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What influence do major events in life have on our later quality of life? A retrospective study on life events and associated emotions

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Background:

To examine associations between global quality of life (QOL) and major life events.

Material/Methods:

This was a retrospective study using the self-administrated expanded SEQOL questionnaire with questions on life events and connected emotions. Seven hundred forty-six people, 55–66 years old, from a representative sample of the Danish population participated. Global QOL was measured by SEQOL (self-evaluation of quality of life), containing eight global QOL measures: well-being, life-satisfaction, happiness, fulfillment of needs, experience of temporal and spatial domains, expression of life's potentials, and objective factors.

Results:

Life events related to health such as restraints of movement or psychological illness showed a major association with the quality of life. Most other associations between quality of life and life events were intermediate or minor.

Conclusions:

Quality of life cannot simply be determined by life events. Actual quality of life is determined by how all the events of life have been processed and integrated in the consciousness. The results seem to support the idea that global QOL can be efficiently improved by integrating the painful events of the past. Since several studies have shown correlations between QOL and health, it is likely that such an improvement in QOL will also cause improved health and ability.

key words:

longitudinal study • development • global quality of life • QOL • holistic medicine • public health • SEQOL • Denmark

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BACKGROUND

Quality of life (QOL) has become an important topic in public debate [1–3] and is increasingly considered to be important in treating and preventing illness and has therefore been the subject of a number of philosophical and psychological studies [4–10]. It is becoming more and more apparent that illness is closely related to the concept of quality of life and that therefore the exploration of indicators related to quality of life appears to be of broad importance for the prevention and treatment of disease. Identifying which factors constitute a good life may reveal an understanding about which areas in life are to be encouraged in order to enhance the global quality of life. Following are the results from a study examining quality of life and major life events.

The hypothesis in this survey was that life is made up by our life events, i.e. what happens to us during life and the situations we manage to create for ourselves. Behind this simple hypothesis lies the great philosophic dilemma that life does not consist of events, but of a continuum, a constant now. Delimiting an event is philosophically, therefore, very difficult, while, paradoxically, the mind has no problem in cutting the world to bits and identifying events when these are defined in a questionnaire as, for instance, divorce, death, accident, etc. One problem with events is: when do they start? An example is a dismissal which was expected. From a psychological point of view, the event may actually begin with the expectation of the dismissal, and this expectation may in actual fact make the event happen.

We consider the continuity of life to contain some traits which, by their importance, defeat the events. Our awareness is a flowing continuum, and all events are more or less accidental and more or less successful attempts by our mind to create order out of the chaos of reality. However, it would be carrying it too far to probe the philosophical difficulties surrounding the definition and delimitation of life events in this paper. When viewed philosophically, life events are, for all practical purposes, just unwieldy operational dimensions, even intangible and incomprehensible.

The objective of this study was to evaluate the associations between quality of life and major life events. We wanted to discover whether previous events in life have an influence on the present global quality of life and the importance of the way in which the events are integrated in the mind. The study is a part of a larger investigation of the influence of life events on quality of life; hence, in another study we look into factors connected with early-life factors [11–13].

MATERIAL AND METHOD

This study was built on a retrospective study consisting of answers from 746 people, 55–66 years old in Albertslund, Denmark, a Copenhagen suburb in many ways representative of the Danish population. Several measures have been constructed to measure people's quality of life, comprising many different approaches to the concept. To explore the association between quality of life and the major events in life, we created the comprehensive SEQOL questionnaire, which describes people's life, lifestyle, and quality of life [14–23]. The SEQOL questionnaire is a self-administered questionnaire with items rated on a five-point Likert scale. The

questionnaire consists of 317 items based on an "integrative" theory of the quality of life, meaning that it organizes a number of theories on the quality of life into a spectrum that spans the extremes of subjective and objective quality of life. These measures are shown below (sample questions from the questionnaire included). For further details concerning the questionnaire we refer to previous studies on the validity of the SEQOL [15–23].

Subjective measures:

1. Immediate, self-experienced well-being ("How are you feeling?").
2. Life satisfaction ("How satisfying is your life?").
3. Happiness ("How happy are you at present?").

