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Adolescent Family Characteristics Partially Explain Differences in Emerging Adulthood Subjective Well-Being After the Experience of Major Life Events: Results from the German KiGGS Cohort Study

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Abstract
Experiences from major life events (MLEs; e.g., starting work or living independently) accumulate in the transition to emerging adulthood. Adaption to such events, often operationalized as responses in subjective well-being (SWB), is highly diverse. This observation has prompted attempts to explain differences in SWB responses among individuals as well as events. Early family characteristics have been discussed as potentially enduringly beneficial or harmful for successful adaption to MLEs in emerging adulthood. In the current study, we investigated adolescent family characteristics as longitudinal predictors of emerging adult mental and physical SWB (direct associations) and their explanatory value for SWB differences after the experience of MLEs (indirect associations). Analyses were based on data from a German national cohort study of 6255 emerging adults (KiGGS survey; 46.6% male; mean age = 22.78 years, standard deviation = 3.26 years) who had participated in the baseline study 11 years prior. Results showed that, while experiencing unemployment or severe illness was most negatively related to SWB, high educational attainment had the most positive correlation. Adolescent family characteristics were longitudinal predictors of emerging adult SWB and partially explained differences in SWB after the experience of several MLEs. Most notably, adolescent family characteristics were indirectly associated with emerging adult SWB via permanent relationships, educational attainment, and unemployment. The results provide a basis for the better understanding and further development of research and targeted intervention or prevention measures to facilitate adaptive capacity and reduce adverse effects from certain events on SWB in the transition to emerging adulthood.

Keywords Subjective well-being · Emerging adults · Major life events · Family cohesion · Family well-being · Longitudinal

Introduction

Across the lifespan, most people have to adapt to changing life circumstances and stressful life events. One phase of life in which changes in life circumstances and stressful events start to accumulate is the transition from adolescence to young adulthood (Glück & Bluck, 2007; Schwartz, 2016; Schwartz et al., 2016), often referred to as *emerging adulthood* (Arnett, 2000). Emerging adults experience changes in social roles and contexts, such as finishing education and starting a first job, or committing to a long-term romantic partnership and becoming a parent (Ballas & Dorling, 2007; Cohen et al., 2003; Gutierrez & Park, 2015; Scharf et al., 2004; Zarrett & Eccles, 2006). As life circumstances and experiences change, emerging adult subjective well-being (SWB) tends to fluctuate more often and more intensely than SWB in other age groups (Baggio et al., 2017; Schwartz, 2016). The responses to such experiences, however, are characterized by high diversity. Whereas some people seem to return quickly to initial SWB levels after experiencing certain life events, for others, it takes more time, and some even experience permanent changes in their average SWB levels (Lucas, 2007; Mancini et al., 2011). The fact that individuals differ in the developmental paths they experience and in their mastery of developmental trajectories during emerging

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adulthood has prompted attempts to explain inter-individual differences. Identifying early protective factors to foster resilience and maintain SWB in the face of challenging life events can be a key factor for explaining such differences and defining implications for prevention (Bonanno, 2004; Lucas, 2007).

Major Life Events in Emerging Adulthood

Emerging adulthood can be broadly defined as the period from late adolescence to the mid-twenties from 18 to 25 years (Arnett, 2000, 2007). As summarized by the Inventory of the Dimensions of Emerging Adulthood (IDEA), there are central themes and processes indicative of emerging adulthood (e.g., identity exploration, feeling in-between; Reifman et al., 2007). However, there is some variation in the experience, manifestation, and self-declaration of emerging adulthood, which is highly dependent on social, economic, and cultural contexts (Buhl & Lanz, 2007; Crocetti et al., 2015; Nelson & Barry, 2005). It has been argued that emerging adulthood is a phenomenon particular to Western societies, which are characterized by freedom and individuality and allow individuals to spend time on future considerations or identity exploration (Arnett, 2000; Schwartz et al., 2016). In contrast, a prolonged phase of entry into adulthood is typically not observed in societies with high socioeconomic burden (e.g., high poverty, overpopulation, lack of resources) and strict norms as well as low tolerance toward deviance from these norms (Gelfand et al., 2011; Nelson et al., 2004). Like their peers in other European countries, German emerging adults show typical characteristics of delay in leaving their parental home, becoming a parent and entering the job market as well as high variability regarding permanent relationship and marriage (Buhl & Lanz, 2007; Seiffge-Krenke, 2016). Relatively good access to educational opportunities and social benefits, comparatively low unemployment rates, and increasing equality of opportunity are possible contextual factors that allow for a longer period of exploration in the transition to adulthood in Germany (Seiffge-Krenke, 2016).

Major life events (MLEs) are often referred to as characteristic developmental markers of emerging adulthood (Cohen et al., 2003) and are related to changes in social roles, life circumstances, and context (Ballas & Dorling, 2007; Cohen et al., 2003; Gutierrez & Park, 2015; Scharf et al., 2004; Zarrett & Eccles, 2006). Most MLEs, including those most frequently associated with adulthood (Holmes & Rahe, 1967), fall into the broad categories of social relations (e.g., permanent relationship or becoming a parent), career (e.g., graduation or entering the workforce), or health (e.g., severe illness or accident) (Ballas & Dorling, 2007; Gutierrez & Park, 2015; Pocnet et al., 2016; Reiss et al., 2019). In line with Erikson's (1968) theory of stages of psychosocial development (Erikson, 1968), it has been observed that many MLEs involve making choices or creating conditions that lay the foundation for the later life course (Zarrett & Eccles, 2006). Erikson's (1968) definition of boundaries between developmental stages may need to be interpreted as more diffuse and permeable in present times considering the prolongation of entry into adult roles, particularly in Western countries (Arnett, 2000, 2007; Cohen et al., 2003; Oliveira et al., 2014). However, his original definition identifies central developmental goals and potential psychosocial conflict during late adolescence and early adulthood that are still highly relevant, such as identity formation (stage 5) and intimate relationships (stage 6).

According to Erikson's framework, struggling with the demands of each stage hinders further development and increases the risk of psychosocial health problems (Erikson, 1968). Empirical evidence supports these theoretical assumptions. For example, unstable and diffuse identity or role confusion (Crocetti et al., 2012; Nelson & Barry, 2005; Schwartz et al., 2013), as well as dysfunctional social relationships (Hartup & Stevens, 1999; Umberson & Karas Montez, 2010), can have lasting negative effects on mental and physical SWB. Accordingly, emerging adult SWB levels have been shown to change in response to MLEs, such as marriage or divorce. There is also evidence suggesting that intense identity exploration and experimentation can result in both positive and negative SWB outcomes (Lanctot & Poulin, 2018), suggesting more complex dynamics. Accordingly, Schwartz (2016) described emerging adulthood as a "stage of two faces" (Schwartz, 2016, p. 307) and a turning point entailing the potential to overcome difficulties of an earlier life but also the risk of negative developments. In support of considerations on positive and negative SWB outcomes from certain MLEs, further evidence shows that becoming involved in a long-term romantic partnership or becoming a parent can be desirable and demanding at the same time, and, correspondingly, studies have found indications of positive associations (Helbig et al., 2006; Kim & McKenry, 2002; Roepke, 2013), negative associations (Stanca, 2012), or high variability and inconsistency in relation to SWB (Hansen et al., 2009; Nomaguchi & Milkie, 2003).

Subjective Well-Being in Response to Major Life Events

Since Brickman et al. (1978) first introduced the term "hedonic treadmill" to describe the phenomenon of individuals returning to a set-point level of SWB after a challenging life event very quickly (Brickman et al., 1978), a series of studies have taken up the question of reactivity and recovery of levels of subjective SWB in response to diverse MLEs. Initial theoretical considerations and research focused on

person characteristics (e.g., personality) as explanatory factors for inter-individual differences in adaption to life events and the return to individual pre-determined levels of SWB (Lykken & Tellegen, 1996). Indeed, there are indications in favor of heritability at the individual SWB level, at least to some extent (Lucas & Diener, 2008). Going against this view, developmental theorists have posited that adaption capacity in the face of challenging life events is based on the complex interaction of dispositional, personal, and environmental factors (Rutter, 1999). Accordingly, there is evidence suggesting that personality as well as SWB levels can change across the lifespan, and life circumstances can also have substantial impact (Lucas & Diener, 2008), thereby calling into question the *set-point theory* with regard to its adequacy in complexity and comprehensibility.

At present, there is accumulating evidence on inter- as well as intra-individual heterogeneity in response to MLEs, suggesting that some individuals change their set point while others do not (Bonanno, 2004; Diener et al., 2009; Headey, 2010; Mancini et al., 2011). By exploring longitudinal changes in average SWB levels of a large German and British population sample, Lucas (2007) found slow recovery to baseline levels after the experience of some events (e.g., divorce), while SWB levels changed permanently in response to others (e.g., unemployment). In addition, marriage has been shown to have temporarily positive effects, but the results also indicate that people adapt back to their baseline SWB levels quickly (Lucas & Clark, 2006). Thus, some events may be beneficial or challenging at the outset, while also being accompanied by improving or deteriorating effects in the long run. Correspondingly, Headey (2010) emphasized the need for new theoretical approaches in SWB research, including both change and stability.

