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Individuals' Quality of Life Linked to Major Life Events, Perceived Social Support, and Personality Traits

Cornelia Pocnet[1], Jean-Philippe Antonietti[1], Marie-Pierre F. Strippoli[2], Jennifer Glaus[3], Martin Preisig[2], and

Jérôme Rossier[1]

[1] Institute of Psychology, University of Lausanne, Switzerland

[2] Psychiatric Epidemiology and Psychopathology Research Center, Department of Psychiatry, Lausanne University
Hospital, Switzerland

[3] Genetic Epidemiology Research Branch, Intramural Research Program, National Institute of Mental Health,
Bethesda, MD, USA

Correspondence concerning this article should be addressed to Cornelia Pocnet, Institute of Psychology, University

of Lausanne, Géopolis, 1015 Lausanne, Switzerland, E-mail: Cornelia.Pocnet@unil.ch

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Abstract

Purpose: The aim of this study was to investigate the relationship between major recent life events that occurred during the last five years, social and personal resources, and subjective quality of life (QoL).

Methods: A total of 1,801 participants from the general population (CoLaus/PsyCoLaus study) completed the Life Events Questionnaire, the Social Support Questionnaire (SSQ), the NEO Five-Factor Inventory Revised (NEO-FFI-R), and the Manchester Short Assessment of Quality of Life (MANSA).

Results: Major life events were modestly associated with the QoL (about 5% of the explained variance). However, QoL was significantly related to perceived social support and personality traits (about 37 % of the explained variance). Particularly, perceived social support, as well as extraversion and conscientiousness personality dimensions were positively linked to life satisfaction, whereas a high level of neuroticism was negatively associated with QoL.

Conclusion: This study highlights the negative but temporary association between critical events and QoL. However a combination of high conscientiousness and extraversion, and positive social support may explain better variances for a high-perceived QoL.

Keywords: life events, personality, perceived social support, and subjective quality of life

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Quality of life (QoL) is the general well-being of individuals and has a wide range of contexts, including the fields of health care, social, politics, and employment [1]. However, there is a consensus that QoL is a multidimensional construct consisting of objective components (such as behavior and environment) and subjective components (such as psychological well-being and perceived quality of life) [2]. On the one hand, for example, a serious disease may have a direct impact on a person's health status, thereby constraining her or his mobility and autonomy. On the other hand, people with the same illness may differ in terms of their life satisfaction, relatively independent from their objective health and life conditions. Both objective and subjective components are assumed to explain unique proportions of variance in people's QoL [3]. Although QoL may be measured in a variety of ways, the studies suggested that satisfaction in life shows both cross-situational and temporal stability [4]. This is noteworthy given that people are confronted with all sorts of critical life events.

Our individual trajectories are punctuated by a succession of *life events* that we provoke intentionally or with which we are confronted in spite of ourselves. Some events are known to have an important impact on people's lives, such as wedding, giving birth, illness, divorce, loss of loved ones, or car accidents. Several studies have reported that favorable events can enhance QoL [5] or possibly buffer the impact of adverse events [6]. However, unexpected adverse events can have damaging consequences on our life trajectories and on our well-being. Some researchers have examined the amount of adaptation occurring after major life events such as marital transition, death, period of unemployment, or the onset of a disability [7, 8]. Confronted with adverse events, individuals adapt and tend to return to their original level of life satisfaction, thanks to their manifold resources. Indeed, job loss, widowhood, or divorce has been found to decrease levels of life satisfaction, which can then bounce back after a certain period of time [9]. However, sometimes, significant changes in life circumstances can have large and lasting effects on QoL [10]. For example, QoL can be greatly affected when events endurably impact the health of an individual. Thus, following a serious accident, a person can become disabled, which may lower his or her level of life satisfaction considerably, which may never return to its original state [11]. Therefore, the pattern of adaptation varies across different events. For positive events, the process of adaptation is faster and more complete than for negative events. Individual differences in adaptation to events thus result both from variability in the nature of the events and from variability in people's reactions to similar events. Hence, over time some people may become more resilient and adapt more easily to stressful life events, or, on the contrary, some people who

repeatedly experience traumatic events might actually become less resilient and have more problems adapting to new stressful events. Thereby, QoL is responsive to life events and changing life circumstances, which leaves hope that it can be improved [12]. An appraisal process by which an individual makes an assessment of available coping resources and their perceived ability is necessary to overcome stressful life events. This subjective process may be meaningful for individuals, leading them to seek their own well-being. This can be supported by the fact that several adaptive mechanisms reduce the impact of some major life events on life satisfaction.

