30,  $p < .01$ ); to the sense that life is meaningful (.24,  $p < .01$ ), and to active, problem-focused coping strategies (.18,  $p < .01$ ). But, when entered to a regression model, the best linear model for stress related growth explained a mere 12% of the total variance.

The result is similar to the previous study. Stress related growth seems to measure a unique feature following non-normative life-events.

Personal growth could be a psychological process linked to the event, as Park showed in her work, but in a nonlinear way.

So far, linear models showed to be little promising in explaining the reports of personal growth. By clustering three groups of spinal cord injured persons, the nonlinear relationship was further investigated. A cluster analysis with standardized levels of distress (GSI, SCL-90), and personal growth was performed and yielded three groups of persons that had the predicted form.

*Table 3:*

*Means of standardized Z-values of GSI and SRGS*

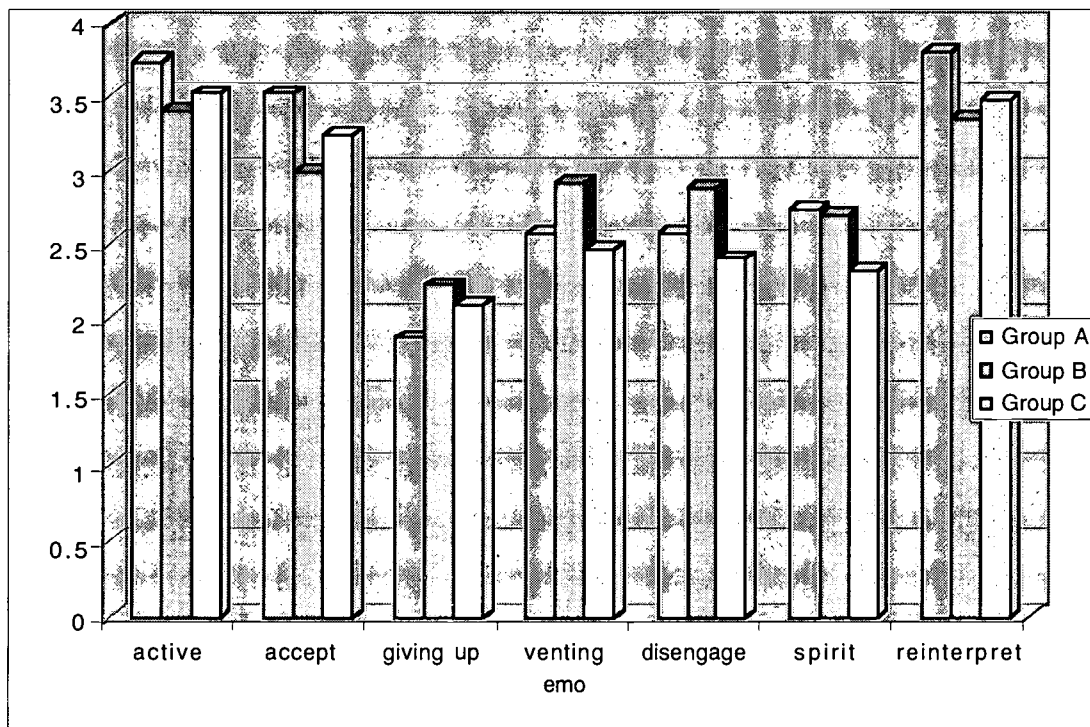
|                 | Mean Z-scores SRGS | Mean Z-scores GSI |
|-----------------|--------------------|-------------------|
| Group A (N=95)  | .94                | -.41              |
| Group B (N=52)  | .10                | 1.61              |
| Group C (N=112) | -.85               | -.39              |

N=259

Group A (N=95) had high levels of personal growth but low levels of distress. Group B (N=52) reported medium level of personal growth but had extremely high distress levels. Group C (N=112) reported little personal growth and had low levels of distress.

*Diagram 1:*

*Mean of COPE-scales for the three Cluster Groups*



These groups differed significantly in their coping strategies (Hotellings multivariate  $F(32,436) = 2.92, p < .001$ ), the univariate post-hoc contrasts (Bonferroni) showed that the groups differed in 7 out of 15 coping strategies. Group A used more (and more healthy) coping strategies than the other two groups, indicating that personal growth is related to coping after all.

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In more detail, the high growth, medium symptoms group (A) showed more active coping ( $p < .01$ ), acceptance ( $p < .001$ ), and positive reinterpretation ( $p < .001$ ) than the group with high symptoms (B). They did vent their emotion less ( $p < .05$ ), had a lower score of mental disengagement ( $p < .05$ ) and used less substances ( $p < .001$ ) than the persons having high symptoms.

Between the group with high growth, medium symptoms (A) and the persons who showed neither symptoms, nor growth (C), there were significant differences in active coping ( $p < .05$ ), acceptance ( $p < .05$ ), spiritual coping ( $p < .01$ ), and positive reinterpretation ( $p < .01$ ). These strategies were used more often by the high growth group. In contrast, the nonaffected persons in group C showed more behavioral disengagement (=giving up,  $p < .01$ ).

The nonaffected group (C) and the persons with high symptoms (B) differed in their use of venting emotions ( $p < .001$ ), mental disengagement ( $p < .001$ ), spiritual coping ( $p < .05$ ), and substance abuse ( $p < .001$ ).

## Discussion

Park and Cohen's measure of stress related growth as shown validity in former investigations; other investigators like Tedeschi and Calhoun (1995, 1996, 1998) strongly support the view that non-normative life-events may lead to a more coherent world view, a view that might be more tolerant, more human, and more open to new thoughts. This is not a new perspective but recently it got more into the focus of psychological researchers. Interestingly, the young and growing literature on psychological growth following stressful life-events is somewhat contradictuous. Some, like Snape (1997) find a positive relationship with variables of distress, others like Videka-Sherman (1982) link the experience of personal growth with involvement in social activity. We found evidence for both; the strongest linear relationship was found

for the sense that life is meaningful. This makes sense in the light of the proposed model: Persons whose lives' seem to be meaningful might have a good capacity to link together even detrimental events and still hold a strong sense of coherence. For them, most things are easily integrated and, if not, they might endure greater changes in life assumptions and adaptation, but they might be better able to adapt in the end. These changes do not come cheap: They go with a lot of signs and symptoms of distress, even depression. These signs will pass with time (and vigor) and as a residual of the adaption process, experienced growth will be the result.

For future investigations, the coping and the experienced residual of growth should be investigated separately. As a coping strategy, stress related growth is a constructive way to understand and handle difficult changes in life circumstances. It is a capacity (be it learned or inherited) that enables one to integrate and learn a variety of genuinely separated things. It is intelligence in a broad meaning.

The residual part of stress related growth is a psychological substitute in the following of major changes, especially losses. It is related to the coping part in that it is the result of the integration. But it is not coping. It is related to the known phenomenon that in the hindsight all things make sense. How do we make sense of psychological distress and the experience of symptoms? Perhaps in enabling us to be more tolerant and more human to ourselves and others.

Personal growth is an important variable, it has become quite a popular construct among researchers of stress. Even more importantly, it directs us to a field where psychology may not be the only player; philosophy and religion have long said that life-events can be regarded as a chance to become a better human being. Let us hope that this is not an illusion.

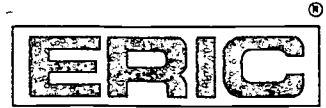
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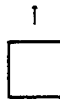
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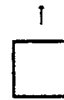
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