

Vulnerability Following a Critical Life Event: Temporary Crisis or Chronic Distress? A Psychological Controversy, Methodological Considerations, and Empirical Evidence

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1 Introduction

Vulnerability is a multifaceted concept that is widely used, but not uncontested in science and practice. Scholars and practitioners from different disciplines, including social sciences, psychology, medicine, ethics, environmental sciences, and economy, use the term vulnerability to refer to conditions of human exposure to hazards, risks, and stresses. Vulnerability has – like similar concepts such as health, ageing, or resiliency – basically a “mobile” and flexible character. As a travelling concept it moves among disciplines, times, contexts and cultures, and changes its content by this translocation (Bal 2002). This creates a multidisciplinary picture, which sheds light on the various specific aspects of a concept or topic. Each discipline has its own reasons and methods to conceptualize and benchmark vulnerability, and consequently concepts, measures, and methods differ widely across disciplines. The multidisciplinary character and use of the term account, however, for the fact that there is little if any consensus with regard to a reliable and coherent conceptualization and operationalization of vulnerability (Morawa 2003).

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Difficulties in defining vulnerability in a comprehensive and interdisciplinary¹ way have additionally prompted discussions surrounding its utility as a qualifying and discriminant concept in research and practice (Ruof 2004). For example it has been argued that labelling individuals as *vulnerable* risks viewing them as different, marginalized, and pitiable (Danis and Patrick 2002). In addition and above all, the label vulnerable may also be associated with the more or less implicit assumption that this is a stable and enduring characteristic, which again bears a further risk, namely the perpetuation of a negative state.

Although acknowledging these caveats, in our mind vulnerability remains a useful concept, provided that attempts are made to contextualize it distinctly (a) within the canon of different disciplines, and (b) within the status quo of a specific discipline by clearly delineating the theoretical base, the methodological approach and the associated implications and limitations. Along these lines the aims of the present contribution are, to show:

1. The challenges of contextualizing vulnerability conceptually and theoretically in psychological research by giving an overview of the status quo of research with regard to the question of whether vulnerability following a critical life event, namely the break-up of a long-term partnership, is a temporary crisis or rather a chronic strain (Sect. 2 of this chapter).
2. The impact of these challenges on designing an empirical study to answer the research questions around this controversy and a possible way to solve it methodologically, as it was done in the research project “*Vulnerability and Growth. Developmental dynamics and differential effects of the loss of an intimate partner in the second half of life*”² (Sect. 3 of this chapter).
3. First results of this project focusing on two questions: (1) Is there empirical evidence that psychological vulnerability due to marital breakup is a temporary state? (2) What distinguishes psychologically highly vulnerable individuals from the least vulnerable ones in terms of psychosocial resources? (Sect. 4 of this chapter).

¹In contrast to “multi-disciplinarity,” which means an addition of different disciplinary perspectives, “inter-disciplinarity” refers to a common problem definition, a coordination of methods and a common way of presenting and implementing the results provided by exponents of different disciplines (Perrig-Chiello and Darbellay 2002).

²The project is part of the National Centre of Competence in Research LIVES “Overcoming Vulnerability over life course”, supported by the Swiss National Science Foundation (project Nr. 125770) awarded to the first author.

2 Vulnerability Following a Critical Life Event from a Psychological Perspective

2.1 Contextualizing Vulnerability in the Status Quo of Psychological Research

The construct of vulnerability has been characterized by extensive theoretical and empirical research in various fields of psychology, but especially in clinical, health, and social psychology. Unsurprisingly, there is not one common definition of vulnerability in psychology, but different attempts at defining it. One broad and overarching definition delimits vulnerability as an individual belief system to be susceptible to harm, negative outcomes and unprotected from unpredictable danger or misfortune. Accompanying this lowered sense of control is an affective component consisting of feelings of anxiety, fear and apprehension (Perloff 1983). In the same line, but more specifically, vulnerability has been conceptualized in clinical psychology as a disturbance of self-concept or interpersonal relationships, which can trigger maladaptive attitudes and detrimental behaviors. Psychological vulnerability is thought to comprise a set of emotions and cognitions that promote harmful reactions to stress, such as perceived helplessness and maladaptive coping behaviors. In turn, these maladaptive reactions to situations or critical life events can negatively affect psychological, physical, and social well-being (Sinclair and Wallston 2010). Vulnerability is conceptualized as resulting from an interaction between the resources available to individuals (such as personality, cognitive competence, social networks), and the life challenges they face. There is empirical evidence that psychological vulnerability results from developmental problems (early life experiences), personal incapacities, disadvantaged social status, inadequacy of interpersonal networks and support, and the complex interactions of these factors over the life course.

In line with this, in developmental psychology vulnerability has been primarily studied in childhood and youth, and to a much lesser extent in later adulthood or from a life course perspective. In the literature this fact is not only mirrored in considerable research gaps, but also in various theoretical controversies as well as in inconsistent findings. One major controversy focuses on the question of whether biographical transitions, and especially critical life events – such as marital breakup, unemployment, or serious illness – entail psychological vulnerability in the form of temporary dysfunctional reactions to acute stress, or rather if they produce a permanent state of vulnerability marked by persistent negative affect, sense of hopelessness, bad subjective health, etc. Furthermore, although a large consensus exists that psychological adaptation (i.e. the process of overcoming the state of vulnerability and adapting back to the state before the event) depends on available intra- and interpersonal resources (such as personality, resiliency, social support) as well as on external circumstances (e.g. predictability of the event), the differential impact of these variables and possible interactions are still not well

understood. This applies especially to separation and divorce after a long-term partnership, since most research has been carried out with younger age groups (Pudrovska and Carr 2008).

2.2 Vulnerability Following Critical Life Events: State or Trait?

In the literature two major paradigms can be identified that deal with psychological adaptation to critical life events such as marital breakup. Whereas the *state approach* assumes that there are direct effects on psychological well-being caused by marital dissolution, the *trait approach* claims that psychological adjustment to marital breakup is primarily based on stable personality traits. Both paradigms are characterized by various theoretical approaches and controversies, which are delineated in the following sections.