Many studies have shown that people may have manifold resources that are linked to QoL and that enable to cope with situations that may endanger it [13]. Among them, *social support* is defined as the existence or availability of people on whom we can rely, people who let us knows that they care about, value, and love us [14]. According to a review of the literature [15], both the social network and the perceived social support have a direct and positive effect on the physical and mental health of individuals, but only perceived social support confers a "buffer" effect. It protects individuals against the deleterious effects of stressful life events. Many authors think that perceived social support has a greater impact on QoL than actual support [16, 17, 18]. Thus, perceived social support may affect QoL by reducing negative affectivity, reducing perceived stress, increasing personal resources, and facilitating the development of "active" coping strategies [19].

There is increasing interest in understanding the role of *personality* in shaping people's life circumstances and how personality leads people to react differently to the same circumstances. Moreover, a number of studies have shown that personality traits do not only affect how people react to life events (socialization effects), but that they also affect the likelihood of experiencing life events (selection effects) [20, 21]. Three personality traits have been discussed as particularly important: conscientiousness, extraversion, and neuroticism. For example, a person who is conscientious may overcome unexpected obstacles more easily than a person who is less motivated to achieve important life tasks. Thus, a conscientious person may be more successful in establishing objective indicators of QoL (e.g., having a successful career, good health, wealth) and may also report high levels of subjective well-being [3]. Extraverted people seek and enjoy the company of others, whether in personal, professionals, or leisure contexts. They also have a tendency to feel and share positive emotions particularly related to pleasant events with a strong interpersonal component, which could enhance their QoL [22]. In contrast, neuroticism involves a disposition to experience negative affects such as fear, sadness, anger, guilt, disgust, shame, and embarrassment. These negative affects influence the way in which stressors are appraised, which in turn can have destructive effects on feelings of life satisfaction [23, 24, 25].

Although there are many studies correlating life events with QoL, and many others linking personality or social support to QoL, little is known about the concurrent effects of these variables and how they may work together. Hence, the aim of our study was to explore whether negative emotional impact of life events was associated with QoL and whether perceived social support and specific personality traits moderated this relationship. Given prior findings, we expected that negative emotional impact of major life events is linked to QoL. More specifically, negative emotional impact of recent, very recent, very important, or particular event was expected to relate to QoL. In addition, perceived social support and extraversion, conscientiousness, and neuroticism personality traits were expected to moderate the effect of these life events on QoL. However, we expect that there is no moderator effect of openness and agreeableness on relationship events and QoL.

Method

Study design

The data for this article stemmed from CoLaus/PsyCoLaus, a cohort study designed to prospectively study mental disorders and cardiovascular risk factors in the general population [26, 27]. The baseline random sampling procedure was based on a complete list of the Lausanne inhabitants aged 35-75 years in 2003 provided by the civil register [26]. Following the baseline physical evaluation (CoLaus) completed in 2003-2006, the baseline psychiatric evaluation (PsyCoLaus) was conducted after an interval of one year among participants age 35-66 years [27]. Five years later, participants were contacted to participate in the first follow-up psychiatric evaluation. The follow-up psychiatric evaluation included a new set of social support (Multidimensional Scale of Perceived Social Support, MSPSS), personality (Revised NEO Five-Factor Inventory, NEO-FFI-R**)**, and QoL (Manchester Short Assessment of Quality of Life, MANSA) questionnaires, which were not assessed during the baseline evaluation. Therefore, the analyses of the negative emotional impact of recent life events (during the last 5 years) on QoL were cross-sectional. The MSPSS, the NEO-FFI-R, and the MANSA questionnaires were self-reported measures, while life events (Life Events Questionnaire, LEQ) were assessed using a standardized interview. The institutional ethics committee of the University of Lausanne approved the CoLaus/PsyCoLaus study. All participants signed a written informed consent after having received a detailed description of the goal of the study.

Participants

Among a total of 3720 participants at the baseline psychiatric investigation (PsyCoLaus), 2851 (76.6%) also agreed to participate in the first psychiatric follow-up evaluation 5 years later. Among them, a total of 1958 replied to both

the life-event interview and the self-rated questionnaires. A total of 865 participants have not completed the self-rated questionnaire (390 men (45.1 %) and 475 women (54.9%), M_{age} = 50.93, SD = 8.82; socioeconomic status M = 3.45, SD =1.26). Compared to the participants who sent back the self-rated questionnaire, we found no differences with regard to the demographic variables (gender, age, and socioeconomic status (SES)). Moreover, due to the potential non-independence of the assessment of the personality and the state of the participants, 128 with current major depressive disorder at follow-up were excluded resulting in a sample of 1830. For 6 participants the MANSA questionnaire was empty and 10 participants did not fill in the NEO-FFI-R questionnaire, resulting in a total of 1814 participants. Among them, the missing data were found for 13 participants on certain variables (11 participants have one missing data, and 4 participants have two missing data), and therefore, these participants were excluded from our analyses. Finally, 788 men (43.8 %) and 1,013 women (56.2%), $Mean_{age}$ = 52.20, SD = 8.83) had provided complete information on life events (Life Events Questionnaire), perceived social support (Multidimensional Scale of Perceived Social Support), personality traits (NEO Five-Factor Inventory Revised), and quality of life (Manchester Short Assessment of Quality of Life) at follow-up assessment. The personality inventory (NEO-FFI-R), the scale MSPSS, and MANSA questionnaire were self-reported measures, while life events were assessed using a standardized interview.