Existential measures:

4. Fulfillment of needs (e.g. "How well are your social needs fulfilled?").
5. Experience of life's temporal domains (e.g. "How do you feel when you are at home?").
6. Experience of life's spatial domains ("How satisfied are you with [each of five domains: self, partner, family, friends, community]?").
7. Expression of life's potentials [some 30 questions on the extent to which they are fulfilled].

Objective measure:

8. Objective factors [some 80 questions on income, status, work, etc.].

Replies to each of the questions that constitute these measures were weighted and scored to yield computable numbers between a minimum of 0 and a maximum of 100. These numbers were then taken as representing the quality of life of the respondent, expressed in terms of the eight different ways the quality of life is measured by the questionnaire. Suitably weighted and scored, replies to the first part of the questionnaire constitute variables, the co-variation of which can be used to calculate the quality of life.

Measuring quality of life has been the subject of disagreement through time. In our research, global QOL, in the broadest and all-inclusive sense, is the primary outcome measure (dependent variable). The integrative QOL theory made us include 113 items from the SEQOL questionnaire for the calculation of the global QOL [23].

Statistical analysis

In this study we had to deal with an essential problem: When the statistical connection between 113 life factors and the global QOL was measured, we often had a contribution to the statistical co-variation from the construction of the global QOL measure. This problem turned out to be of little significance, as even the most strongly "constructed" connections did not count for more than 1/15th of the total connection. Still, this produced an error of up to 7% in co-variation. As the large connections in our study showed a co-variation of 20% global QOL or more, the error mentioned above introduced by the construction of the global all-inclusive QOL measure was generally negligible. It is important to note that the way our QOL measure was constructed does not constitute a measuring problem; we will almost always find a high correlation when $N=5-10,000$ between QOL and the many factors constituting the global QOL or the factors related to them. However, we are not

looking at the size of the correlation (the statistical significance), but at the size of the statistical co-variation (QOL difference in %) showing the clinical significance.

For validation, SEQOL was sent together with the Nottingham Health profile (NHP) and Sickness Impact Factor (SIP), and the test-retest reliability correlation was >0.8, Cronbach's alpha was 0.75, correlation (r) to NHP was 0.49, to SIP 0.27 ($P<0.05$). Adjustment for health status made the correlation to SIP stronger among the sick ($r=0.41$). For SEQOL, 111 respondents were needed to detect a 3% difference in QOL. SEQOL is thus valid, as it showed a high level of reliability, sensitivity, and consistency.

RESULTS

As expected, life events related to both physical and psychological illness showed major associations with the quality of life; this was measured in terms of symptoms, hospitalizations, and emotional thoughts. However, most other isolated associations were intermediate or minor, as seen in life events related to economy, employment, friends or relationships, experiments with personal development, military events, peak experiences, political affiliations, and the like. Table 1 shows the connection between single events and global QOL; a connection of 10% or more is considered to be clinically significant, while a connection smaller than 10% is considered "small", according to ordinary practice in the Danish Quality of Life Survey [11–14]. The clinically significant connections can be organized into eight groups as follows:

- 1. Personal growth** Peak experiences: Survival journey (+11.3%), Personal growth: Fasting (+10.5%).
- 2. Religion** Conversion to a new religious belief (-21.7%), Catholicism (-13.0%), Formerly an atheist, but now a believer (-11.0%).
- 3. Sexual assaults** Sexual assault by well-known offender (-20.8%), Victim of rape (-15.7%), Incest, without intercourse (-15.4%) Sexual assault: Pawing (-13.9%); Attempt of rape, 1st time (women) (-12.1%), Sexual harassment (-10.8%).
- 4. Physical health** Unable to walk (-21.1%), Lupous Ulcer (-17.6%), Paralyzed, damaged or lack of body parts (-13.9%), Cannot run (-11.9%), Venereal diseases (-11.6%), Other serious physical disorders (-11.5%), Brain bleeding (-10.3%), Arthritis (diagnosis) (-10.3%).
- 5. Social problems** Threatened with violence upon family (-18.6%), Invalidity pension (-15.3%), Expulsed from a group (-12.9%), Got kicked under attack (-11.2%), Suddenly becoming abandoned by a close friend (-10.8%), Communism (Political standpoint) (-10.3%).
- 6. Mental Health** Psychotherapy in two periods (-16.4%), Two psychiatric hospitalizations (-11.9%), Fear of death (-10.8%).
- 7. Lack of care in childhood** Lack of care in childhood (-12.3%).
- 8. Financial problems** Registered in a credit bureau (-11.9%), Unrealistic re-payment arrangement (-11.3%), Debts to the public authorities (-10.3%).