2.2.1 State Approach: Does Marital Dissolution Cause Temporary or Chronic Psychological Vulnerability?

The current debate regarding the state approach is whether spousal breakup is a temporary stressor (or crisis) or rather a chronic strain. If marital breakup represents a crisis, people should adapt to their new life circumstances and recover from the negative impacts on psychological, physical and social well-being after a certain time. The chronic strain model in contrast assumes that marital breakup has the potential to create further stressors such as economic difficulties, which perpetuate the negative consequences over time (Amato 2000).

Empirical research has revealed mixed findings: Some study results support the crisis approach, others the chronic strain approach. Using three-wave panel data, Booth and Amato (1991) found that the increased level of psychological distress and unhappiness of divorced or permanently separated individuals declines within the 2 years following the event to then reach the level of the continuously married. In contrast, study results by Mastekaasa (1995) suggest that divorced individuals reported short-term (0–4 years after divorce) as well as long-lasting (4–8 years after divorce) increases in the amount of subjective distress compared to the stably married. More recent research studies could also not solve this controversy. Findings from a longitudinal study by Lucas (2005) showed that life satisfaction decreases after a divorce and then gradually rebounds in the 5 years following the event. However, the individuals also reported long-lasting changes: The level of life satisfaction 6 years after the divorce was significantly lower than the one reported during marriage. The author concludes that some individuals may not be able to adapt completely. Another longitudinal study over 12 years (Johnson and Wu 2002) found, consistent with the chronic state approach, that the level of psychological

distress during and after the divorce does not decline until the individuals enter into a new marriage or cohabiting relationship. In contrast, the results of the study of Clark et al. (2008), which are based on observations in 20 waves of German panel data, show a rapid adaptation to divorce. There is even evidence that both women and men who divorced 5 or more years ago are currently significantly more satisfied with their lives compared to their level of life satisfaction 2–4 years before the event. Another longitudinal research by Clark and Georgellis (2013) investigated life satisfaction and mental well-being of divorcees in 16 waves of British panel data. The results also support the crisis theory and showed, with the exception of unemployment, a complete and rapid adaptation within 2 years to life events including divorce. Focusing on middle-aged individuals, Hughes and Waite (2009) found that some health dimensions such as depression seem to respond both rapidly and intensely to changes in marital status, whereas others such as chronic physical health problems develop slowly over a long period of time. In line with these results, Lorenz et al. (2006) conclude in their study with divorced women that the increase of depressive symptoms can be interpreted as a temporary reaction to acute stressors caused by divorce. Furthermore, a decade after the event, divorcees reported a significantly higher amount of physical illness than their married counterparts. The authors interpret the difference in physical illness as a possible cumulative response to chronic stress.

The crisis model assumption is based on the hedonic treadmill model of Brickman and Campbell (1971). According to this perspective, individuals are affected by emotionally significant events, but usually adapt back to a neutral set point or baseline of subjective well-being (Diener et al. 2006). Although this approach has meanwhile been modified, e.g. taking into consideration that the baseline set-points may be positive rather than neutral (Diener et al. 2006), it has been supported by results that show that objective circumstances account for surprisingly little variance in reports of subjective well-being (Clark et al. 2008). The basic concept of adaptation to divorce implies a model of marital dissolution as a crisis where psychological distress is low before the event, increases as the breakup approaches and then declines following the event. Furthermore it suggests that the psychological distress following marital dissolution represents short-time secondary stressors, such as the acute pain of the loss, economic difficulties or changes in the social network (Booth and Amato 1991). In the same line, but more specifically, the divorce-stress-adjustment perspective (Amato 2000) views marital breakup as a process that sets into motion numerous stressful events. Severity and duration of negative outcomes resulting from these stressors depend on the presence of a variety of moderating or protective factors such as individual and interpersonal resources. Of all forms of social support, a new intimate relationship may be the most important factor to foster adjustment to divorce (Amato 2000). For example, Wang and Amato (2000) demonstrated that individuals with a new intimate relationship reported more positive appraisals of life and better overall adjustment than those who stayed single. Another factor that may have an impact on psychological adaptation to marital breakup is the initiator status, that means, which spouse takes the initiative to

separate. Being the initiator enables the individual to control the event, which thus may lead to better adaptation after separation (Wang and Amato 2000). The study of Wang and Amato (2000) showed that initiators report a better overall adjustment than non-initiators, however, only short-term effects (on average 16 months after the divorce) were investigated. The relevance of the initiator status has been confirmed by the study of Hewitt and Turrell (2011). Women and men who self-initiated or jointly initiated the separation reported better well-being and mental health than non-initiators. Again, the results refer to short-term effects within 2 years after separation. Another possible and often discussed determinant of psychological adaptation is marital history (e.g. couples' perception of marital quality), however its role is controversially discussed in literature. While some studies suggest that persons from low-distress marriages have more difficulties in adapting than those from high-distress ones (Amato and Hohmann-Marriott 2007), other studies could not replicate these findings (Waite et al. 2009).

An important aspect of the debate is furthermore whether men and women differ in the process of adaptation to marital dissolution. Do women exhibit more vulnerability than men to impacts of divorce or vice versa? Simon (2002) showed in her longitudinal analyses that women have lower adjustment to divorce with regard to depression (higher depression rates), whereas the benefit of remarriage among persons who were previously divorced or separated was greater for men regarding health behavior (lower alcohol consumption). Men's and women's vulnerability to distress after marital breakup may be shaped by cultural and gender-typical norms for emotional display (Simon 2002). Analyzing data from 16 waves of the German Socio-Economic Panel Study, Andreß and Bröckel (2007) found that women reported significantly higher life satisfaction than men within the first 2 years after the separation. However, Strohschein et al. (2005) did not find any gender differences in the short-term effects of marital breakup.

To sum up it can be said that there is empirical evidence that whereas some individuals adapt rapidly to marital breakup, others remain vulnerable over a longer period of time. However it is not clear what exactly accounts for these individual differences. The topic of the large heterogeneity of reactions to loss has been tackled by a major research strand, the trait approach, which focused on personality factors as determinants of psychological adaptation to critical life events. This approach is highlighted in the following section.