Measures

      Socioeconomic status (SES, [28]) was assessed using the Hollingshead Scale based on four domains: marital status, retired/employed status, educational attainment, and occupational prestige. Occupation and educational level combined to provide a score of SES according to the Hollingshead Index. The score was placed into one of five potential index categories, with high scores indicating higher SES. For example, Index one was usually comprised of individuals with the SES of unskilled laborers, Index two was linked to semiskilled workers, Index three was consistent with craftsman, clerical workers, or sale professionals, Index four was related to minor professionals or medium-sized business, while the highest status, Index five, was consistent with those in major business or professional fields.

      The Life Events Questionnaire (LEQ,[29]). The LEQ is a French tool that includes a list of 51 items (events) that cover a broad set of areas (work, finances, deaths, accidents, health, marriage, family, interpersonal relations). The participants had to specify retrospectively (during the last 5 years) for each event, the date of its eventual occurrence and its negative emotional impact by quoting from 0 (no impact) to 100 (as bad as the subject can imagine). This instrument has been validated in the context of several studies on the relationship between life events and the onset of some types of diseases (e.g.,, different types of depression) [29, 30]. In our study, this tool behaves similarly to what was described in

the cited studies.

The Multidimensional Scale of Perceived Social Support (MSPSS, [16]). The MSPSS is a 12-item self-report inventory that assessed perceived social support from three sources: the family (e.g., item 3: "My family really tries to help me"), friends (e.g., item 7 " I can count on my friends when things go wrong"), and special person (e.g., item 10 " There is a special person in my life who cares about my feelings"). Respondents used a 6-point Lykert-type scale (very strongly disagree to very strongly agree) with each item. The MSPSS showed an alpha value of .91 for the total score. In addition, alpha indices ranged from .90 for the family' subscale to .94 for the friends' subscale, and .95 for the significant others' subscale [31]. The test-retest reliability over a time period of 2-3 months was .85 for the total scores [16]. The internal consistency of the French version is quite satisfactory both in terms of total score (α = .92) as well as for each of the three sub-dimensions (α = .94 for the family dimension; α = .91 for the friends dimension and α = .92 for the significant others dimension) [32].

The Revised NEO Five-Factor Inventory (NEO-FFI-R, [33]). The French version of the NEO-FFI-R is a short version of the Revised NEO Personality Inventory, measuring the five main personality dimensions of the five-factor model (neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness). The respondents were asked to respond to 60 items using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Internal reliability coefficients of the French version of the NEO-FFI-R ranged from .70 to .82 for the five scales (*Mdn* = .76) [34]. In addition, correlations between NEO-FFI and NEO-PI-R domains ranged from .77 to .92 [35].

The Manchester Short Assessment of Quality of Life (MANSA, [36]). The MANSA is a brief instrument that consists of 16 items derived from the Lancashire Quality of Life Profile [37]. The MANSA includes the individual's subjective rating of general life satisfaction as well as satisfaction concerning 11 different QoL domains: work (or sheltered employment, or training/education, or unemployment/retirement), financial situation, social relations, leisure activities, housing situation, personal safety, people whom the individual lives with (or living alone), sexual relations, family relations, physical, and psychological health. These items reflect subjective QoL, and the ratings are made on a seven-point satisfaction scale ranging from 1 (worst possible) to 7 (best possible satisfaction). The mean ratings from the different domains form an overall QoL score. The MANSA also includes 4 items on objective QoL, in terms of money at one's disposal, access to friends, being accused of crime, and being a victim of physical violence. Its psychometric properties appear satisfactory (α = .74) [36]. No French validation of the MANSA has been published.

Statistical analysis

All analyses were performed with SPSS, Version 22, and R [38]. Descriptive statistics were used to describe demographic and psychological characteristics. Then, we computed the Spearman correlations between socio-demographic variables (age, gender, and SES), negative emotional impact of recent (during the last 5 years) life events, perceived social support, personality traits, and QoL (the *p*-values were corrected using Holm's method to counteract the problem of multiple comparisons that occurs when one considers a set of statistical inference simultaneously [39, 40]).

In order to determine whether the negative emotional impact of *recent major life events* can explain subjective QoL, considering social and personal resources as moderating factors, hierarchical multiple regressions were performed. First, we analyzed the negative emotional impact of all 51 *recent life events* together (total score). The model included the QoL as dependent variable. Then, the independent variables were included. Thus, in step 1, we controlled for age, gender, and SES. In steps 2 and 3, the main effects of negative emotional impact of recent life events (step 2) as well as perceived social support and the five personality dimensions (step 3) were added to the model. In step 4, interactions between negative emotional impact of recent life events and social support or personality dimensions were added.