In the category "personal growth" we found experiences connected with improvement of QOL; in the category "religion" we found a strong negative connection between religious doubts and change of religion or change to religion

from being an atheists; in the category "sexual assaults" we found a strong connection between these events and QOL; loss of physical health was also connected to significantly lower QOL; social problems (including communism, which here was seen as dissatisfaction with society), mental health problems, lack of care in childhood, and financial problems were also connected with lower QOL.

Strong connections with global QOL were generally not seen in the midst of single events; large associations in this study appeared when the events were analyzed collectively. In the high-level analysis we found strong associations between global QOL and the most dominant feeling and the level of integration of events. In general, people feeling a specific negative feeling often have a poor QOL (25.4% below the people normally feeling of positive feeling) and bad integration of one's life events had a substantial negative impact on the quality of life (25.1% below the people with the habit of integrating their life events). These constructs predict the quality of life of a person. Interestingly, the results showed (Table 2) that QOL was not to a high degree a product of the number of good and bad life events in life, but rather it seemed to be the way in which the events were integrated that determined the global QOL.

DISCUSSION

To our knowledge, only very few studies have investigated the effects of major life events on the later quality of life. Conversely, it is more common to investigate the effects of life events on later health status. In this study we found global quality of life (QOL) to be strongly associated with events related to both mental and physical health. As shown here, and in numerous other studies [24–36], health seemed to have considerable associations with the global quality of life. For example a British study of 300 persons showed that quality of life in early old age appears to be influenced primarily by serious health problems [37], and another study of more than 9000 people showed that self-reported health problems accounted for a considerable part of the quality of life [38].

Many people blame their past for their poor quality of life, but our findings do not support this idea. Our results seem to indicate that it is not the actual events in our past that determine our quality of life, but rather the way in which the events were integrated in the mind. This gives us a foundation to describe means to promote the global quality of life and thereby overall health, or, in other words, to develop a more positive and responsible philosophy of life and of integrating our past.

An interesting and highly relevant question is whether we can explain poor global QOL with single painful events or a chain of painful life events connected to a specific traumatic theme. If we look at the sexual assaults we find that "sexual assault by well-known offender (-20.8%)" was more "damaging" than rape and incest ("victim of rape (-15.7%)", "incest, without intercourse (-15.4%)") and that fondling, attempt of rape, and sexual harassment was almost as "damaging" as rape and incest ("sexual assault: pawing (-13.9%); "attempt of rape, 1st time (women) (-12.1%)", "sexual harassment (-10.8%)"). Deep reflections on these findings and many more results [11–14] have lead us to

Table 1. Single events.