2.2.2 Trait Approach: The Role of Personality in the Psychological Adjustment to Marital Disruption

The trait approach goes beyond the question of whether a critical life event such as marital disruption entails a chronic stress or if it is merely a temporary crisis. The trait approach focuses on individual differences due to personality-inherent characteristics (mostly assessed with the Big Five framework for personality traits, namely openness, conscientiousness, extraversion, agreeableness, and neuroticism). In the literature there is increasing empirical evidence that personality dimensions

play a central role in coping with marital breakup. Pudrovska and Carr (2008) show in their study that recently divorced women who reported high levels of extraversion and openness, low levels of neuroticism and who applied advantageous coping strategies (such as problem- and positive emotion-focused coping), had a better adjustment regarding mental health. These results are confirmed by a study of Clark and Georgellis (2013), which shows that women with higher levels of extraversion were more satisfied with life after divorce. Diener et al. (2006) indicate in their revision of the hedonic treadmill-model that individual differences in well-being baseline levels are partly due to personality-based influences. The authors list three different lines of research that support this view. First, subjective well-being shows moderate stability over long periods of time and even in the face of changing life circumstances. Second, behavioral genetic studies suggest that well-being is moderately hereditary. Finally, several research studies show that personality factors strongly correlate with well-being variables. Diener et al. (2006) conclude that personality factors may predispose individuals to reach different levels of adjustment after a marital dissolution.

In addition to the Big Five personality traits, another personality dimension that has been discussed as a protective factor for negative adjustment to critical life events is resilience. Resilience pertains to the ability of adults to maintain relatively stable, healthy levels of psychological and physical function in the face of a highly disruptive event (Bonanno 2004). The available empirical evidence suggests that individual differences in psychological resilience predict accelerated recovery from stressful events (Ong et al. 2006). However, there is little literature that devotes attention to the role of resilience in psychological adaptation to the stressful event of marital dissolution.

A further debate that concerns the adjustment to marital breakup from a trait-approach is the relevance of the social selection hypothesis (Avison 1999). This hypothesis claims that individuals with certain patterns of personality and social characteristics are, to some extent, predestined for divorce. However, Gähler (2006) could not confirm that the effects of permanent selection explain the lower well-being after a divorce. Amato (2010) concludes in his review article that most of the results support the notion that marital breakup negatively affects the mental and physical health and that selection processes may play only a limited role.

Taken together, we can state that a considerable amount of psychological research exists with regard to psychological vulnerability after critical life events such as marital breakup. However, the status quo of research is marked by large inconsistencies. These inconsistencies concern mainly questions about the role of time passed since the event, and whether people recover or if they rather remain in a state of vulnerability. There seem to be large inter-individual differences in psychological adaptation to such critical life events, which are not fully understood. In particular the question of whether psychological vulnerability (if temporary or stable) is an inevitable outcome of marital breakup or not, has hardly been studied. Against this background, in the next section we attempt to shed light on the open questions around these controversies and research gaps by presenting possible methodological ways to answer them.

3 Vulnerability After Marital Breakup: An Empirical Study

3.1 *Outline of the Research Project, Aims and Research Questions*

Based on the shortcomings and research gaps mentioned above, the present project aimed at studying predictors of psychological adjustment to marital breakup due to separation, divorce or widowhood after a long-term partnership. The reason for focusing on long-term partnership is twofold: On the one hand it can be assumed that a marital breakup after a long shared life is particularly destabilizing and has a high potential of vulnerabilization. On the other hand – in the case of divorce – this is a contribution to close a significant research gap, since most research on marital breakup has been done with younger individuals having under-age children.

In this survey with two age groups (one in middle, the other in old age), four different loss-groups (one within the last 12 months, a second 12–24 months ago, a third 24–60 months ago, and a fourth with 5 or more years since marital breakup or spousal loss), and a group of age-matched married people serving as controls, a multi-method and an interdisciplinary approach³ was used. Two assessments were planned, a first one in 2012, and a second one in 2014. The convenience of the design with the four marital disruption-groups lies in the possibility to gain some empirical evidence concerning the role of time passed since the breakup for psychological adaptation, despite the limitations of cross-sectional data. Of course, these results will have to be confirmed by longitudinal data (gathered in wave 2).

In this contribution we will present cross-sectional data focusing on the following aims:

- (a) First we want to shed light on the short and middle-term outcomes of marital breakup in persons aged 40–65 years, which were on average married for 19 years prior to the divorce. For this sake we will compare four marital breakup groups (separated and/or divorced persons): one with a split within the last 12 months, another with a split 12–24 months ago, a further one with a separation that happened 24–60 months ago, and a last one who separated more than 5 years ago. The criterion for group classification is explicitly the time of separation, and not of divorce as it has been largely done in previous research, and which in our view is a shortcoming, since the time between separation and divorce can vary in a substantial way and renders a comparison rather difficult. These groups will be compared with a group of married age-matched people, continuously married (controls) regarding various well-being outcomes. This

³An outline of the study design and methods (sampling, psychometric quality of variables) is given in Hutchison et al. (2013). Working Report, NCCR LIVES.

approach should allow a first estimation with regard to the role of time passed since the critical life event for psychological adaptation and recovery (and in the negative case for lasting vulnerability). Considering the mixed findings on the issue, particular attention will be paid to gender effects.

- (b) Second, extreme group analyses with regard to various indicators of psychological vulnerability (depression, hopelessness, life satisfaction, feeling of having overcome the loss) should allow insights concerning the question of to what extent highly vulnerable individuals differ from marginally vulnerable ones in terms of socio-demographic variables (education, financial situation), personality variables (Big Five traits, resilience), divorce circumstances (initiator-status), and post-divorce situation such as time passed since separation or being in a new intimate relationship.