Then, we made an a posteriori cluster analysis and identified a typology of major life events using the non-hierarchical *k-means* procedure, that is a method commonly used for cluster analysis in data mining. *K-means* clustering aims to partition a number of observations into *k clusters* in which each observation belongs to the cluster with the nearest mean, serving as a prototype of the cluster [41]. This results in a partitioning of the data space. Thus, the 51 items were divided in two groups, according to the average impact based on the responses of entire sample for each event (item). Twenty-nine recent events had a strong negative emotional impact. Therefore, we created a subscale of 29 items with a strong meaning for the person, so-called *very important recent events*. The remaining 22 items had a low-emotional impact and these items composed the subscale entitled *unimportant* (less significant or harmless) *recent events*. Internal reliability of both subscales was quite low, given the heterogeneity of included events, with a *rho* = .50 for the *very important recent events*, and a *rho* = .40 for the *unimportant recent events* [42]. We represented the distribution of answers to each of these items in order to highlight the both classes of events: *important* versus *unimportant* (see Fig.1). The need for such clusters was justified by the value of events given by participants, how they perceived these events, which can generate a more strong negative emotional impact. The same type of regression analysis was performed, using the 29-items subscale, to see how the events of a very important value for one person may play a role in her or his QoL.

Afterward, we grouped the negative emotional impact on all 51 *very recent* events into 4 temporal categories: (a) from 0 to 6 months; (b) between 6 and 12 months; (c) from 12 to 18 months, and (d) between 18 and 24 months. The

interest of this classification was to examine the very initial association between the negative emotional impact of a stressful event and QoL, taking into account the social and individual characteristics of participants.

Finally, we conducted analyses in a subgroup (n =466) of participants who experienced a *particular recent major event* (death of a close person), in order to determine whether the relationship between the negative emotional impact of this specific event and subjective QoL had been moderated by perceived social support and personality characteristics in these individuals. We chose to consider the *death of a close person* because it was the most frequent very important event experienced among our participants.

Results

Demographics descriptive statistics and Cronbach's alpha to assess scales' internal reliabilities are presented in Table 1. Our participants experienced an average of 3.66 life events: the most frequent event being "death of a close person" (experienced by 466 participants, 25.87 % of the total sample), whereas the least frequent event was "the need to have your children be cared for by others", experienced by only one participant. The internal reliability coefficients of the French version of the NEO-FFI-R ranged from .66 to .82 for the five scales, whereas for the perceived social support scale and the total scores of QoL scale alpha indices were .92 and .82, respectively. The mean for QoL scale was calculated based on the 7-level scale Likert, where 1= worst possible and 7 = best possible satisfaction ($M = 5.47$, $SD = 0.67$). Table 2 shows the Spearman and point-biserial correlations between demographic variables (age, gender, and SES), negative emotional impact of recent life events, perceived social support (family, friends, and special person), personality traits, and QoL. Gender was not significantly related with QoL in contrast to age and SES. However, the correlations between QoL and other variables (negative emotional impact of recent life events, perceived social support, and personality dimensions) were associated with a medium ($r \geq .30$) or small effect size ($r \geq .10$). Accordingly, subjective QoL correlated inversely with the negative emotional impact of recent life events and neuroticism, and positively with perceived social support and four personality domains.

Table 3 shows the results using the negative emotional impact measured for all 51 *recent life events* summed together. The explained variance in QoL was almost entirely due to the variables included in the first 3 steps: 2% is explained by demographic variables (age and SES), 5% by the negative emotional impact of recent life events, and around 37% by perceived social support and specific personality traits. In other words, the negative emotional impact of recent major life events and high neuroticism contributed to the decrease of QoL, while perceived social support, extraversion, and conscientiousness explain better variances for a high-perceived QoL. However, the interactions between negative

emotional impact of recent life events and perceived social support as well as personality dimensions did not have a significant effect on QoL, $F(6; 1,784) = 0.64$, $p = .695$. Using a latent variable, structural equation modeling (SEM) approach provided similar results to those observed computing hierarchical multiple regressions (no details reported).

When the list of life events was reduced to the 29 *very important recent events* according to our cluster analysis (see Fig. 1), the results of the multiple regressions were similar to the previous ones. Indeed, subjective QoL was partly explained by the negative emotional impact of these stressful events ($\beta = -.14$, $p < .001$), perceived social support ($\beta = .32$, $p < .001$), neuroticism ($\beta = -.33$, $p < .001$), extraversion ($\beta = .10$, $p < .001$), and conscientiousness personality dimensions ($\beta = .09$, $p < .001$), whereas there was still no evidence of significant interactions between the negative emotional impact of very important recent life events and perceived social support as well as personality dimensions regarding QoL, $F(6; 1,784) = 1.04$, $p = .395$.