In parallel, a complementary theoretical and empirical approach has been developed by Bonanno and colleagues (2002, 2004), which amalgamates the ideas of change and stability in the face of (potential) trauma. The work of Bonanno and colleagues (Bonanno, 2004; Bonanno et al., 2002) on SWB trajectories in the face of (potential) trauma suggested four different patterns: recovery (temporary deviation and gradual return to baseline SWB), resilience (relative stability of SWB), chronification (persistently low SWB), and improvement (lasting increase in SWB). In contrast to earlier considerations on stability in response to MLEs (e.g., personality), the resilient trajectory pattern is based on the assumption of resilience as a non-determined construct that develops and interacts with social and environmental contexts over time (Kim-Cohen & Turkewitz, 2012).

Mancini et al. (2011) provided further insights into Bonanno et al. (2002) and Bonanno (2004) findings by applying the same methodology of multiple trajectories and growth parameters over time to summarize groups of similar individuals (i.e., trajectory classes) in the context of MLEs. The results replicated the four previously identified trajectory patterns (Mancini et al., 2011). Taken together, the work of Bonanno and Mancini et al. (Bonanno, 2004; Bonanno & Mancini, 2011; Mancini & Bonanno, 2009; Mancini et al., 2011) shows that there is a vast number of individuals who are resilient in the face of stressful life events, as indicated by the ability to remain relatively psychologically and physically stable and healthy, whereas only a small number of people show a hedonic treadmill-like pattern (i.e., recovery toward baseline).

Adolescent Family Characteristics and Adaption to Major Life Events

The questions that have not yet been clarified adequately are (a) which factors can help explain the reported differences in SWB after exposure to MLEs and (b) why one individual falls into the resilient group, while another does not (Lucas, 2007; Luhmann et al., 2012; Mancini & Bonanno, 2009). One line of argumentation refers to differences in the trajectories of functioning, adjustment and coping established throughout childhood and adolescence that become evident in the adaption to MLEs during emerging adulthood (Schulenberg et al., 2004). This idea also aligns with *family system theory* (Bowen, 1974) and *attachment theory* (Ainsworth, 1985; Bowlby, 1969), which describe how the quality of family members' interactions and relations have an impact on the actual and future psychosocial functioning and health of each individual within the family system (Bishop et al., 2019; Chopik et al., 2022). Accordingly, a vast amount of research has investigated early protective factors that help adolescents become psychologically functional and healthy adults (Ellis et al., 2017; Göbel & Cohrdes, 2021; Masten, 2018; Rutter, 1987; Schulenberg et al., 1999). There is increasing evidence indicating how certain family characteristics can sustainably affect adolescent development and successful transition to adulthood (Fosco et al., 2012; Moreira & Telzer, 2015; Pomerantz et al., 2005; Steinberg, 2001). Seiffge-Krenke et al. (2010), for example, showed how family characteristics during adolescence can influence emerging adults' ability to develop stable romantic partnerships (Seiffge-Krenke et al., 2010). Parents who exemplify how to engage in positive behaviors with their partners and deal constructively with problems seem to reinforce similar behaviors and competencies cross-generationally in their children (Darling et al., 2008; Seiffge-Krenke et al., 2010). The growing perspective of individuals actively shaping their lives and development (Bandura, 1986; Brandtstädter, 1999) should be considered as another relevant factor for mastering transitions and MLEs during that time. However, this may also depend on resources and SWB levels developed in adolescence.

In summary, evidence suggests that adaptive family characteristics, such as support, closeness, affection, and low family conflict in adolescence can enhance long-term SWB and reduce the risk of negative consequences from life events (Darling et al., 2008; Fosco et al., 2012; Rabinowitz et al., 2016; Seiffge-Krenke et al., 2010; Withers, 2020; Zarrett & Eccles, 2006). Particularly, *family cohesion* (i.e., the amount of affection, helpfulness and commitment of family members toward each other; Moos, 1994) has been associated with a lower risk of developing internalizing and externalizing problems and better adjustment in emerging adulthood (Fosco et al., 2012; Moreira & Telzer, 2015; Rabinowitz et al., 2016). Furthermore, the amount of *family conflict and autonomy* during adolescence seems to play a decisive role in the achievement of developmental tasks during emerging adulthood, such as leaving the parental home and living independently (Seiffge-Krenke, 2006, 2009) or marital SWB and quality of permanent relationships (Amato et al., 1995). Although familial support is important, high levels may also hinder the development of independence and autonomy in emerging adulthood (Seiffge-Krenke, 2006). In the event that adolescents have too much autonomy, results indicate a rather detached parent–child relation accompanied by a higher risk of externalizing problems and delinquency (Ingoglia et al., 2011; Withers, 2020). Attachment insecurity (i.e., anxious, avoidant), on the other hand, has been linked to internalizing problems such as depressive symptoms in the transition to emerging adulthood (Bishop et al., 2019). Thus, the right balance of parental autonomy support and security seems to be crucial for SWB transitions during emerging adulthood (Duineveld et al., 2017).

Given that family support can be instrumental in addition to psychosocial, indicators of socioeconomic status should also be considered in research on the long-lasting effects on SWB (Oliveira et al., 2014). However, to date, only a few studies have investigated the development of MLEs and SWB over time while taking parental socioeconomic status (parental SES) into account. One exception is a study by Reiss et al. (2019), who recently showed that children with more highly educated parents not only experience fewer negative life situations, such as parental mental illness or loss of employment, but also show fewer mental health problems two years after exposure to such situations. Similarly, another longitudinal study found that both negative childhood life events and lower maternal education levels significantly predicted adjustment problems in adolescence (Koechlin et al., 2018). It has been discussed whether low parental education is related to lower capacity to cope with challenging life events (Kirkcaldy et al., 2004). In addition, low parental social class was also predictive for later adolescent and young adult psychosocial SWB and health behavior (Huurre et al., 2003). High academic achievement and financial coverage, on the other hand, have been linked to low levels of mental and physical distress, as they facilitate access to a range of well-paid jobs, higher economic resources and perceived control over one's life (Huurre et al., 2003; Ross & Van Willigen, 1997).

Rationale of the Present Study

Converging evidence suggests that further longitudinal research is needed to clarify family factors influencing and explaining SWB levels within the context of MLEs in transition to emerging adulthood (Headey, 2010; Lucas, 2007; Luhmann et al., 2012; Mancini & Bonanno, 2009; Schulenberg et al., 2004). In light of mixed findings and research gaps, it seems to be of importance to consider both negative as well as positive implications when investigating associations between the experience of MLEs and SWB, and to pursue a comprehensive approach that takes several MLEs from diverse life contexts into account at the same time (Luhmann et al., 2012). This could improve our understanding of underlying mechanisms and developmental challenges in emerging adulthood and help derive implications for public health prevention and intervention efforts.

Thus, in the current study, we addressed the following three main research questions.

Question 1 (Q1) How does emerging adult SWB differ depending on the experience of a comprehensive selection of MLEs from the areas of social relations, career and health, while also considering emerging adults' current age, sex, and adolescent SWB levels (11 years before)?

Question 2 (Q2) To what extent are adolescent family characteristics (parental SES, family cohesion, family SWB) longitudinal predictors of emerging adult SWB (direct associations)?

Question 3 (Q3) To what extent can adolescent family characteristics contribute to the understanding of SWB differences after the experience of diverse MLEs (indirect associations)?

Method

Sample and Procedure

This study used data from $N = 6255$ emerging adults, ranging in age from 18 to 31 years (46.6% male; mean

age = 22.78 years, *SD* = 3.26 years) who participated in the second follow-up of the German Interview and Examination Survey for Children and Adolescents (KiGGS wave 2: 2014–2017) and in baseline measurements approximately 11 years previously (2003–2006; mean age = 11.61, SD 3.18 years). KiGGS is a regularly conducted national health monitoring program in Germany that combines cross-sectional and longitudinal measures, as previously described in detail (Lange et al., 2018). The original baseline sample comprised a representative sample of *N* = 17,641 children and adolescents (51% male) aged from 0 to 17 years drawn from 167 randomly selected sampling points reflecting Germany's regional structure based on municipal population registries. In addition, "children and adolescents with non-German citizenship were oversampled by a factor 1.5, to account for expected higher non-response rates in this population" (Mauz et al., 2019) and several measures were implemented to improve participation rates (e.g., providing easily understandable information and incentives, offering questionnaires in multiple language translations and home visits; Lange et al., 2018). The initial response rate was 66.6% (Mauz et al., 2019) and the loss from baseline to wave 2 was 38.5% (Lange et al., 2018). In most cases no contact could be established, for instance, due to relocation (Mauz et al., 2019). The present sample characteristics are summarized in Tables 1 and 2 and more detailed information on dropout and attrition are presented in the Supplementary Information SI1.

At baseline, parents gave informed consent for their underage children and answered a parental questionnaire, as well as a health questionnaire for their children younger than 11 years of age. Children and adolescents older than 10 years of age completed the health questionnaire independently. In wave 2, emerging adults gave their informed consent and answered a health and demographic questionnaire that included items on MLEs. The KiGGS study complies with the data protection provisions set out in the Federal Data Protection Act and was carried out in accordance with the Declaration of Helsinki. The Charité Universitätsmedizin Berlin's Ethics Committee assessed the ethics of the KiGGS baseline study (No. 101/2000) and the Hanover Medical School's Ethics Committee assessed the ethics for wave 2 (No. 2275-2014).