3.2 Theoretical Base of the Study and Hypotheses

As a theoretical framework for investigating these research issues we propose a modified and extended view of the crisis-versus-chronic-stress model and the model of divorce-stress-adjustment (Lorenz et al. 2006; Amato 2000). Marital *separation* is viewed as a biographical turning point that can be expected or unexpected, initiated or endured, but which in any case has a high probability of creating turmoil and stress. The phase after separation can be viewed as a biographical transition, when routines of everyday life are shattered, people have to reorganize their lives, and take on new roles (phase of destabilization and reorganization). There is empirical evidence that after this phase of increased psychological vulnerability, a majority of people begin to adapt to the new situation, develop a new routine, and overcome this phase of psychological vulnerability around 2–3 years after the critical life event (Booth and Amato 1991; Clark and Georgellis 2013). This period is followed by a phase of stabilization when the majority of people is expected to get back to their habitual baseline-level of well-being prior to the turning point (after 3–5 years) (Dupre et al. 2009). A minority however is expected not to recover and to remain vulnerable. Whether the separation turns out to be a temporary crisis (after which people recover from their vulnerability) or whether it becomes a chronic stressor (mourning the loss of the partner, chronic depression and hopelessness) depends on the one hand on the available individual resources. We assume that individuals – based on their intra- (personality, resilience) and interpersonal resources (having children, relatives, friends, a new relationship) develop strategies, which allow them to adapt their life perspectives to the new situation in order to bring continuity to their lives and to assure their well-being. Socio-demographic variables such as gender, education and financial resources may also be important for adaptation to the new situation. On the other hand, besides these factors, the separation circumstances (predictability) may also play an important role for psychological adaptation. We know from the literature that not only initiator-status and having a new relationship

have an impact on well-being outcomes, but also the anticipation of the separation and the time passed since separation (Amato 2010). Specifically, we expect:

1. Significant differences between the marital-breakup-groups with regard to certain indicators of psychological vulnerability, namely depression, life satisfaction, hopelessness, feeling of having overcome the break-up, but also subjective health, depending on the time passed since marital breakup: Individuals with a separation within the last 12 months are expected to be more vulnerable than those who experienced the breakup 12–24 months ago, and these again more than those with a separation that happened 2–5 years ago, and these finally more than those with a breakup more than 5 years ago. The latter group is expected to have adapted to the new situation, and therefore should not differ from the age-matched married control group. Considering the mixed findings in the literature with regard to gender differences, we do not have specific hypotheses on this issue.
2. That the central variables discriminating between highly vulnerable versus marginally vulnerable individuals are primarily personality traits (Big Five, resilience), separation circumstances (initiator-status), the time passed since separation, and being in a new relationship. Socio-demographic variables such as education and financial situation are expected to play a minor or inconsistent discriminating role.

3.3 *Methodological Outline of the Study*

3.3.1 **Study Context and Participants**

Our analyses are based on data of the first wave collected in spring 2012 in the context of the study described above.⁴ To generate the sampling frame the Swiss Federal Office of Statistics (SFOS) supplied a quota sample stratified into cells of equal size by age group (5-year groups), gender (50:50), and marital status (separated/divorced, widowed, married). Quota sampling is the method of choice when the proportion of men and women with a special characteristic (such as recent divorce or bereavement) is relatively low. This is the case for recently divorced or widowed individuals in Switzerland (of a population of 7,954,662 Swiss residents in 2011, about 17 % were divorced and 12 % widowed, compared to 44 % married individuals (SFOS 2013)). To allow for statistically significant comparisons among men and women and age groups, some groups (divorce at older age, bereavement among men) are over-represented. A total of 6890 persons between 40 and 89 years old (1551 separated/divorced, 1365 widowed, 3974 married), residing in German- or French-speaking Switzerland were contacted by mail and asked to participate in a survey about continuity and change in intimate relationships in the second half

⁴The project has been approved by the ethical committee of the University of Berne.

of life. Participants had the choice between filling out a paper-pencil questionnaire or using an online version. Non-respondents were re-contacted twice. Overall, the return rate for the sample supplied by the Federal Office of Statistics was 32 % ($n = 2236$). Due to ethical concerns, the SFOS was unwilling to supply a sample of persons who had experienced a divorce or bereavement in the past 2 years, so an alternative sampling strategy was used to recruit these participants. Specifically, we recruited a convenience sample using advertisements and appeals in newspapers and radio shows. All interested individuals were contacted with essentially the same invitation letter as the SFOS-sample. Eighty-seven percent of the directly recruited participants ($n = 620$) returned a filled-out questionnaire. For the research presented here, we will focus on individuals who had experienced a divorce and were between 40 and 65 years old ($n = 980$; average duration of ex-partnership = 19 years), and a control group of continuously married individual ($n = 348$, average duration of marriage: 28 years). Since we do not dispose of the baseline well-being measures before the critical event, the inclusion of continuously married controls is crucial in order to contextualize the results from the divorced and bereaved individuals.

An essential criterion of comparability of both groups is that they should be age-matched. As can be seen from Table 1, the married and the marital breakup group did not differ with regard to age. However the separation/divorce group contained a significantly higher ratio of women than the control group (62 % versus 54 %, $\phi = -.070$, $p = .011$). This can be explained by the fact that men are less likely to disclose than women regarding close relationships (Derlega et al. 2008). Table 1 gives a description of the socio-demographic variables of both groups.

There was also a significant group difference in education and financial situation, with more persons in the marital breakup group having higher educational degrees ($\chi^2(6) = 20.43$, $p = .002$), and reporting a better financial situation ($\chi^2(2) = 17.98$, $p < .001$). In the marital breakup group, a significantly higher percentage of men than women reported being in a new relationship at the time of the data collection (60 % versus 35 %, $\phi = -.247$, $p < .001$).

3.3.2 Variables and Measures

The questionnaire comprises mainly standardized test instruments and some original items developed by the research team. It was pretested in German and translated into French, followed by a back-translation and a pretest of the French version.

Psychological Outcome Variables: Indicators of Vulnerability

- *Depression* was measured with the German short version of the Center of Epidemiologic Studies Depression Scale (CES-D), which is called ADS-K (Hautzinger and Bailer 1993; French version by Fuhrer and Rouillon (1989)). This scale consists of 15 items (answers on a 4-point scale: 0 = *not at all* to 3 = *all the time*) and displays good internal consistency (Cronbach's alpha .80 in

Table 1 Characteristics and comparison of marital breakup group and continuously married controls