When distinguishing the impact of 4 *temporal categories* for the *very recent life events* on QoL, we observed almost identical main effects for the 4 temporal categories of events (events 0 to 6 months prior to the assessment: $\beta = -.05$, $p < .01$; events 6 to 12 months prior to the assessment: $\beta = -.04$, $p < .05$; events 12 to 18 months prior to the assessment: $\beta = -.04$, $p < .01$, events 18 and 24 months prior to the assessment: $\beta = -.06$, $p < .001$; perceived social support: $\beta = .32$, $p < .001$; neuroticism: $\beta = -.35$, $p < .001$, extraversion: $\beta = .10$, $p < .001$; conscientiousness: $\beta = .09$, $p < .001$). Again, no significant interaction between these variables and QoL was observed, $F (24; 1,763) = 0.69$, $p = .870$.

Finally, Table 4 presents the effects of demographic variables, the negative emotional impact of the *death of a close person*, perceived social support, and personality traits on QoL in a subsample of participants who have experienced such an event. Interestingly, in this sub-sample extraversion was not significantly associated with QoL. Again, we did not found evidence for interactions, $F (6; 449) = 1.83$, $p = .091$.

Discussion

This study examined the relationship between the negative emotional impact of major life events and QoL, taking into account perceived social support and specific personality traits. Expanding prior research, we specified models in which major life events were tested concurrently with perceived social support and personality as factors moderating the effect of negative emotional impact of recent, very recent, important, or particular life events on QoL.

In this vein, interesting to note was that several expected links were found, as regards the main effects. Thus, subjective QoL was inversely associated with the negative emotional impact of recent or very recent, important, or specific major life events. However, these links were rather small and did not explain more than 5% of the variance of

QoL. Although retrospectively evaluated, which may have introduced some memory bias and confused remembrance, major life events were, however, negatively related to QoL. This link was equally strong, independent of whether the life events had happened very recently or 5 years ago. Longitudinal studies may be useful to complement our findings and clarify the causal nature of these associations. Overall, our results point in the same direction as those of other studies; most of them showed modest relations between particular events (positive or negative) and life satisfaction [5, 10, 11, 43]. However, in our study, we analyzed not only a special event, but also a set of events, be it recent, very recent, or very important.

It is interesting to note that social and individual resources explained better the subjective QoL than life events. In particular, perceived social support was positively and significantly related to QoL. Although we did not measure whether the participants actually received positive appraisals from relatives, our findings might suggest that in emotionally close relations, people likely receive positive appraisals that are seen as important determinants of satisfaction of life. Moreover, these positive appraisals can lead to the tendency to look on the bright side of life. These positive relationships might be, therefore, helpful in dealing with stressors. Terry and colleagues [19] argued that social support reduces perceived stress, increases perceived resources, reduces negative affectivity, facilitates the development of "active" coping strategies, which could also support our results.

This study also showed that personality dimensions were significantly linked to subjective QoL. Particularly, extraversion and conscientiousness have been positively associated, while neuroticism, negatively related to subjective QoL. We explain this by the fact that, for example, extravert people may have advantages in verbal information processing that support their sociability and that they can use for adaptive purpose [44]. Moreover, extraversion, that includes the tendency to feel positive emotions, seems to be particularly related to positive events with a strong interpersonal component that may influence how happy individuals feel with their life and functioning. These results are in line with previous findings according to extraversion was linked to subjective QoL [22, 24, 25, 45, 46]. However, in the case of the loss of a close person, extraversion was not significantly related to QoL, suggesting that this personality trait depends on the event lived. Regarding conscientiousness, we also found a significant association with the QoL. Conscientious people might have higher levels of well-being because they are organized, hardworking, and efficient, which likely contributes to their ability to achieve personal goals, which in turn promotes QoL, as also suggested by other studies [45, 47]. Altogether, this suggests that personality characteristics that include positive emotion, warmth, energy, sociability, optimism, sense of mastery, self-enhancement, hardiness, may be more resilient to negative life events. On the

contrary, high neuroticism was negatively and significantly correlated with the subjective QoL, indicating that high

neuroticism was associated with poor QoL. Indeed, difficulties in regulating emotions, overestimation of threats,

underestimation of personal coping, ineffective forms of emotion-focused coping, such as self-criticism and maladaptive

metacognition that perpetuate awareness of negative self-beliefs, lead to perseverative and unproductive worry. Therefore,

neuroticism affects the way in which stressors are appraised and this in turn has significant effects on subjective QoL. For

example, in the interpersonal realm, neuroticism appears to be linked to hostile appraisals and reactions toward others that

deteriorate the quality of the relationship resulting feelings of dissatisfaction, which certainly may explain a low-perceived

QoL [3, 48].