Measures

Major Life Events (MLEs)

In keeping with the previous studies on MLEs (Ballas & Dorling, 2007; Gutierrez & Park, 2015; Pocnet et al., 2016; Reiss et al., 2019) and evaluations of the most stressful life events (Holmes & Rahe, 1967), we assessed several aspects of social relations (independent living, permanent relationship, parenthood), career (educational attainment, own income/started first job, unemployment), and health (severe illness or accident and long-term hospitalization) retrospectively in KiGGS wave 2. Participants indicated their experience of MLEs on a dichotomous scale (no/yes). Educational attainment was indicated by an index score based on the Comparative Analysis of Social Mobility in Industrial Nations classification (CASMIN; Müller et al., 1989); primary education = 1, secondary education and/or completed apprenticeship = 2, higher education/university degree = 3; we added the category of 0 = none/not yet completed education. If they had experienced MLEs, participants were asked to indicate the corresponding age (i.e., time they left the parental home, got married, became a parent, started their first job, became unemployed, got severely ill, experienced a severe accident or long-term hospitalization for the first

Table 1 Sample characteristics of *N* = 6255 (46.6% male) emerging adults participating in KiGGS wave 2 (2014–2017) as well as in KiGGS baseline (2003–2006)

	Baseline			Wave 2		
	M	95% *CI*	Missing % (*n*)	*M*	95% *CI*	Missing % (*n*)
Mental SWB	81.85	81.55–82.16	2.25 (141)	50.47	50.24–50.70	2.21 (138)
Physical SWB	74.85	74.43–75.26	2.86 (179)	51.43	51.25–51.61	2.21 (138)
Family cohesion	65.42	64.57–65.17	2.33 (146)	–	–	–
Family SWB	81.82	81.45–82.20	1.85 (116)	–	–	–
Parental socioeconomic status in % (*n*)			1.10 (69)	–	–	–
Low	14.29 (884)	13.41–15.18		–	–	–
Moderate	54.51 (3372)	53.07–55.58		–	–	–
High	31.20 (1930)	30.24–32.58		–	–	–

Differences in mean SWB scores between KiGGS baseline and wave 2 are a result of differences in the scaling procedures of the two instruments KINDL-R (children and adolescents) and SF-8 (emerging adults)

M mean, *CI* confidence interval, *SWB* subjective well-being

Table 2 Proportions of major life events (MLEs) and the mean age at event of $N = 6255$ (46.6% male) emerging adults in KiGGS wave 2 (2014–2017)

	Proportion of MLEs			Age at MLEs	
	% (*n*)	95% *CI*	Missing % (*n*)	*M*	95% *CI*
Relationships					
Independent living	56.70 (3481)	55.57–57.93	1.85 (116)	19.84	19.75–19.92
Permanent relationship	57.68 (3537)	56.44–59.11	1.97 (123)	24.08	23.83–24.33
Parenthood	6.38 (399)	5.84–7.17	0	22.95	22.63–23.28
Career					
Own educational attainment			0	–	–
Without qualification	4.20 (263)	3.73–4.73		–	–
Low qualification	7.05 (441)	6.44–7.71		–	–
Moderate qualification	72.98 (4565)	71.86–74.07		–	–
High qualification	15.76 (986)	14.89–16.69		–	–
Own income	32.07 (1794)	30.99–33.54	10.56 (661)	24.24	24.13–24.35
Unemployment	18.53 (1099)	16.90–19.46	5.16 (323)	21.88	21.64–22.12
Health					
Severe illness	15.14 (905)	13.90–15.73	4.46 (279)	13.02	12.60–13.44
Severe accident	10.88 (650)	8.8–11.20	4.44 (278)	11.03	10.71–11.35
Long-term hospitalization	23.11 (1372)	21.12–23.26	5.07 (317)	13.36	13.20–13.52

We did not collect information about the age at which participants obtained various educational qualifications

M mean, *CI* confidence interval

time). We missed to collect information about the age at which participants obtained various educational qualifications since this is not one of the standard questions required to form educational indices such as the CASMIN.

Mental and Physical SWB as Adolescent (Baseline) and as Emerging Adult (KiGGS-2)

To assess SWB, we used the mental and physical component scale of the health-related quality of life instrument KINDL-R (Ravens-Sieberer & Bullinger, 1998) for children and adolescents at baseline and the SF-8 Health Survey (Ware et al., 2001) for young adults at KiGGS wave 2. Both questionnaires include eight questions that can be subsumed under the factors mental SWB (KINDL-R: e.g., "I felt alone"; SF-8: e.g., "How much have you been bothered by emotional problems such as feeling anxious, depressed or irritable?") and physical SWB (KINDL-R: e.g., "I felt strong and full of energy"; SF-8: e.g., "How much energy did you have?"). Responses were on a 5-point rating scale from *never* to *all the time* (KINDL-R) and *not at all* to *quite a lot* (SF-8). Item scores were translated into norm-based mental and physical component summary scores ranging from 0 (low) to 100 (high). The correlations between baseline and wave 2 scales were $r = 0.12$ ($p < 0.001$) for mental SWB and $r = 0.16$ ($p < 0.001$) for physical SWB. The internal consistency of the scales was $\alpha = 0.82$ for SF-8 mental SWB and 0.80 for SF-8 physical SWB, $\alpha = 0.65$ for KINDL-R mental SWB, and $\alpha = 0.67$ for KINDL-R physical SWB.

Parental Socioeconomic Status (SES; Baseline)

Parental SES was measured at baseline and comprised the three components Education Qualification index

[International Comparative Analysis of Social Mobility in Industrial Nations classification CASMIN; (Müller et al., 1989)], Occupational Status index [international Socio-Economic Index of Occupational Status ISEI; (Ganzeboom & Treiman, 2003)], and the net equalized income (based on the Federal Government's Poverty and Wealth Reporting guidelines and the recommendations for reporting on social cohesion in Europe). Answers were combined and categorized into three levels reflecting the ranking of adolescents by the social status of the households in which they live: low (lower quintile), medium (2nd to 4th quintiles), and high (upper quintile); for a more detailed description, see Lampert et al. (2013).

Family Cohesion as Adolescent (Baseline)

At baseline, participants answered the 4-item family cohesion subscale from the Family Climate scale (Schneewind, 1988; "In our family, everyone cares about each other's concerns and needs," "We all get along well with each other," "In everything we do at home, we are very enthusiastic," "Everyone in our family has the feeling that they are being listened to and responded to"). Responses were given on a 4-point rating scale ranging from *not true* to *totally true,* and were summarized to obtain a total score. The internal consistency was $\alpha = 0.71$.

Family SWB as Adolescent (Baseline)

We used the family component scale of the generic quality of life instrument KINDL-R (Ravens-Sieberer & Bullinger, 1998) from the baseline measurement as an indicator of family climate, including conflict and autonomy. The scale is comprised of four items ("I got on well with my parents, "I felt fine at home," "We quarreled at home," "I felt restricted by my parents") and is answered on a 5-point rating scale from *never* to *all the time*. First, answers to item numbers three and four were reverse coded and next all items were summarized to a sum score and transformed to a total score ranging from 0 (low) to 100 (high). The internal consistency was $\alpha = 0.71$. Tables 1 and 2 summarize the current sample characteristics.

Statistical Analyses

Analyses were performed using Stata 15, version 2017 (StataCorp LLC, College Station, TX, USA). Central health and sociodemographic survey variables were tested for attrition bias using logistic regression analyses and participation in wave 2 as the outcome. The results indicated systematic differences in participation in the second follow-up (2014–2017) as compared to the representative baseline sample (2003–2006) and particularly regarding certain sociodemographic characteristics, such as female sex and high parental SES (Mauz et al., 2019; see also Supplementary Information SI1). Thus, we included the participants' sex and parental SES in all analyses. To address our first research question (Q1), we performed structural equation modeling (SEM) to predict emerging adult mental and physical SWB by MLEs (e.g., parenthood, unemployment) and adolescent family characteristics (e.g., parental SES, family cohesion), while controlling for participants' current age, sex, and SWB as adolescents. Missing values (see Tables 1 and 2 for proportions) were estimated based on full information maximum likelihood estimation (Stata method *mlmv*). To answer Q2 and Q3, we calculated direct and indirect effects from adolescent family characteristics on emerging adult SWB analogous to the bootstrapping procedure suggested by Preacher and Hayes (2004), while taking adolescent SWB, age, and sex as covariates into account (Preacher & Hayes, 2004). By using the *sgmediation* command in STATA, we performed the Sobel–Goodman mediation test and bias-corrected bootstrap estimates of the standard error with 500 case replications. Figure 1 shows the present study's conceptual framework and tested path model.