	Marital breakup group (n = 980)			Continuously married controls (n = 348)			Comparison divorced/married
	Women	Men	U-Test (z)/Chi ² /Phi	Women	Men	U-test (z)/Chi ²	U-test (z)/Chi ² /Phi
N	608 (62 %)	371 (38 %)		189 (54 %)	159 (46 %)		-.070* ^c
Age: M (SD)	51.3 (6.9)	52.6 (7.0)	-2.79*** ^a	51.6 (7.6)	52.7 (8.3)	-1.30 ns ¹	-.36 ns ^a
Education (in %)			37.02*** ^b			13.39* ^b	20.43*** ^b
Primary school	4.1	3.8		3.8	6.4		
Second. school	1.6	1.9		5.4	3.8		
Professional formation	37.7	30.4		43.5	33.1		
Secondary II	14.2	6.2		14.5	9.6		
Higher prof. form.	30.3	33.9		22.6	26.1		
University	11.4	22.5		8.1	18.5		
Other	0.7	1.4		2.2	2.5		
Financial situation (%)			10.37** ^b			.68 ns ^b	17.98*** ^b
More than enough m.	9	16		18	20		
Enough money	77	69		73	74		
Not enough money	14	15		9	6		
Time since separation in months: M (SD)	60.9 (60.5)	79.4 (72.1)	-3.87*** ^a	-	-	-	-
In new relationship? (%)			-.25*** ^c				
Yes	35	60					
No	65	40					

p* < .05, *p* < .01, ****p* < .001

^aMann-Whitney test

^bChi-squared test

^cPhi

the present sample). Comparisons with the full version show that the short form is almost as accurate in correctly classifying depressed individuals as the long version (Hautzinger and Bailer 1993). The scores reported in this chapter are the mean of all ADS-K items.

- *Hopelessness* was measured with the German version of Beck's Hopelessness Scales (Krampen 1994; French version by Bouvard et al. 1992). Specifically, we used the 10-item short version H-RA (answers on a 6 point scale: 1 = *very much untrue* to 6 = *very much correct*), which had good internal consistency in the sample used (Cronbach's alpha .81). The hopelessness scores were calculated by taking the mean of all hopelessness items.
- *Life satisfaction* was assessed with the Satisfaction with Life Scale (Diener et al. 1985; German version by Schumacher (2003); French version by Blais et al. (1989)). This instrument consists of five items (answers on a 7-point scale: 1 = *completely disagree* to 7 = *completely agree*) which all load onto one factor. The instrument displayed good internal reliability (Cronbach's alpha .89). We report the mean of the five items.
- *Subjective health* was assessed with a single item question from the Swiss Household Panel. The question was phrased as follows: *How are you doing healthwise at the moment?* There were five answer options ranging from "very good" to "very badly".
- *Time needed to get over the breakup (feeling of having overcome the loss)* was also assessed with an original single-item question worded "*How long did it take you to get over this separation?*". There were six answer options: "There hasn't passed enough time yet to get over it"; "Less than 1 year"; "2–3 years"; "4 years and more"; "I'll probably never get over this separation".
- In addition to these established scales, we also inquired about whether the participants *mourned the loss* of their partner with an original single item question. The question was worded as follows: "Do you mourn this relationship?" with the answer options "yes, very much", "sometimes", "no", and "no, rather the opposite".

Personality

- *Personality* was assessed with the BFI-10 (Big Five Inventory, German version by Rammstedt and John (2007), French version by Plaisant et al. (2010)). The BFI-10 consists of two items for each of the five personality dimensions. Each item can be scored on a scale from 1 = *disagree strongly* to 5 = *agree strongly*. Even though this is a short version of the original BFI-44, the authors state that it does "retain significant levels of reliability and validity" (Rammstedt and John 2007).
- *Resilience* was measured with the short version of the Resilience Scale (RS-11) (original version by Wagnild and Young (1993); German short version by

Schumacher et al. (2005)). Resilience is defined as a personality trait with protective properties against stress. The RS-11 is a unidimensional scale with 11 items (answer options range from 1 = *I don't agree* to 7 = *I agree completely*, and correlates strongly with the full version of the Resilience Scale ($r = .95$) (Schumacher et al. 2005). In our sample it demonstrated excellent internal consistency (Cronbach's Alpha .91).

Separation Circumstances

- *Initiator status* was measured with an original item asking "In the end, who initiated the separation?". Answer options included "I myself", "my ex-partner", "both of us".
- *Marriage length*: Participants were asked, how many years they had been married (original item).
- *Time since separation and new partnership*: Time since separation (original item) was calculated by subtracting the date of separation from the date of filling out the questionnaire (resulting time in months). A second question inquired whether the participant was currently in a (new) relationship (original item).

Socio-demographic Variables

- We also inquired about participants' age, sex, and education (6-point ordinal scale), as well as about their financial situation (original item). For this last information, participants could check one of three options: "I have more than enough money to meet my needs", "I have enough money to meet my needs", and "I don't have enough money to meet my needs".

3.3.3 Analytical Strategy

In a first step, we calculated one-way analyses of variance to compare the breakup groups (divided in 4 time subgroups) with the married controls regarding the outcome variables life satisfaction, depression and hopelessness. In a second step, we focus on the separated or divorced individuals to investigate by two-way analyses of variance the role of time since separation and gender for psychological adaptation to the event. In a third step, extreme group comparisons within the breakup sample were run to explore what discriminates highly affected individuals from minimally affected ones in terms of life satisfaction, depression, hopelessness, and never feeling to have overcome the breakup. Group differences were tested by Mann-Whitney *U*- tests for interval variables and Chi-squared tests as well as the measure Phi for categorical variables.

3.4 Results

3.4.1 Psychological Vulnerability After Marital Breakup: Crisis or Chronic Strain? Cross-Sectional Group Comparisons

To gain insight into whether our data fits better a crisis or a chronic strain model, subgroups were created with regard to the time since *separation* (0–12 months, 13–24 months, 25–60 months, more than 60 months), and the variables *life satisfaction*, *depression*, and *hopelessness* were then charted for these time groups. Additionally, the scores of the continuously married controls of the same age group were outlined to gain a comparison.

Depression: As can be seen in Fig. 1, people do seem to recover with time – however, the depression scores of the married controls are still significantly lower than any of the separation groups ($F(4,900) = 36.37, p < .001$, all post hoc Bonferroni tests $p < .001$). Among the separation groups, the most recently separated participants have significantly higher scores than the other separation groups (post hoc Bonferroni, $ps < .001$), while the scores of people with a separation longer than 12 months ago do not differ significantly (post hoc Bonferroni, $ps > .05$). None of the groups reaches a clinical level of depression according to the ADS-K manual (Hautzinger and Bailer 1993). However, the most recently separated have higher depression scores than 75 % of the population. For the other separation groups, the depression scores range between 59 and 49 % with the controls situated in the 30th percentile, i.e. only 30 % of the general population have lower depression scores compared to them.