However, we did not observe any interaction between the negative emotional impact of life events and social and

personal resources. Therefore, we have not been able to identify any buffer effect between specific personality traits and

social support, and the negative impact of events of life on QoL, as supposed in our assumptions. This result could be due

to the retrospective nature of our study. Nevertheless, thanks to personal and social resources such as extraversion and

conscientiousness personality features as well as social support, overall, the individuals seem to experience their QoL

level positively [11]. We can interpret this by the fact that some physiological and psychological processes may intervene;

the first may reduce emotional reactivity to constant stimuli, while second may change the way people think about events

that have occurred in their lives.

A few important limitations should be noted. First, in spite of a large sample of participants, only a small number

of respondents had experienced the same events. In fact, they experienced very heterogeneous life events. This

heterogeneity may have led to an underestimation of the interaction between specific life events and QoL. Second, 1000

participants were excluded due to incomplete data. In addition, 128 depressed respondents were dropped from our analysis

due to the non-independence of their personality assessment and their current state. However, when we compared the

participants who did not reply to the self-rated questionnaire to those who sent back the self-rated questionnaire, they

don't differ with respect to age, gender, and socioeconomic status. Therefore, it is unlikely that these missing data affect

the specific association between life-event and QoL during the follow-up. In addition, despite the prospective design of

the cohort study, we could not benefit from this with respect to the events variables, as these had only been assessed

retrospectively. This has probably contributed to finding no interaction between the negative emotional impact of life

events and social and personal resources on QoL. Finally, we were unable to take into account dynamic factors such as

adaptive capacities and processes. To study more specifically how people face an adverse life event, the loss of a close

relation or a period of unemployment, or a positive life event such as childbirth or marriage, it would be interesting to monitor people, with respect to their personality traits, during, for example, the 18 months following this specific event. It would also be interesting to include measures of adaptive resources because some studies indicate that these resources have an impact on how people manage such life events, and in particular critical life events. These adaptive resources may include personality dispositions (such as a disposition of being flexible and open to change, resilient, self-efficacy, or having exploration behaviors), but also coping skills, values, or interests [49, 50].

To conclude, this study clearly shows the importance of social resources in terms of social support and of personal resources in terms of specific personality profiles and their links with QoL. To increase QoL, it might possible to strengthen and stimulate these resources and, in particular, people's social network. Positive personality features might be made more effective by stimulating their expression by specific intervention on the characteristic adaptations or regulation processes that mediate their behavioral expression [51]. Further research to better understand how certain social and personal factors influence adaptation to stressful events is certainly needed and may allow identifying new strategies to preserve and enhance these social and personal resources.

Compliance with ethical standards

Conflict of interest The authors declare no conflicts of interest regarding authorship and (or) publication of this article.

Ethical approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

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Table 1. Demographics and descriptive statistics

	Mean	SD	Range
Socio-demographics			
Age	52.20	8.83	36-72
Socio-economic status[1]	3.48	1.25	1-5
Life events			
Number of recent life events	3.66	2.64	0-21
Emotional impact of recent life events (51 items)	34.06	23.93	0-100
Emotional impact of very important recent life events (29 items)	47.78	26.19	0-100
Emotional impact of unimportant recent life events (22 items)	14.77	21.90	0-100
Perceived social support	4.99	.90	1-6
Personality traits			
Neuroticism	2.12	.61	1-5
Extraversion	3.01	.51	1-5
Openness	3.32	.50	1-5
Agreeableness	4.12	.44	1-5
Conscientiousness	3.60	.47	1-5
Quality of life	5.47	.67	1-7

Note: N=1,801; Number of recent life events (during the last 5 years) evaluated at follow-up; α = internal consistencies of dimensions; for very important and unimportant recent life events see Figure 1. [1]A value of 3 represents an SES of III (middle class) on the Hollingshead Scale.

Table 2. Correlations between quality of life and age, gender, socioeconomic status, life events, perceived social support, and personality traits.

		1.	2.	3.	4.	5.	6.	6.1.	6.2.	6.3.	7.	8.	9.	10.
1.	Quality of life													
2.	Age	.09*												
3.	Gender	.01	.04											
4.	Socio-economic status	.08*	-.07	-.10**										
5.	Impact of recent events	-.21**	-.14**	.14**	.03									
6.	Perceived social support	.46**	-.06	.08*	-.01	-.02								
6.1.	Perceived family support	.42***	-.06	.00	-.04	-.06	.85***							
6.2.	Perceived friends support	.35**	-.07	.20**	.05	.03	.79***	.48***						
6.3.	Special person support	.36**	-.03	.02	.00	-.03	.78***	.58***	.51***					
7.	Neuroticism	-.52***	-.05	.13**	-.07	.14**	-.28**	-.25**	-.23**	-.23**				
8.	Extraversion	.38**	-.05	.05	.07	.00	.35**	.25**	.37**	.25**	-.40***			
9.	Openness	.10**	-.03	.05	.33**	.08*	.11**	-.01	.18**	.12**	-.05	.24**		
10.	Agreeableness	.21**	.04	.24**	-.04	.00	.23**	.17**	.24**	.17**	-.23**	.22**	.13**	
11.	Conscientiousness	.29**	-.04	.03	-.02	-.04	.20**	.17**	.17**	.18**	-.36**	.39**	.08*	.27**