Results

Emerging Adult Subjective Well-Being Differences by Major Life Events

Results from SEM suggested very good fit of the proposed model to the present data, $\chi^2 = 927.15$, $p < 0.001$, $CFI = 0.98$, $TLI = 0.75$, $RMSEA = 0.03$. While controlling for adolescent SWB, current age, and sex, the results indicated that emerging adult SWB significantly varied with the experience of MLEs. Whereas unemployment, severe illness, and long-term hospitalization were negatively associated with both mental and physical SWB, a permanent relationship was positively related to mental SWB, but negatively related to physical emerging adult SWB (Table 3). Furthermore, parenthood showed exclusively positive associations whereas independent living showed negative associations with mental SWB. The experience of a severe accident was negatively while educational attainment was positively related to physical SWB. Overall, effect sizes were relatively small, with standardized beta coefficients ranging from 0.04 to 0.11 (Table 3).

Direct Associations of Adolescent Family Characteristics with Emerging Adult Subjective Well-Being

High family cohesion and family SWB during adolescence showed significant positive long-term associations with emerging adult mental SWB (Table 3). In addition, high

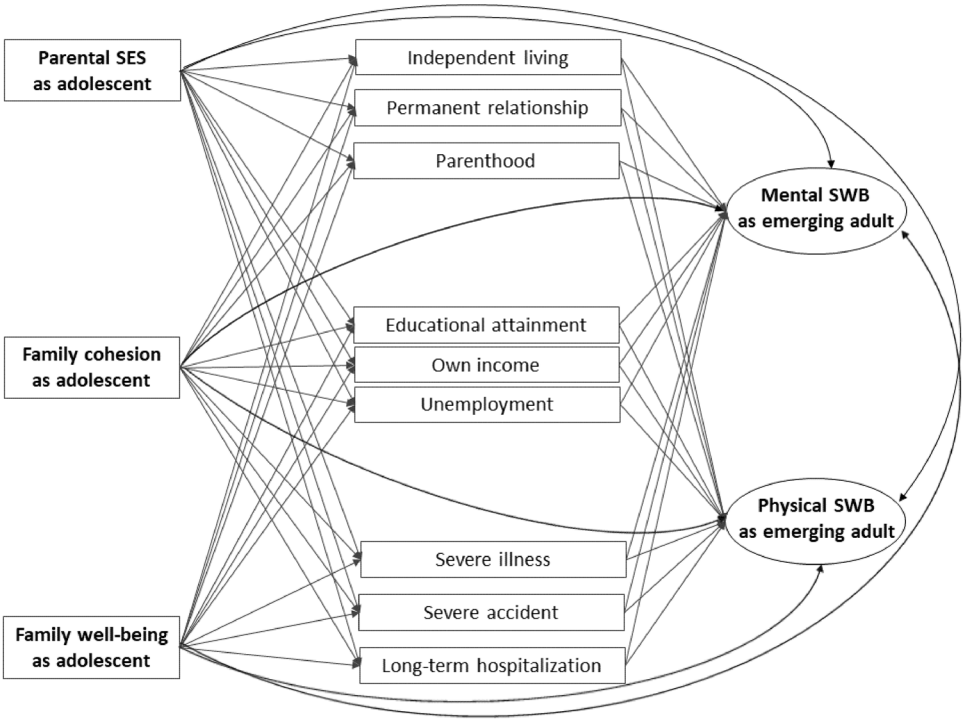

Fig. 1 Path model shows direct and indirect associations between exogenous (adolescent family characteristics as measured at KiGGS baseline; major life events as measured at KiGGS wave 2) and endogenous variables (emerging adult mental and physical subjective well-being measured at KiGGS wave 2) as tested by structural equation modeling. Participants' current age, sex, and adolescent subjective well-being are not shown but were included as covariates in the analyses

family cohesion and parental SES were positively related to the physical SWB of emerging adults (Table 3).

Indirect Associations of Adolescent Family Characteristics with Emerging Adult Subjective Well-Being

Mediation analyses revealed several indirect relations of adolescent family characteristics with emerging adult mental and physical SWB via certain MLEs while controlling for adolescent SWB, current age, and sex. Regarding emerging adult mental SWB, the results suggest full mediation of relations with parental SES and partial mediations of relations with family cohesion and family SWB (Table 4). Specifically, parental SES showed indirect relations with emerging adult mental SWB only and explained a relatively high proportion of the total effect from independent living, permanent relationship, parenthood, educational attainment, and unemployment (53%, 29%, 17%, 92%, and 114%[1]; Table 4). Family cohesion and family SWB partially explained the associations of emerging adult mental SWB with independent living (4%), respectively, permanent relationship (2%), as well as educational attainment (2%, 4%) and unemployment (8%, 6%; see Table 4).

Parental SES also partly explained the associations of emerging adult physical SWB with permanent relationship (3%), parenthood (4%), educational attainment (32%), and unemployment (7%; Table 4). The results moreover suggest partial mediation of permanent relationship (3%), educational attainment (10%), unemployment (12%), and severe illness (4%) with emerging adult physical SWB via family cohesion. The proportions explained for MLEs and physical SWB associations via family SWB were 11% for educational attainment, 10% for unemployment, and 9% for severe illness. Overall, the proportion of the total effects explained by the indirect effects was the highest for educational attainment (10 to 92%, Table 4).

Additionally, the results from mediation analyses showed several direct associations between adolescent family characteristics and the experience of MLEs. Considering the previous indications of familial socioeconomic factors not only for predicting later SWB but also for experiencing certain MLEs (Lubetkin et al., 2005; Reiss et al., 2019), further evidence is needed. However, since this aspect was not a central question of the current research, we present the additional findings in the Supplementary Information in more detail (Table SI2).

Discussion

Against the background of open questions on risk-reducing factors and underlying mechanisms of SWB responses to MLEs in the transition to emerging adulthood, the present

[1] The percentile bootstrap interval for the mediated proportion can exceed the upper limit of 1, if the mediated proportion is larger than the direct effect, thus resulting in more than 100% of the total effect (Miočević et al., 2018).

Table 3 Results from structural equation modeling with emerging adult mental and physical SWB (KiGGS Wave 2) as the outcome and adolescent family characteristics (KiGGS baseline) and major life events as predictors while controlling for the participant's current age, sex, and adolescent SWB ($N = 6255$)

Predictors	Mental SWB (wave 2)			Physical SWB (wave 2)		
	B (*SE*)	β	*p*	*B* (*SE*)	β	*p*
Age	**0.12 (0.06)**	**0.04**	**0.037**	0.06 (0.04)	0.03	0.182
Sex (male = ref.)	**−3.64 (0.24)**	**−0.20**	**< 0.001**	**−1.43 (0.19)**	**−0.10**	**< 0.001**
SWB at baseline	**0.06 (0.01)**	**0.08**	**< 0.001**	**0.05 (0.01)**	**0.11**	**< 0.001**
Family characteristics						
Parental SES	0.09 (0.18)	0.01	614	**0.54 (0.14)**	**0.05**	**< 0.001**
Family cohesion	**0.04 (0.01)**	**0.07**	**< 0.001**	**0.02 (0.01)**	**0.04**	**0.010**
Family SWB	**0.03 (0.01)**	**0.06**	**0.002**	0.01 (0.01)	0.03	0.103
Major life events						
Independent living	**−0.72 (0.27)**	**−0.04**	**0.009**	−0.01 (0.21)	−0.01	970
Permanent relationship	**0.89 (0.25)**	**0.05**	**< 0.001**	**−0.67 (0.19)**	**−0.05**	**< 0.001**
Parenthood	**1.13 (0.50)**	**0.04**	**0.024**	−0.74 (0.39)	−0.03	0.054
Own educational attainment	0.37 (0.22)	0.03	0.088	**1.20 (0.17)**	**0.11**	**< 0.001**
Own income	0.62 (0.34)	0.03	0.073	−0.25 (0.26)	−0.02	0.353
Unemployment	**−1.71 (0.31)**	**−0.07**	**< 0.001**	**−1.00 (0.27)**	**−0.05**	**< 0.001**
Severe illness	**−1.26 (0.35)**	**−0.05**	**< 0.001**	**−1.99 (0.27)**	**−0.10**	**< 0.001**
Severe accident	0.20 (0.37)	0.01	0.604	**−1.30 (0.31)**	**−0.06**	**0.001**
Long-term hospitalization	**−0.92 (0.31)**	**−0.04**	**0.003**	**−0.60 (0.24)**	**−0.04**	**0.012**
R^2	0.07			0.08		

Model fit indices: $\chi^2 = 927.15$, $p < 0.001$, $CFI = 0.98$, $TLI = 0.75$, $RMSEA = 0.03$

Predictors were entered as metric or variables coded as dichotomous variables with 0 = no as the reference category and 1 = yes except for parental SES/own educational attainment, which were coded from 1 (low SES) to 3 (high SES)/0 (without qualification) to 3 (high qualification). Significant predictors at $p < 0.05$ are highlighted in boldface

Ref reference category. *SWB* subjective well-being, *SES* socioeconomic status, *B* unstandardized beta coefficient, *SE* Robust standard error, *β* standardized beta coefficient

study pursued a comprehensive approach based on longitudinal data from a German national cohort study (KiGGS baseline 2003–2006; wave 2 2014–2017). We investigated emerging adult SWB in the face of MLEs as well as longitudinal direct and indirect relations of relevant adolescent family characteristics from 11 years before.