Life satisfaction: The married controls have significantly higher scores in life satisfaction than all breakup groups ($F(4,1057) = 41.22, p < .001$, post hoc Bonferroni tests $p < .001$). However the separation groups did not differ significantly from one another (post hoc Bonferroni all $ps > .05$) (Fig. 2).

Hopelessness: Here there is only one significant group difference, namely between the married controls and the most recently separated group ($F(4,1060) = 3.06, p = .016$, post hoc Bonferroni $p = .006$, all other post hoc tests $p > .05$): the

Fig. 1 Depression scores of breakup groups by time since separation and of married controls (possible range: 0–3)

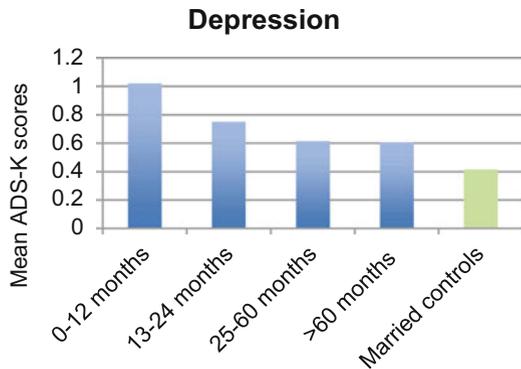
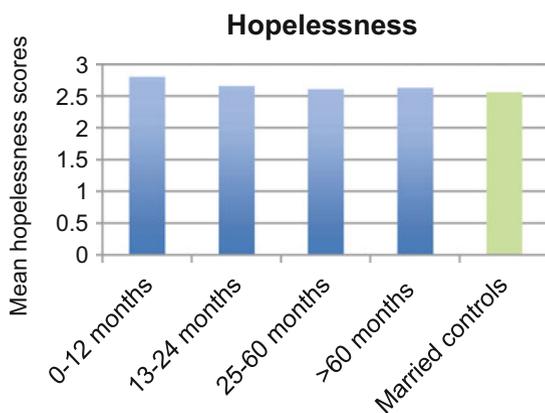


Fig. 2 Life satisfaction scores of breakup groups by times since separation and of married controls (possible range: 1–7)



Fig. 3 Hopelessness scores of breakup groups by times since separation and of married controls (possible range: 1–6)



latter scored significantly higher in hopelessness. There were no other significant group differences (Fig. 3). The scores of all groups are average according to norm values (PR 50; Krampen 1994).

In a second step, we focused on the divorced/separated sample and investigated whether there is an interaction between time of adaptation and gender on psychological adaptation. We calculated separate two-way analyses of variance with the factors gender and time since separation (4 levels) and psychological adaptation in terms of depression, life satisfaction, and hopelessness as dependent variables.

The ANOVA with the *dependent variable depression* yielded a significant main effect for both gender ($F(1, 615) = 17.46, p < .001$), and time since separation ($F(3, 615) = 14.79, p < .001$). The interaction did not reach statistical significance ($p = .450$). Women displayed higher depression scores than men in all four groups of time since separation. Post hoc tests (with Bonferroni correction) for time since separation, showed that the group who had experienced a breakup within the last 12 months had significantly higher depression scores than all other groups (all $ps < .01$). The three groups who reported a separation longer than 12 months ago did not differ significantly from one another (all $ps > .05$).

In the ANOVA with the *dependent variable life satisfaction*, only the factor gender had a statistically significant effect on reported life satisfaction ($F(1, 706) = 12.18, p = .001$). Neither time since separation nor the interaction were significant ($p > .05$). Men reported higher life satisfaction than women in all time breakup groups.

Similar to the results for life satisfaction, in the ANOVA with *dependent variable hopelessness* only the factor gender reached significance ($F(1,709) = 13.56, p < .001$). Women had higher hopelessness scores than men in all time breakup groups.

Taken together, the results show that the first year after marital breakup is characterized by pronounced psychological vulnerability, but afterwards there is a significant improvement with regard to depression and hopelessness, but not for life satisfaction. Even though people seem gradually to recover from marital separation in the course of time, they nevertheless do not reach the low level of depression nor the higher level of life satisfaction of the married controls. Focusing on the breakup group, the data reveal a strong gender effect for all three dependent variables. Divorced or separated women have higher depression as well as higher hopelessness scores and lower scores in life satisfaction than men independently of the time passed since separation.

3.4.2 Extreme Group Comparisons: What Distinguishes Highly Vulnerable Individuals from Marginally Affected Ones?

To determine what distinguishes individuals who are severely affected by marital breakup in terms of life satisfaction, depression, hopelessness, and never feeling to have overcome the breakup from those who are the least affected, we contrasted divorced individuals scoring in the top quartile in those measures with those scoring in the bottom quartile. The resulting two groups were compared regarding the following variables: Intra-personal resources, namely personality variables (Big Five dimensions, resilience) and subjective health, furthermore marital breakup circumstances such as time since separation (time coded into four groups, 0–12 months, 13–24 months, 25–60 months, more than 60 months), length of marriage (in years having been married), initiator-status, and finally social (new relationship) and economic resources (financial situation, education). We used Mann-Whitney U -tests for interval variables (Big Five dimensions, resilience, subjective health, length of marriage), and Chi-squared tests and Phi coefficients for categorical variables (time groups, financial situation, education, initiator status and current relationship status).

Participants who scored in the *top quartile of depression* ($n = 252$) differed from those in the bottom one ($n = 245$) as follows: They

- had lower scores in resilience ($U = 11,862.0, p < .001$);
- had lower scores in conscientiousness ($U = 24,237.0, p < .001$), and extraversion ($U = 22,166, p < .001$), higher scores in neuroticism ($U = 11,477.0, p < .001$)

and marginally lower scores in openness ($U = 27,886.0, p < .10$). However, there were no significant difference with regard to agreeableness ($p = .215$);

- reported worse health ($U = 10,319.0, p < .001$);
- were more likely to have experienced a separation in the past 12 months ($\chi^2(3) = 22.195, p < .001$);
- were marginally less likely to have initiated the separation ($\chi^2(2) = 5.430, p < .10$);
- were less likely to be currently in a relationship ($\phi = .291, p < .001$);
- were less likely to have more than enough money to meet their needs ($\chi^2(2) = 51.399, p < .001$), and to have a lower level of education ($p = .05$).