Life Event (impact of single event) QOL-difference (%)*			
Conversion to a new religious belief	-21.7	Use of drugs as a life event: Tranquilizers	-8.7
Unable to walk	-21.1	Cannot go up/down stairs	-8.7
Sexual assault by well-known offender	-20.8	Meeting with Bailiff	-8.3
Threatened with violence upon family	-18.6	3 rd medical hospitalization	-8.3
Diagnosis: Lupus	-17.6	Lack of psychological contact with parents	-8.1
Psychotherapy in two periods	-16.4	Early retirement pension	-8.1
Victim of rape	-15.7	A [former] period with good friends	-8.1
Incest, without intercourse	-15.4	Use of drugs as a life event: Sleeping pills	-7.9
Invalidity pension	-15.3	Social Security benefit	-7.8
Sexual assault: Pawing	-13.9	Psychoactive drugs, 1 st period	-7.7
Paralyzed, damaged or lack of body parts	-13.9	Lack of physical contact with parents	-7.7
Catholicism	-13.0	Cannot lift heavy things	-7.7
Expulsed from a group	-12.9	Removal of birthmark	-7.7
Lack of care in childhood	-12.3	Period with strong religious doubts	-7.6
Attempt of rape, 1st time (women)	-12.1	Bad blood circulation	-7.5
Two psychiatric hospitalizations	-11.9	2 nd medical hospitalization	-7.4
Registered in a credit-bureau	-11.9	Chronic bronchitis (diagnosis)	-7.4
Cannot run	-11.9	Partner died	-7.2
Venereal diseases	-11.6	Period of alcohol abuse	-7.2
Other serious physical disorders	-11.5	Had a relationship with a much younger partner	-7.1
Unrealistic re-payment arrangement	-11.3	Money: Lose in properties	-7.0
Peak experiences: Survival journey	11.3	Hobbies: Zoology	-7.0
Got kicked under attack	-11.2	Sexual assault: Obscene remarks	-6.9
Former an atheist, but now a believer	-11.0	Abdominal disorders	-6.9
Sex harassment	-10.8	Experienced a life crisis	-6.7
Suddenly becoming abandoned by a close friend	-10.8	The partner left	-6.6
Fear of death	-10.8	Perfectly tuned relationship with partner	6.5
Personal growth: fasting	10.5	Depression (diagnosis)	-6.3
Brain bleeding	-10.3	Partner fails utterly	-6.2
Debts to the public authorities	-10.3	Period with a great sense of loneliness	-6.2
Communism (political standpoint)	-10.3	Cheated (first time)	-6.1
Arthritis (diagnosis)	-10.3	Experience of the world falling apart	-6.1
Owing money, going to bailiff's court	-9.8	Job offer/job training	-6.0
1 st psychiatric hospitalization	-9.5	Illnesses of the back	-6.0
Neurosis (diagnosis)	-9.3	Serious crisis between oneself and mother/father	-5.9
Was adopted	-9.0	Been officer in the army	5.8
Peak experience: Out-of-body/synchronicity/psycho kinesis	8.9	Unemployment in two periods	-5.8

Table 1. Continued. Single events.

Sexual assault: Exposed naked	-5.8	Diminished acoustic capacities	-3.3
Let down by a close friend	-5.6	Using pain-killers (self-bought)	-3.1
Experienced someone's death by suicide	-5.5	Socialist People's Party (political standpoint)	-2.8
Hypertension (diagnosis)	-5.5	One or more crises in one's partner relationship	-2.8
Sports: Running, marathon or similar 5.4		Paralyzed, damaged or lack of body parts	-2.8
Scold one's children often	-5.0	Joined a political party	2.7
Likes: New Age (music)	-5.0	Incurable cancer (including skin cancer)	-2.6
Father/mother moved away	-5.0	Money: can afford to do what you want	2.5
3 rd surgical hospitalization	-4.9	Liberal (political standpoint)	2.5
Suffered from a serious physical illness	-4.5	2 nd surgical hospitalization	-2.3
Had a relationship with a much older partner	-4.3	Always been a believer in good	2.1
Pneumonia (diagnosis)	-4.2	Done military service	2.0
One or more divorces	-4.1	Sports: Swimming athletics, cycling or similar	1.9
State of perfect balance in your life	3.9	Been in complete control of your economy	1.5
Human relations with complete openness	3.9	Interest: in food/wine	1.3
Partner was unfaithful more times	-3.9	Sports: Trekking	1.2
An experience of sudden deep insight	3.8	Devoting yourself to your work completely	1.2
Serious crisis with child	-3.7	Very interested in theatre	1.1
1 st medical hospitalization	-3.7	Became a father/mother	1.1
Perfect part of a community	3.5	First marriage	0.7

The connection between global QOL and 1000 different life events; only statistically ($p < 0.05$) and clinically significant factors listed. Difference in global QOL is measured according to the Integrated QOL theory [36] and is measured with the validated SEQOL questionnaire [31].

* Difference in percentage between the worst and the best off (single events), or calculated with the method of weight-modified linear regression (impact of all events) [35].

Table 2. High-level analysis of QOL and life events.

Most common emotion (on a positive-negative scale)	25.4
The average level of events not integrated	25.1
Level of integration of five-year-old life events	25.1
Number of essential physical health symptoms	-13.6
Very negative events arranged in order of time	12.2
Number of good events minus bad events	11.8
Number of life events not integrated	11.5
Number of very negative life events not integrated	10.7
The number of important, very negative events not integrated	9.9
Number of bad life events	8.8
Number of events containing good feelings	6.9
Number of life events	6.1

Analysis of the statistical connection between life events and QOL (impact of all events) (all $p < 0.01$).

the conclusion that we cannot really explain the low QOL of the people of the category "victims of sexual assault" by the assaults themselves. In a previous study we analyzed this problem in detail as we interviewed a series of narcotics users/prostitutes [14] and discovered that the girls assaulted and raped often were severely abused and neglected in their early childhood. Thus it is much more likely that these painful events arise on a general background of vulnerability, inviting other people to disrespect their borders and integrity.