Emerging Adult Subjective Well-Being Differences by Major Life Events

As addressed in Q1, emerging adults in the current study differed significantly in their SWB levels depending on the experience of certain MLEs in the areas of social relations, career, and health. While controlling for adolescent SWB, we found that emerging adults experienced both lower mental and physical SWB in cases of unemployment, severe illness, or long-term hospitalization but higher SWB in cases of high educational attainment compared to those without such experiences or with low educational attainment. In addition, having experienced a severe accident resulted in lower emerging adult physical SWB. We moreover found positive associations of parenthood and permanent relationships with emerging adults' mental SWB, whereas being in a permanent relationship was negatively associated with physical SWB. There were no significant differences in the SWB levels of emerging adults living independently or earning their own income compared to their counterparts.

Thus, the findings support the previous reports of positive associations between SWB and parenthood (Arnett, 2000; Cohen et al., 2003; Helbig et al., 2006), marriage or long-term romantic partnership (Kim & McKenry, 2002; Koball et al., 2010), and high educational attainment (Kirkcaldy et al., 2004; Ross & Van Willigen, 1997) as well as negative associations to unemployment and severe illness or disability (Ballas & Dorling, 2007; Jin et al., 1995; Lucas, 2007). A possible explanation is that individuals with high levels of educational attainment have lower emotional and physical distress, such as financial or work-related concerns (Kirkcaldy et al., 2004; Ross & Van Willigen, 1997). The positive effects of parenthood on mental SWB have been linked to the benefits of feeling socially connected, useful, and meaningful (Hansen et al., 2009). Furthermore, the majority of previous findings suggest that good-quality permanent relationships can function as a health protection factor by offering social support and coping resources (Kim & McKenry,

Table 4 Direct, indirect, and total effects from adolescent family characteristics (KiGGS baseline) on emerging adult mental SWB (KiGGS wave 2), while controlling for the participant's current age, sex and adolescent SWB as assessed by Sobel–Goodman mediation analyses

Exogenous variables	Mental SWB						Physical SWB					
	Direct effect		Indirect effect			Total effect	Direct effect		Indirect effect			Total effect
	B (*SE*)	*p*	*B* (*SE*)	*p*	%	*B* (*SE*) *p*	*B* (*SE*)	*p*	*B* (*SE*)	*p*	%	*B* (*SE*) *p*
Parental SES												
Independent living	0.19 (0.18)	0.291	**−0.07 (0.03)**	**0.013**	**0.53**	**0.12 (0.01)** **<0.001**	**0.86 (0.14)**	**<0.001**	−0.02 (0.02)	0.662	0.02	**0.84 (0.14)** **<0.001**
Permanent relationship	0.16 (0.18)	0.390	**−0.04 (0.01)**	**0.002**	**0.29**	0.12 (0.18) 0.506	**0.80 (0.14)**	**<0.001**	**0.02 (0.01)**	**0.002**	**0.03**	**0.82 (0.14)** **<0.001**
Parenthood	0.14 (0.18)	0.428	**−0.02 (0.01)**	**0.045**	**0.17**	0.12 (0.18) 0.499	**0.80 (0.14)**	**<0.001**	**0.03 (0.01)**	**0.008**	**0.04**	**0.83 (0.14)** **<0.001**
Own educational attainment	0.01 (0.19)	0.957	**0.11 (0.04)**	**0.014**	**0.92**	0.12 (0.18) 0.498	**0.57 (0.14)**	**<0.001**	**0.27 (0.04)**	**<0.001**	**0.32**	**0.83 (0.14)** **<0.001**
Own income	0.15 (0.19)	0.422	<0.01 (0.01)	0.131	0.01	0.15 (0.19) 0.417	**0.80 (0.15)**	**<0.001**	<−0.01 (<0.01)	0.360	<0.01	**0.80 (0.15)** **<0.001**
Unemployment	−0.01 (0.18)	0.959	**0.08 (0.02)**	**0.002**	**1.14**[1]	0.07 (0.19) 0.712	**0.74 (0.14)**	**<0.001**	**0.06 (0.01)**	**0.002**	**0.07**	**0.80 (0.14)** **<0.001**
Severe illness	0.13 (0.18)	0.467	−0.02 (0.01)	0.145	0.16	0.11 (0.18) 0.532	**0.84 (0.14)**	**<0.001**	−0.03 (0.02)	0.119	0.03	**0.81 (0.14)** **<0.001**
Severe accident	0.12 (0.18)	0.508	−0.02 (0.01)	0.627	0.02	0.11 (0.18) 0.515	**0.82 (0.14)**	**<0.001**	−0.01 (0.01)	0.212	0.02	**0.81 (0.14)** **<0.001**
Long-term hospitalization	0.15 (0.19)	0.417	<−0.01 (0.01)	0.609	0.01	0.15 (0.19) 0.425	**0.80 (0.14)**	**<0.001**	−0.01 (0.01)	0.612	0.01	**0.80 (0.14)** **<0.001**
Family cohesion												
Independent living	**0.04 (0.01)**	**<0.001**	**0.02 (<0.01)**	**0.012**	**0.04**	**0.09 (0.01)** **<0.001**	**0.02 (0.01)**	**0.003**	<0.01 (<0.01)	0.692	0.01	**0.02 (0.01)** **0.003**

Table 4 (continued)

Exogenous variables	Mental SWB						Physical SWB					
	Direct effect		Indirect effect			Total effect	Direct effect		Indirect effect			Total effect
	B (*SE*)	*p*	*B* (*SE*)	*p*	%	*B* (*SE*) *p*	*B* (*SE*)	*p*	*B* (*SE*)	*p*	%	*B* (*SE*) *p*
Permanent relationship	**0.04 (0.01)**	**< 0.001**	< 0.01 (< 0.01)	0.217	0.01	**0.04 (0.01)** **< 0.001**	**0.03 (0.01)**	**0.001**	**− 0.01 (< 0.01)**	**0.045**	**0.03**	**0.02 (0.01)** **0.002**
Parenthood	**0.04 (0.01)**	**< 0.001**	< − 0.01 (< 0.01)	0.050	< 0.01	**0.04 (0.01)** **< 0.001**	**0.02 (0.01)**	**0.002**	< − 0.01 (< 0.01)	0.085	< 0.01	**0.02 (0.01)** **0.002**
Own educational attainment	**0.04 (0.01)**	**< 0.001**	**0.01 (< 0.01)**	**0.043**	**0.02**	0.05 (0.01) < 0.001	**0.02 (0.01)**	**0.004**	**0.01 (< 0.01)**	**0.003**	**0.10**	**0.03 (0.01)** **0.002**
Own income	**0.04 (0.01)**	**< 0.001**	< − 0.01 (< 0.01)	0.117	< 0.01	**0.04 (0.01)** **< 0.001**	**0.02 (0.01)**	**0.005**	< − 0.01 (< 0.01)	0.354	< 0.01	**0.02 (0.01)** **0.005**
Unemployment	**0.09 (0.01)**	**< 0.001**	**0.03 (0.01)**	**< 0.001**	**0.08**	**0.12 (0.01)** **< 0.001**	**0.07 (0.01)**	**0.008**	**0.02 (< 0.01)**	**0.001**	**0.12**	**0.09 (0.01)** **0.003**
Severe illness	**0.04 (0.01)**	**< 0.001**	0.01 (< 0.01)	0.067	0.01	**0.05 (0.01)** **< 0.001**	**0.02 (0.01)**	**0.009**	**< 0.01 (< 0.01)**	**0.042**	**0.04**	**0.02 (0.01)** **0.005**
Severe accident	**0.04 (0.01)**	**< 0.001**	< 0.01 (< 0.01)	0.671	< 0.01	**0.04 (0.01)** **< 0.001**	**0.02 (0.01)**	**0.003**	< 0.01 (< 0.01)	0.471	0.07	**0.02 (0.01)** **0.003**
Long-term hospitalization	**0.04 (0.01)**	**< 0.001**	< − 0.01 (< 0.01)	0.387	< 0.01	**0.04 (0.01)** **< 0.001**	**0.02 (0.01)**	**0.002**	< − 0.01 (< 0.01)	0.394	0.03	**0.02 (0.01)** **0.003**
Family SWB												
Independent living	**0.04 (0.01)**	**< 0.001**	< 0.01 (< 0.01)	0.305	0.01	**0.04 (0.01)** **< 0.001**	**0.02 (0.01)**	**0.008**	< 0.01 (< 0.01)	0.620	< 0.01	**0.02 (0.01)** **0.008**
Permanent relationship	**0.04 (0.01)**	**< 0.001**	**− 0.01 (< 0.01)**	**0.027**	**0.02**	**0.03 (0.01)** **< 0.001**	**0.02 (0.01)**	**0.007**	< 0.01 (< 0.01)	0.481	< 0.01	**0.02 (0.01)** **0.006**

Table 4 (continued)