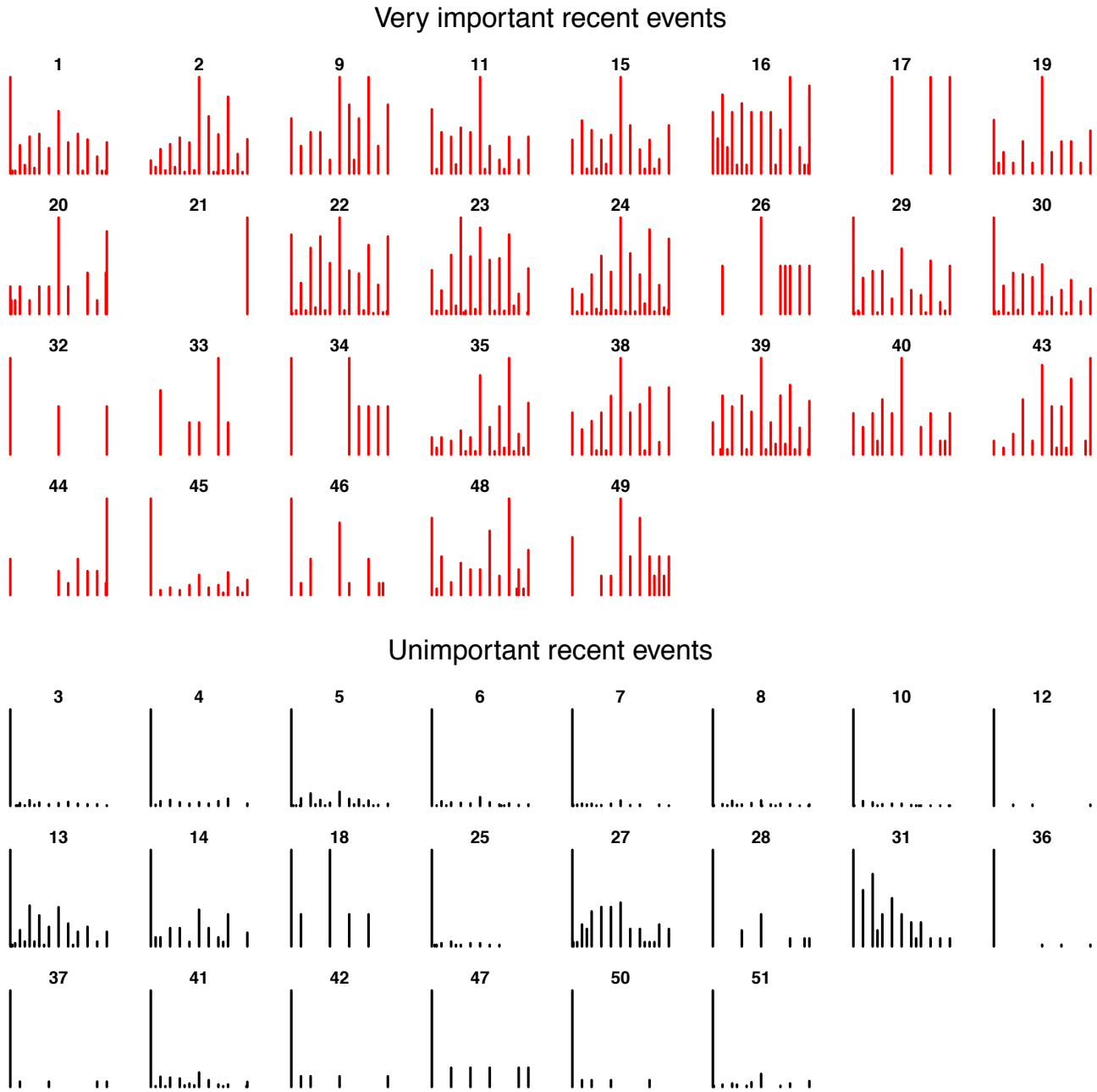*Note*: For Gender, point-biserial correlations are presented; *p < .05, ** p < .01, *** p < .001.