There was no significant difference regarding how long they had been married previous to the divorce ($U = 14,341.0, p = .990$).

Participants who scored in the *top quartile of hopelessness* ($n = 234$) differed from those in the bottom one ($n = 246$) significantly as follows: They

- had lower scores in resilience ($U = 6536.00, p < .001$);
- had lower scores in conscientiousness ($U = 20,374.00, p < .001$), agreeableness ($U = 19,462.00, p < .001$), openness ($U = 19,258.00, p < .001$), and extraversion ($U = 15,352.50, p < .001$), and higher scores in neuroticism ($U = 9592.50, p < .001$);
- reported worse health ($U = 9154.5, p < .001$);
- were less likely to currently be in a relationship ($\phi = .263, p < .001$);
- had a lower level of education ($\chi^2(6) = 38.310, p < .001$), and were more likely to not have enough money to meet their needs ($\chi^2(2) = 51.654, p < .001$).

The groups did not differ significantly in terms of who had initiated the separation ($\chi^2(2) = 4.534, p = .104$), and neither considering the time passed since the separation ($\chi^2(3) = 4.219, p = .239$), nor regarding how long they had been married prior to the divorce ($U = 14,410.0, p = .796$).

People in the *bottom quartile of life satisfaction* ($n = 260$) differed from those in the top one ($n = 280$) as follows: They

- had lower resilience scores ($U = 12,898.0, p < .001$);
- had lower scores in agreeableness ($U = 27,697.00, p < .001$), conscientiousness ($U = 29,900.50, p < .001$), openness ($U = 29,890.00, p < .001$), and extraversion ($U = 23,227.50, p < .001$), and higher scores in neuroticism ($U = 17,583.50, p < .001$);
- reported worse health ($U = 13,203.50, p < .001$);
- were less likely to be currently in a relationship ($\phi = -.325, p < .001$);
- had a lower level of education ($\chi^2(6) = 31.827, p < .001$), and were less likely to have enough money to meet their needs ($\chi^2(2) = 102.268, p < .001$).

The groups did not differ significantly in terms of who had initiated the separation ($\chi^2(2) = 1.177, p = .56$), neither considering the time passed since the separation ($\chi^2(3) = 3.934, p = .269$), nor with regard how long they had been married previous to the divorce ($U = 17,567.0, p = .479$).

Feeling of overcoming the breakup: As a further indicator of vulnerability, we compared participants who stated that they would never get over the divorce ($N = 119$) with those who stated that they had needed less than 1 year ($N = 255$) to get over the divorce. As could be expected, participants in the first group differed from the second one as follows: They

- were more hopeless ($U = 7363.0, p < .001$), had higher depression scores ($U = 4478.0, p < .001$), and lower life satisfaction ($U = 6980.0, p < .001$);
- had lower scores in resilience ($U = 9571.5, p < .001$);
- were less extroverted ($U = 12,296.0, p = .002$), scored lower in agreeableness ($U = 12,545.0, p = .006$) and conscientiousness ($U = 13,254.0, p = .044$), and higher in neuroticism ($U = 9227.5, p < .001$). There was no difference in openness ($U = 14,926.5, p > .05$);
- reported worse health ($U = 9974.5, p < .001$), and had a lower education ($p < .05$);
- were more likely to have experienced a separation in the past 12 months ($U = 5940.0, p = .008$);
- reported significantly more frequently that their ex-partner (and not they themselves) had initiated the separation ($\chi^2(2) = 38.890, p < .001$);
- had been married significantly longer before the divorce ($U = 9772.5, p < .001$);
- were less likely to be currently in a new relationship ($\phi = .262, p < .001$);
- were financially worse off ($\chi^2(2) = 11.432, p = .003$).

The comparison of highly vulnerable individuals with those who are the least affected shows in an impressive way the crucial importance of intra-personal resources, i.e. of personality traits. In all four indicators high vulnerability was associated with elevated scores in neuroticism, low scores in extraversion and conscientiousness, and to a lesser degree with low agreeableness and openness. High psychological vulnerability is also clearly associated with lower scores in resilience. These findings are in line with our expectations, according to which personality traits account predominantly for psychological adaptation after marital breakup. A further common feature in all four well-being indicators was subjective health: Highly vulnerable individuals consistently rated their health worse than the least affected. A new relationship also plays an important and consistently discriminating role. Highly vulnerable persons are significantly less likely to have a new partner, and this holds for the most depressed, hopeless, and dissatisfied people independently of how long their ex-marriage was, how much time has passed since the breakup, and whether they had initiated the divorce or not. This rather unexpected result clearly relativizes the importance of length of ex-marriage and time passed since separation (important for depression and feelings of not being able to overcome the separation, but not for life satisfaction and hopelessness), and moreover it underlines again the crucial role of personality. Furthermore the consistent and strongly discriminant role of financial situation and education was rather unexpected. The most vulnerable individuals were less educated and complained significantly more about a precarious financial situation than the least affected group.

4 Conclusions and Further Considerations

In this contribution the concept of vulnerability has been first discussed within the canon of different disciplines, and then contextualized in psychological research, where it has been mainly studied with regard to adverse life events. Based on these insights we aimed in a first step at giving a brief overview of the status quo of research on psychological vulnerability by focusing on the impact of marital breakup in the second half of life. In a second step we wanted to make an empirical contribution to close some gaps in research on psychological adaptation to divorce, and to shed light on specific controversies. One major issue refers to the question of whether vulnerability after marital breakup is a temporary crisis or rather a chronic strain. In this chapter we wanted to present two possible methodological options to tackle this question: First, comparing a sample of almost 1000 middle aged persons, who were married on average 19 years, and who experienced a marital split-up within the last 5 years (4 time groups), with a group of age-matched married controls with regard to various indicators of psychological vulnerability (depression, hopelessness, life satisfaction). Second by comparing within the divorced group of the most vulnerable individuals (with regard to depression, hopelessness, life satisfaction) with those who were the least affected. This comparison focused on intra-personal resources, divorce circumstances, and post-divorce situation, and socio-economic resources. Based on a modified and extended perspective of the crisis-versus-chronic-stress model we hypothesized that time would play a significant role in recovering from this critical life event, but that at the same time there would be large inter-individual differences in psychological adaptation dependent on the diverse resource constellations of individuals.