Exogenous variables	Mental SWB						Physical SWB					
	Direct effect		Indirect effect			Total effect	Direct effect		Indirect effect			Total effect
	B (*SE*)	*p*	*B* (*SE*)	*p*	%	*B* (*SE*) *p*	*B* (*SE*)	*p*	*B* (*SE*)	*p*	%	*B* (*SE*) *p*
Parenthood	**0.05 (0.01)**	**< 0.001**	−0.01 (< 0.01)	0.175	0.01	**0.04 (0.01)** **< 0.001**	**0.02 (0.01)**	**0.006**	0.01 (< 0.01)	0.122	0.03	**0.02 (0.01)** **0.004**
Own educational attainment	**0.04 (0.01)**	**< 0.001**	**0.01 (< 0.01)**	**0.026**	**0.04**	**0.04 (0.01)** **< 0.001**	**0.06 (0.01)**	**0.010**	**0.02 (< 0.01)**	**0.007**	**0.11**	**0.08 (0.01)** **0.004**
Own income	**0.05 (0.01)**	**< 0.001**	< 0.01 (< 0.01)	0.315	< 0.01	**0.05 (0.01)** **< 0.001**	**0.02 (0.01)**	**0.003**	< 0.01 (< 0.01)	0.509	< 0.01	**0.02 (0.01)** **0.003**
Unemployment	**0.06 (0.01)**	**< 0.001**	**0.02 (< 0.01)**	**0.005**	**0.06**	**0.08 (0.01)** **< 0.001**	**0.05 (0.01)**	**0.013**	**0.02 (< 0.01)**	**0.010**	**0.10**	**0.07 (0.01)** **0.006**
Severe illness	**0.04 (0.01)**	**< 0.001**	< 0.01 (< 0.01)	0.216	0.01	**0.04 (0.01)** **< 0.001**	**0.02 (0.01)**	**0.017**	**0.01 (< 0.01)**	**0.040**	**0.09**	**0.03 (0.01)** **0.009**
Severe accident	**0.04 (0.01)**	**< 0.001**	< 0.01 (< 0.01)	0.588	0.01	**0.04 (0.01)** **< 0.001**	**0.02 (0.01)**	**0.009**	0.01 (< 0.01)	0.274	0.03	**0.02 (0.01)** **0.003**
Long-term hospitalization	**0.04 (0.01)**	**< 0.001**	< 0.01 (< 0.01)	0.575	0.01	**0.04 (0.01)** **< 0.001**	**0.02 (0.01)**	**0.011**	< 0.01 (< 0.01)	0.920	< 0.01	**0.02 (0.01)** **0.011**

Significant effects at $p < 0.05$ are highlighted in boldface

SWB Subjective well-being, *B* unstandardized beta coefficients, *SE* bootstrapped standard errors with 500 case replications, % proportion of the total effect explained by the indirect effect

[1]The percentile bootstrap interval for the mediated proportion can exceed the upper limit of 1, if the mediated proportion is larger than the direct effect, thus resulting in more than 100% of the total effect (Miočević et al., 2018)

2002) and by higher engagement in healthy lifestyle behaviors (Koball et al., 2010).

Posttraumatic growth (PTG; Tedeschi et al., 1998) and *stress-related growth* (SRG; Park et al., 1996) have been discussed as possible explanations for positive outcomes from MLEs. Both concepts describe the process of personal maturation and the experience of positive changes resulting from cognitive and emotional processing after adverse life events (Roepke & Seligman, 2015). SRG suggests that any MLE can lead to growth, as long as people can imagine positive new paths and possibilities in the aftermath of adverse life events ("see new doors opening," Roepke & Seligman, 2015, p. 108). However, since we were not able to trace the course of SWB levels before, during, and after an event, we cannot draw any conclusions about growth or temporary fluctuation. We can only assume that the majority of emerging adults in our study adapted well to their roles as parents and as permanent partners in the medium term (average of time passed since marriage was 3.9 years and since becoming a parent 3.4 years), in support of other findings (Helbig et al., 2006; Kim & McKenry, 2002; Roepke, 2013). In consideration of prior evidence on temporal fluctuations and various trajectory patterns in SWB responses to MLEs such as marriage (Lucas & Clark, 2006; Mancini et al., 2011), the time passed since the experience of events may help explain SWB associations with MLEs. Hence, we performed additional analyses on the role of the time passed since the experience of each MLE for the respective SWB levels of emerging adults. Since this was not the main objective of the current study, we provide information on the results in the Supplementary Information (Table SI3, Figure SI3).

Unexpectedly, we found lower physical SWB in emerging adults who committed to a permanent relationship compared to their counterparts. This finding can be interpreted in line with the finding that physically unwell individuals were more likely to team up with partners feeling equally physically unwell or having unhealthy behaviors, thereby exacerbating negative health effects in emerging adulthood (Umberson & Karas Montez, 2010). However, these post hoc hypotheses cannot be answered using the present data and require further investigation. Following Mancini et al.'s (2011) findings, it is possible that the direction of SWB associations with MLEs is highly dependent on unconsidered factors such as relationship quality that are likely to add explanatory value prospectively.

Similarly, the present results do not align with the previous findings on emerging adults' SWB associations with living independently (Kins et al., 2009) or becoming financially independent by entering the workforce (Arnett, 2000, 2007; Cohen et al., 2003). One possible explanation for the finding that independent living is associated with lower mental SWB is a delayed or lasting adjustment process of loosening ties with parents (*Separation-Individuation Theory*; Blos, 1979). However, individual preferences with regard to staying in or leaving the parental home are likely to play into how this factor relates to SWB (Kins et al., 2009). Future studies could provide a clearer picture of associations between SWB and various MLEs by examining motivational factors.

Direct and Indirect Associations of Adolescent Family Characteristics with Emerging Adult Subjective Well-Being

In this study, we were interested in exploring the longitudinal direct (Q2) and indirect associations (Q3) of a selection of relevant adolescent family characteristics with emerging adult SWB and with regard to diverse MLEs. As suggested by *family system theory* (Bowen, 1974) and *attachment theory* (Ainsworth, 1985; Bowlby, 1969), we found longitudinal associations of family cohesion (including aspects of affection and commitment) and family SWB (including aspects of conflict and autonomy) during adolescence with emerging adult mental SWB. Therefore, the results underline previous indications of the crucial role of early family characteristics in later SWB in general (Göbel & Cohrdes, 2021; Schulenberg et al., 1999, 2004) and extend evidence on the adaptation to MLEs in emerging adulthood in particular (Fosco et al., 2012; Moreira & Telzer, 2015; Rabinowitz et al., 2016).

More precisely, the results revealed additional information on the explanatory value of adolescent family cohesion and SWB for associations between certain MLEs and emerging adult SWB, as addressed in Q3. Adolescent family cohesion and SWB partially explained associations between experiences of permanent relationships and educational attainment with both emerging adult mental and physical SWB. Moreover, family cohesion and SWB during adolescence explained differences in mental and physical SWB levels for emerging adults facing unemployment to some extent. Moreover, we found indirect associations of severe illness and physical SWB via both family cohesion and SWB. Thus, the present evidence emphasizes the central role of family cohesion and SWB in shaping emerging adults' SWB by facilitating their later ability to adapt to MLEs from the fields of social relations (permanent relationship; Amato et al., 1995; Duineveld et al., 2017; Seiffge-Krenke et al., 2010), career (educational attainment, unemployment; Demo & Acock, 1996; Penick & Jepsen, 1992), and health (Ballas & Dorling, 2007; Pocnet et al., 2016). In interpreting the results, the fact that the present data do not allow the identification of trajectory patterns over time should be taken into consideration. Thus, we were not able to follow-up on previous classification and differentiation between groups of people who show patterns of resilience, recovery, chronification, or improvement of SWB after the

experience of MLEs (Bonanno, 2004; Bonanno & Mancini, 2011; Bonanno et al., 2002; Mancini & Bonanno, 2009; Mancini et al., 2011) or patterns of positive or negative transition experience in terms of the IDEA (i.e., measure of key dimensions of emerging adulthood; Lanctot & Poulin, 2018). Based on this study, we can only draw the conclusion that high family cohesion and SWB are indicative of patterns of resilience, recovery, or improvement, resulting in positive SWB associations over a considerable period of time. In addition, the time passed since the event served as a broad indicator of the duration of change in SWB over time in the present study (see Supplementary Information SI3 for more details).

In line with the previous indications of longitudinal associations between parental SES and their children's SWB and health behavior (Huurre et al., 2003; Reiss et al., 2019; von Rueden et al., 2006), the SES of parents in the current sample was directly linked to emerging adult physical SWB. In addition, the results revealed indirect longitudinal associations with physical SWB. Among emerging adults who committed to a permanent relationship, became a parent, successfully graduated from school or became unemployed, parental SES partially explained differences in physical SWB levels. A new finding of our study is that, although there were no direct associations between parental SES and emerging adult mental SWB, several indirect associations were mediated via MLEs. The associations between emerging adult SWB and independent living, permanent relationships, educational attainment, and unemployment could be explained by parental SES to a relatively large extent. These findings are in support of previous discussions about mechanisms linking parental SES to their children's SWB. In a review, Bradley and Corwyn (2002) highlighted better access to educational, social, cultural, and material resources, as well as coping abilities in response to stress, as central paths through which parental SES most probably affects the mental and physical SWB of their children in the long run. However, the authors also highlighted the role of children and family characteristics as well as external support systems as potential moderators of such associations (Bradley & Corwyn, 2002).