The causality of the results is in many cases unclear. Thus it is possible that the results of Table 1 were only symptomatic; the more hurt and vulnerable you are, the more you will attract horrible events and the lower your QOL will be. Life events are thus consequences of your own negative attitude and belief, much more than an objective, unlucky event hitting you at some statistical rate. In accordance with this train of thought, it is known that girls who have been raped once have a much higher likelihood of being raped again [37].

The findings of the high-level analysis of this study were in agreement with the life mission theory [10], which states that

health, happiness, and ability come from living the purpose of your life, accepting full responsibility for the suffering of life, thus taking full learning and avoiding repression and eventually succeeding in expressing the talents in your life. To do this it is important to develop as a person into what is known as the natural condition, a condition where the person knows himself and uses all his efforts to achieve what is most important for him. Our concept of holistic medicine and the holistic process theory of healing [39–43] and the related quality of life theories [23,44,45] declare that a return to the natural state of being with optimal QOL is possible whenever the person acquires the resources needed for existential healing. The philosophical change in the person healing is often a change towards preferring difficult problems and challenges, instead of avoiding difficulties in life. The person who becomes happier and more resourceful also often becomes healthier, more talented, and capable of functioning [24–36,43–46].

One limitation of this study is the retrospective design, which involves the possibility of recall bias. When people have to answer questions about their past, there is a possibility that they will not remember correctly or that they will, for example, understate unpleasant experiences. Therefore the results can be influenced by bias. In addition, the statistical analyses are relatively simple, as no stratification was carried out. Therefore we cannot be sure of whether the results actually reflect associations other than the ones that appear in the tables. By use of stratification it would be possible to determine the true effect of each event; however, we chose in this paper to give a general view of all life events instead of using complicated statistical methods on a few life events. The sample size in this study is indeed adequate and, in addition, it was previously shown that the SEQOL is a valid instrument [15–23].

We conclude from this study, and this seems to be backed up by our other studies [11–14], that it is our level of consciousness, responsibility, and our general attitude to what happens to us that determine our quality of life, rather than our luck or misfortune. It seems that the actual quality of life is determined by the diligence with which the events have been processed and integrated. The overall conclusions from the study were:

- Quality of life cannot be explained solely by bad life events that contain negative feelings.
- People who are good at processing the events in their life statistically possess a high quality of life.
- Processing a bad event removes its negative importance to the quality of life.
- Time only heals life's wounds if negative experiences are processed.
- Many small life events mean more to the quality of life than few, bigger events.
- Quality of life is not determined by a life event in itself, but by the way we relate to life.

Interestingly, to our knowledge, this is the first time that we face massive quantitative documentation for the rationale of therapy and holistic healing. For future research we suggest that prospective studies be completed so that the respondents receive the same questionnaire every 10 years. This would allow the investigators to explore associations over time, and recall bias would be avoided.

CONCLUSIONS

Our results showed that we could explain about 25% of the global QOL from how effective the person integrates his or her life events in daily practice. Learning from what happened and processing the emotions (so that no negative feeling is left behind) seems to be a precondition for a good and healthy life. It seems that we have given quantitative documentation for the effect and its use in therapy and existential healing.

The global quality of life is probably not a function of single events. Life events seem closely connected to QOL and health. Usually, QOL and health are difficult to change, but this study showed that there are some factors related to QOL that actually seem changeable. A lot of people blame their past for their poor quality of life, but our findings do not support this notion. If you wish, you can integrate your life events and get rid of the negative impact. QOL is created here and now by having a constructive and responsible attitude towards life, self, and others. We can integrate our emotionally negative life events and thus recover our character and natural state of being (existential healing). It seems that QOL could be improved independently of any major life events. As we find a strong connection between QOL and health, we believe that QOL and existential healing can be used as medicine, improving self-evaluated mental and physical health and general functioning ability.

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