Table 3. Results of a hierarchical regression assessing interactions between demographic variables, emotiona

recent life events, perceived social support, and personality traits on subjective quality of life

Variables	Step 1	Step 2	Step 3	Step 4
Age	.08***	.04	.07***	.07***
Gender (ref. Men)	.02	.05*	.04*	.04*
Socio-economic status	.12***	.12***	.09***	.09***
Emotional impact of recent life events		-.23***	-.15***	-.16**
Perceived Social Support (PSS)			.31***	.32***
Neuroticism (N)			-.33***	-.33***
Extraversion (E)			.11***	.10***
Openness to experiences (O)			.01	.01
Agreeableness (A)			.02	.02
Conscientiousness (C)			.08***	.09***
Emotional impact of recent life events x PSS				-.01
Emotional impact of recent life events x N				.00
Emotional impact of recent life events x E				.02
Emotional impact of recent life events x O				.01
Emotional impact of recent life events x A				.02
Emotional impact of recent life events x C				.00
R^2	.02	.07	.44	.44
ΔR^2		.05	.37	.00
F	11.41***	33.43***	142.30***	89.10***

Note: For each step, standardized β are presented. *$p < .05$; **$p < .01$; ***$p < .001$; $N = 1,801$; Variance inflatior

(VIF) for the variables included in step 4 vary between 1.061 and 1.657. The emotional impact of recent life ever

evaluated for the period of the last 5 years.

Figure 1. Distribution of emotional impact scores on recent life events

Very important recent events

Unimportant recent events

Note: On the horizontal axis, we have represented the emotional impact for each event, defined from 0 (no impact) to 100 (as bad as the subject can imagine). On the vertical axis, we have shown the occurrence of responses (frequency). Regarding the *very important recent events*, there is a significant emotional impact for most participants, suggesting an uniform and symmetrical pattern of answers. For the *unimportant recent events*, the majority of participants attributed a zero impact. Few of them have been affected more significantly by the same event, resulting an asymmetrical trend of responses.

The 29 items represent *the emotional impact of very important recent life events*: 1. Unemployment; 2. Relational difficulties at work; 9. Professional failure; 11. Quarrel with neighbors; 15. Financial difficulties; 16. Loss of great personal valuables; 17. Sentenced to imprisonment; 19. Start of alcoholism in the family; 20. Suicide in the family; 21 Imprisonment; 22. Death of a close person; 23. Death of a close friend; 24. Accident or serious illness in the immediate family; 26. Alcohol and drugs -related problems; 29. Illness or injury requiring hospital treatment or work stoppage; 30. Illness or accident requiring medical treatment; 32. Unwanted Pregnancy (by one of the partners); 33. Miscarriage; 34. Abortion; 35. Sexual or personal difficulties in the couple; 38. Increase of number of quarrels with your spouse (e); 39. Increase of number of quarrels with one or more persons of close family; 40. Difficulties with other parents; 43. Behavior problem in your children; 44. Death of spouse; 45. Divorce; 46. Marital separation imposed by circumstances; 48. End of relationship; 49. Infidelity of spouse.

The remaining 22 items represent *the emotional impact of so-called unimportant (or less significant) recent life events*: 3. Job change; 4. Changing the type of work; 5. Change in working conditions; 6. Increased responsibilities at work; 7. Retirement; 8. Relocation; 10. Changing neighbors; 12. Significant increase in revenue (25%); 13. Significant decrease in revenue; 14. Significant debt; 18. Participation in a fight; 25. Arrival of a new family member in your household; 27. Significant reduction of social life; 28. Homelessness for some time; 31. Sudden and significant visual or hearing disabilities; 36. Marriage; 37. Pregnancy; 41. Departure of a child from the house; 42. Need to have your children be cared for by others; 47. Extramarital affair; 50. Marital reconciliation; 51. Spouse Starting or stopping work.

Table 4. Interaction between demographic variables, emotional impact of recent death of a close person, perceived social

support, and personality on subjective quality of life

Variables	Step 1	Step 2	Step 3	Step 4
Age	.01	.00	.00	.00
Gender (ref. Men)	.06	.14	.09	.10
Socio-economic status	.11**	.11**	.12***	.12***
Emotional impact of recent death of a close		-.19***	-.10*	-.10*
Perceived Social Support (PSS)			.28***	.29***
Neuroticism (N)			-.31***	-.32***
Extraversion (E)			.08	.08
Openness to experiences (O)			-.03	-.03
Agreeableness (A)			.06	.06
Conscientiousness (C)			.12**	.12*
Emotional impact of recent death of a close person X PSS				.01
Emotional impact of recent death of a close person X N				.05
Emotional impact of recent death of a close person X E				.08.
Emotional impact of recent death of a close person X O				.05
Emotional impact of recent death of a close person X A				-.04
Emotional impact of recent death of a close person X C				-.02
R^2	.02	.06	.40	.41
ΔR^2		.04	.34	.01
F	3.38*	6.82***	30.11***	19.71***

Note: For each step, standardized β are presented. *$p < .05$; **$p < .01$; ***$p < .001$; $N = 466$; Variance inflation factors
(VIF) for the variables included in step 4 vary between 1.054 and 1.503. Emotional impact of particular life events (death of
a close person in the last 5 years)