Our results underline the crucial importance of both *time and personal resources* for psychological adaptation to marital breakup. The first year after marital separation is indeed characterized by an increased psychological vulnerability. Even though there is a gradual improvement of well-being with time passing, separated or divorced persons (even those with a marital breakup more than 5 years ago) do not reach the levels of the continuously married controls. These results are in line with our expectation that the time directly after a breakup is marked by a general decrease of psychological and physical well-being. However, in contrast to our hypothesis, divorced or separated people having experienced the breakup 5 years or longer ago still differ significantly from the never-divorced married individuals with regard to life satisfaction and depression. We can therefore conclude that our data support a crisis as well as a chronic strain model. Nevertheless it has to be said, that due to the lack of data we cannot conclusively answer the question, whether divorced people reached their baseline well-being before the event. Neither can we exclude that there is a selection effect, i.e. that the divorced individuals had already a lower level of habitual well-being before marital breakup.

Our data show further that psychological vulnerability after marital separation is more pronounced in women, who have higher depression as well as hopelessness

and lower life satisfaction scores than men in all separation groups. This result stands in contrast to many findings, according to which men would have a more difficult time after a marital breakup and exhibit less improvement over time (Baum 2003; Hetherington 1993; Wallerstein and Lewis 2004). As we already pointed out, the effect of gender has been discussed in a very controversial way in literature, since some of the studies found no gender differences (Kim and McKenry 2002; Johnson and Wu 2002), whereas others found either women or men to be more affected (Simon 2002). Due to the fact that men are underrepresented in this study, it could be that the most vulnerable are those that are missing. It is indeed known from literature that men are less likely to disclose than women regarding close relationships (Derlega et al. 2008). Against this background a cautious interpretation of gender differences is indicated.

The findings of our extreme group comparisons confirm those of the time-group-comparisons with regard to the central role of *personality traits* for overcoming a critical life event. As expected personality, particularly neuroticism, extraversion, conscientiousness, and resilience, was a discriminant variable between both groups with regard to all indicators of psychological vulnerability. These results confirm existing research – especially with regard to the negative impact of neuroticism (Hetherington and Kelly 2002; Pudrovska and Carr 2008) – and extend it by showing the important role of resilience, which was seldom investigated in this context. However, and partially in contrast to our expectation, *initiator-status* played a limited role as discriminant variable between highly and marginally affected individuals, namely only with regard to depression and feelings of overcoming the loss, but not for life satisfaction and hopelessness. This result demonstrates the importance of specifying psychological vulnerability by distinguishing among its different dimensions. Whereas life satisfaction and hopelessness (not having a perspective and plans for the future) are primarily cognitive dimensions, depression and feelings of being able to overcome the loss or not are more emotional ones. It could be that most people confronted with marital separation adapt first and foremost to the situation in a rational and volitional way (by adjusting their life satisfaction and future perspectives). They diverge however much more with regard to the mainly emotional adaptation, since feelings can be much less voluntarily influenced than thoughts and beliefs. In other words: Emotions are much less controllable than cognitions, especially when the critical life event was not anticipated and initiated. It has been reported in literature that people who initiate a marital breakup generally are better off because they have an increased sense of control over this critical life event since they anticipate and instigate it (Wang and Amato 2000).

The importance of *time passed since separation* for psychological adaptation was underlined in the extreme-group comparisons and revealed a differentiated view. It seems that time is an important factor for adjusting life satisfaction and future perspectives, but not for depression. As was stated above, life satisfaction and future perspectives can be considered rational dimensions of well-being and are therefore more susceptible to change than the emotional ones such as depression, which can

be viewed as more stable and less modifiable. Rather surprising was furthermore that *length of marriage* played only a marginal role as a discriminating variable between low and high psychological vulnerability. This result suggests that people exiting from a long-term marriage adapt quite well on a rational level, but that they have more problems on the emotional one, at least with regard to feelings of being able to overcome the breakup. By contrast, better psychological adaptation was consistently associated with being in a *new relationship*. This result, which confirms our expectation, is also in line with findings by Johnson and Wu (2002), who found in their longitudinal study that psychological distress due to marital breakup declines only upon remarriage or the formation of a cohabitating relationship. In fact, a new romantic partnership and remarriage have also been found to increase adjustment in various other studies (Amato 2000; Quinney and Fouts 2003; Wang and Amato 2000; Locker et al. 2010).

Finally, our results suggest that the *financial situation* – and highly correlated with it, *education* – play a much greater role as discriminant variables between highly and minimally vulnerable individuals than expected. Having a higher education and enough money to meet one's own needs were important discriminant variables for all four indicators of psychological vulnerability. Our results confirm other research where the factors associated with favorable post-divorce adjustment include having higher income and getting remarried (Wang and Amato 2000; Johnson and Wu 2002). These results could be confirmed by further multivariate analyses (latent profile analysis) where five classes of differently affected individuals were compared (Perrig-Chiello et al. 2014).

Taken together our study results underline the vulnerabilizing impact of marital breakup, but at the same time they reveal significant individual differences in psychological adaptation due to personal resources (personality), social resources (new partnership), economic resources, and, last but not least, time. Furthermore our data strongly suggest that there is not a generalized psychological vulnerability after marital breakup, but that the emotional dimensions such as depression or feelings of not overcoming the loss are more affected than the more rational ones such as life satisfaction. Even though our study makes a substantial contribution to extend existing knowledge on marital separation, one limitation has to be considered. Since our data are cross-sectional we cannot give a conclusive answer with regard to the question of whether marital separation can lead to enduring vulnerability or not. As we stated in the introduction, our results should be considered as a first estimation of the role of time passed since the critical life event for psychological adaptation and recovery (and in the negative case for lasting vulnerability), and should be validated by longitudinal measurements. The planned future waves of this study will hopefully help in progressing this issue.

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