Overall, the explanatory value of adolescent family characteristics for SWB after the experience of MLEs in the transition to emerging adulthood underscores past indications of positive family relations, interactions, and socioeconomic resources for the successful mastering of MLEs regarding social relations and career (Darling et al., 2008; Fosco et al., 2012; Kirkcaldy et al., 2004; Moreira & Telzer, 2015; Oliveira et al., 2014; Penick & Jepsen, 1992; Ross & Van Willigen, 1997). In contrast, adolescent family characteristics only partly contributed to the explanation of SWB levels in response to MLEs related to health (i.e., severe illness). This finding highlights the need for further research to identify other factors that may help explain SWB differences or buffer the negative effects from experiences of accidents or long-term hospitalization. Another promising future research direction could be to include the aspect of perceived control of MLEs. Past evidence suggests that higher perceived levels of control are associated with better adjustment to stressful events (Frazier et al., 2001, 2004). Health-related events, such as illness or disability, are usually characterized by little control, at least at the onset, but offer the potential for higher levels of control in subsequent adjustment to or handling of recovery with respect to chronic conditions (Compas et al., 1991; Wallston et al., 1987).

Strengths and Limitations

Several limitations should be considered in interpreting the present findings. First, owing to dropout from baseline to wave 2, the present sample cannot be considered representative of emerging adults in Germany. Therefore, the data permit only an approximate estimate of the proportion of national MLEs. However, the representative original sample at baseline as well as the still relatively large sample size that was followed over 11 years can also be considered as one strength of the current study. Another limitation is the use of various age-sensitive SWB instruments for children/adolescents and emerging adults along with the considerable period of time between measurement points (11 years), which limited direct comparisons and analyses of longitudinal change. Additionally, retrospective reports of MLEs at wave 2 were used, so we cannot assume concurrent relationships between changes in SWB and MLEs. Nevertheless, the fact that we found significant associations over such a long time period represents another strength of this study. The results from attrition analysis suggest that participation in wave 2 was unrelated to SWB at baseline. However, we cannot rule out that participation in wave 2 was related to the experience of certain or multiple MLEs which may have caused undetected response bias and underrepresentation of vulnerable subgroups. Another shortcoming is the lack of information on the age at which school-leaving qualifications were obtained, which meant that more in-depth analyses could not be carried out in this case.

When asked about the characteristics that matter most when becoming an adult, emerging adults frequently mentioned accepting responsibility, making independent decisions and building reliable interpersonal relationships (Ballas & Dorling, 2007; Cohen et al., 2003). Thus, although the included status markers cover a broad range of MLEs, they do not include all of the important factors in the transition from late adolescence to young adulthood, such as self-declaration as emerging adult (Lanctot & Poulin, 2018; Reifman et al., 2007) or associated progress, support, and outcome. Future studies should focus on a wider range of important

MLEs by including perceptions of relationship quality, autonomy, independence, and responsibility (Scharf et al., 2004; Zarrett & Eccles, 2006), which may also increase the explained variance.

Conclusions

The present findings provide new insights into associations between MLEs and emerging adult SWB, in due consideration of adolescent SWB and family characteristics. One major finding is that emerging adults experiencing unemployment, severe illness, or long-term hospitalization were at high risk for reduced SWB, whereas high educational attainment, parenthood, and permanent relationships showed the opposite pattern. Thus, the results suggest an increasing need for attention and support of adolescents and emerging adults facing such events in general. One promising approach is the early promotion of adaptive coping skills and access to/knowledge of resources (e.g., low-threshold support offers).

Notwithstanding the long period of 11 years, another major finding is that parental SES, family cohesion, and SWB during adolescence were directly and indirectly linked to emerging adult SWB. Most notably, adolescent family characteristics added explanatory value to the differences in SWB responses regarding experiences from the fields of social relation, career, and to a certain part, of health. For instance, in the event of low educational attainment or unemployment, the risk for reduced SWB seems to accelerate, particularly for emerging adults with adverse family cohesion, family SWB, or limited socioeconomic resources. Thereby, the findings emphasize how the promotion of modifiable family characteristics such as cohesion (i.e., affection and commitment) and SWB (i.e., conflict and autonomy) can help reduce the risk of SWB deterioration or enhance resiliency in the face of challenging life events and transitions to adult roles.

The findings also align with the previous debates on health inequality and how parental SES plays a considerable role for emerging adult SWB and the likelihood of experiencing certain MLEs. Public health measures have to target children and adolescents from low-educated and limited-resourced (e.g., material, socioemotional) familial contexts, in particular. These novel findings contribute to our understanding of mechanisms by which parental SES can affect child SWB in the long term: emerging adults from a low social status family context are at risk of having to enter adult roles earlier, with less support and preparedness. Thus, our findings point toward general flash points as possible starting points for offering emerging adults appropriate support from systems outside of the family context (i.e., developmentally relevant transitions).

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Author Contributions HH and CC contributed to the study conception and design. Data analyses were performed by CC. The first draft of the manuscript was written by CC and HH, AKM and URS commented on the previous versions of the manuscript. All authors read and approved the final manuscript.

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Declarations

Conflict of interest The authors declare that they have no conflict of interest.

References

Ainsworth, M. D. (1985). Patterns of attachment. *The Clinical Psychologist, 38*(2), 27–29.

Amato, P. R., Loomis, L. S., & Booth, A. (1995). Parental divorce, marital conflict, and offspring well-being during early adulthood. *Social Forces, 73*(3), 895–915. https://doi.org/10.1093/sf/73.3.895

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist, 55*(5), 469–480. https://doi.org/10.1037/0003-066x.55.5.469

Arnett, J. J. (2007). Emerging adulthood: What is it, and what is it good for? *Child Development Perspectives, 1*(2), 68–73. https://doi.org/10.1111/j.1750-8606.2007.00016.x

Baggio, S., Studer, J., Iglesias, K., Daeppen, J.-B., & Gmel, G. (2017). Emerging adulthood: A time of changes in psychosocial well-being. *Evaluation & the Health Professions, 40*(4), 383–400. https://doi.org/10.1177/0163278716663602

Ballas, D., & Dorling, D. (2007). Measuring the impact of major life events upon happiness. *International Journal of Epidemiology, 36*(6), 1244–1252. https://doi.org/10.1093/ije/dym182

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall Inc.

Bishop, J. L., Norona, J. C., Roberson, P. N. E., Welsh, D. P., & McCurry, S. K. (2019). Adult attachment, role balance, and depressive symptoms in emerging adulthood. *Journal of Adult Development, 26*(1), 31–40. https://doi.org/10.1007/s10804-018-9295-z

Blos, P. (1979). *The adolescent passage*. International Universities Press.

Bonanno, G. A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *American Psychologist, 59*(1), 20–28. https://doi.org/10.1037/0003-066X.59.1.20

Bonanno, G. A., & Mancini, A. D. (2011). Toward a lifespan approach to resilience and potential trauma. In S. M. Southwick, B. T. Litz, D. Charney, & M. J. Friedman (Eds.), *Resilience and mental health: Challenges across the lifespan* (pp. 120–134). Cambridge University Press.

Bonanno, G. A., Wortman, C. B., Lehman, D. R., Tweed, R. G., Haring, M., Sonnega, J., Carr, D., & Nesse, R. M. (2002). Resilience to loss and chronic grief: A prospective study from preloss to 18-months postloss. *Journal of Personality and Social Psychology, 83*(5), 1150–1164. https://doi.org/10.1037/0022-3514.83.5.1150

Bowen, M. (1974). Alcoholism as viewed through family systems theory and family psychotherapy. *Annals of the New York Academy of Sciences, 233*(1), 115–122. https://doi.org/10.1111/j.1749-6632.1974.tb40288.x

Bowlby, J. (1969). *Attachment and loss* (Vol. 1). The Hogarth Press and the Institute of Psycho-Analysis.

Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annual Review of Psychology, 53*(1), 371–399. https://doi.org/10.1146/annurev.psych.53.100901.135233

Brandtstädter, J. (1999). The self in action and development: Cultural, biosocial, and ontogenetic bases of intentional self-development. In J. Brandtstädter & R. M. Lerner (Eds.), *Action and self-development: Theory and research through the life span* (pp. 37–65). Sage Publications Inc. https://doi.org/10.4135/9781452204802.n2

Brickman, P., Coates, D., & Janoff-Bulman, R. (1978). Lottery winners and accident victims: Is happiness relative? *Journal of Personality and Social Psychology, 36*(8), 917–927. https://doi.org/10.1037/0022-3514.36.8.917

Buhl, H. M., & Lanz, M. (2007). Emerging adulthood in Europe: Common traits and variability across five European countries. *Journal of Adolescent Research, 22*(5), 439–443. https://doi.org/10.1177/0743558407306345

Chopik, W. J., Nuttall, A. K., & Oh, J. (2022). Relationship-specific satisfaction and adjustment in emerging adulthood: The moderating role of adult attachment orientation. *Journal of Adult Development, 29*(1), 40–52. https://doi.org/10.1007/s10804-021-09380-6

Cohen, P., Kasen, S., Chen, H., Hartmark, C., & Gordon, K. (2003). Variations in patterns of developmental transmissions in the emerging adulthood period. *Developmental Psychology, 39*(4), 657–669. https://doi.org/10.1037/0012-1649.39.4.657

Compas, B. E., Banez, G. A., Malcarne, V., & Worsham, N. (1991). Perceived control and coping with stress: A developmental perspective. *Journal of Social Issues, 47*(4), 23–34. https://doi.org/10.1111/j.1540-4560.1991.tb01832.x

Crocetti, E., Scrignaro, M., Sica, L. S., & Magrin, M. E. (2012). Correlates of identity configurations: Three studies with adolescent and emerging adult cohorts. *Journal of Youth and Adolescence, 41*(6), 732–748. https://doi.org/10.1007/s10964-011-9702-2

Crocetti, E., Tagliabue, S., Sugimura, K., Nelson, L. J., Takahashi, A., Niwa, T., Sugiura, Y., & Jinno, M. (2015). Perceptions of emerging adulthood: A study with Italian and Japanese university students and young workers. *Emerging Adulthood, 3*(4), 229–243. https://doi.org/10.1177/2167696815569848

Darling, N., Cohan, C. L., Burns, A., & Thompson, L. (2008). Within-family conflict behaviors as predictors of conflict in adolescent romantic relations. *Journal of Adolescence, 31*(6), 671–690. https://doi.org/10.1016/j.adolescence.2008.10.003

Demo, D. H., & Acock, A. C. (1996). Family structure, family process, and adolescent well-being. *Journal of Research on Adolescence, 6*(4), 457–488.

Diener, E., Lucas, R. E., & Scollon, C. N. (2009). Beyond the hedonic treadmill: Revising the adaptation theory of well-being. In E. Diener (Ed.), *The science of well-being: The collected works of Ed Diener* (pp. 103–118). Springer. https://doi.org/10.1007/978-90-481-2350-6_5

Duineveld, J. J., Parker, P. D., Ryan, R. M., Ciarrochi, J., & Salmela-Aro, K. (2017). The link between perceived maternal and paternal autonomy support and adolescent well-being across three major educational transitions. *Developmental Psychology, 53*(10), 1978–1994. https://doi.org/10.1037/dev0000364

Ellis, B. J., Bianchi, J., Griskevicius, V., & Frankenhuis, W. E. (2017). Beyond risk and protective factors: An adaptation-based approach to resilience. *Perspectives on Psychological Science, 12*(4), 561–587. https://doi.org/10.1177/1745691617693054

Erikson, E. H. (1968). *Identity: Youth and crisis*. WW Norton & Company.

Fosco, G. M., Caruthers, A. S., & Dishion, T. J. (2012). A six-year predictive test of adolescent family relationship quality and effortful control pathways to emerging adult social and emotional health. *Journal of Family Psychology, 26*(4), 565–575. https://doi.org/10.1037/a0028873

Frazier, P., Berman, M., & Steward, J. (2001). Perceived control and posttraumatic stress: A temporal model. *Applied and Preventive Psychology, 10*(3), 207–223. https://doi.org/10.1016/S0962-1849(01)80015-9

Frazier, P., Steward, J., & Mortensen, H. (2004). Perceived control and adjustment to trauma: A comparison across events. *Journal of Social and Clinical Psychology, 23*(3), 303–324. https://doi.org/10.1521/jscp.23.3.303.35452

Ganzeboom, H. B. G., & Treiman, D. J. (2003). Three internationally standardised measures for comparative research on occupational status. In J. H. P. Hoffmeyer-Zlotnik & C. Wolf (Eds.), *Advances in cross-national comparison: A European working book for demographic and socio-economic variables* (pp. 159–193). Springer. https://doi.org/10.1007/978-1-4419-9186-7_9

Gelfand, M. J., Raver, J. L., Nishii, L., Leslie, L. M., Lun, J., Lim, B. C., et al. (2011). Differences between tight and loose cultures: A 33-nation study. *Science, 332*(6033), 1100–1104. https://doi.org/10.1126/science.1197754

Glück, J., & Bluck, S. (2007). Looking back across the life span: A life story account of the reminiscence bump. *Memory & Cognition, 35*(8), 1928–1939. https://doi.org/10.3758/BF03192926

Göbel, K., & Cohrdes, C. (2021). The whole is greater than the sum of its parts: Profiles of multiple mental health risk factors using Latent class analysis. *Child and Adolescent Psychiatry and Mental Health, 15*(1), 27. https://doi.org/10.1186/s13034-021-00380-8

Gutierrez, I. A., & Park, C. L. (2015). Emerging adulthood, evolving worldviews: How life events impact college students' developing belief systems. *Emerging Adulthood, 3*(2), 85–97. https://doi.org/10.1177/2167696814544501

Hansen, T., Slagsvold, B., & Moum, T. (2009). Childlessness and psychological well-being in midlife and old age: An examination of parental status effects across a range of outcomes. *Social Indicators Research, 94*(2), 343–362. https://doi.org/10.1007/s11205-008-9426-1

Hartup, W. W., & Stevens, N. (1999). Friendships and adaptation across the life span. *Current Directions in Psychological Science, 8*(3), 76–79. https://doi.org/10.1111/1467-8721.00018

Headey, B. (2010). The set point theory of well-being has serious flaws: On the eve of a scientific revolution? *Social Indicators Research, 97*(1), 7–21. https://doi.org/10.1007/s11205-009-9559-x

Helbig, S., Lampert, T., Klose, M., & Jacobi, F. (2006). Is parenthood associated with mental health? *Social Psychiatry and Psychiatric Epidemiology, 41*(11), 889–896. https://doi.org/10.1007/s00127-006-0113-8

Holmes, T. H., & Rahe, R. H. (1967). The social readjustment rating scale. *Journal of Psychosomatic Research, 11*(2), 213–218. https://doi.org/10.1016/0022-3999(67)90010-4

Huurre, T., Aro, H., & Rahkonen, O. (2003). Well-being and health behaviour by parental socioeconomic status: A follow-up study of adolescents aged 16 until age 32 years. *Social Psychiatry and Psychiatric Epidemiology, 38*(5), 249–255. https://doi.org/10.1007/s00127-003-0630-7

Ingoglia, S., Lo Coco, A., Liga, F., & Grazia Lo Cricchio, M. (2011). Emotional separation and detachment as two distinct dimensions of parent—adolescent relationships. *International Journal of Behavioral Development, 35*(3), 271–281. https://doi.org/10.1177/0165025410385878

Jin, R. L., Shah, C. P., & Svoboda, T. J. (1995). The impact of unemployment on health: a review of the evidence. *CMAJ: Canadian Medical Association Journal - Journal De L'association Medicale Canadienne, 153*(5), 529–540. https://www.ncbi.nlm.nih.gov/pubmed/7641151

Kim, H. K., & McKenry, P. C. (2002). The relationship between marriage and psychological well-being: A longitudinal analysis. *Journal of Family Issues, 23*(8), 885–911. https://doi.org/10.1177/019251302237296

Kim-Cohen, J., & Turkewitz, R. (2012). Resilience and measured gene–environment interactions. *Development and Psychopathology, 24*(4), 1297–1306. https://doi.org/10.1017/S0954579412000715

Kins, E., Beyers, W., Soenens, B., & Vansteenkiste, M. (2009). Patterns of home leaving and subjective well-being in emerging adulthood: The role of motivational processes and parental autonomy support. *Developmental Psychology, 45*(5), 1416–1429. https://doi.org/10.1037/a0015580

Kirkcaldy, B., Furnham, A., & Siefen, G. (2004). The relationship between health efficacy, educational attainment, and well-being among 30 nations. *European Psychologist, 9*(2), 107–119. https://doi.org/10.1027/1016-9040.9.2.107

Koball, H. L., Moiduddin, E., Henderson, J., Goesling, B., & Besculides, M. (2010). What do we know about the link between marriage and health? *Journal of Family Issues, 31*(8), 1019–1040. https://doi.org/10.1177/0192513x10365834

Koechlin, H., Donado, C., Berde, C. B., & Kossowsky, J. (2018). Effects of childhood life events on adjustment problems in adolescence: A longitudinal study. *Journal of Developmental & Behavioral Pediatrics, 39*(8), 629–641. https://doi.org/10.1097/dbp.0000000000000596

Lampert, T., Kroll, L. E., Müters, S., & Stolzenberg, H. (2013). Measurement of socioeconomic status in the German Health Interview and Examination Survey for Adults (DEGS1). *Journal of Health Monitoring, 56*, 631–636. https://doi.org/10.1007/s00103-012-1663-4

Lanctot, J., & Poulin, F. (2018). Emerging adulthood features and adjustment: A person-centered approach. *Emerging Adulthood, 6*(2), 91–103. https://doi.org/10.1177/2167696817706024

Lange, M., Hoffmann, R., Mauz, E., Houben, R., Gößwald, A., Schaffrath Rosario, A., & Kurth, B.-M. (2018). KiGGS wave 2 longitudinal component—data collection design and developments in the numbers of participants in the KiGGS cohort. *Journal of Health Monitoring, 3*, 92–107. https://doi.org/10.17886/RKI-GBE-2018-035

Lubetkin, E. I., Jia, H., Franks, P., & Gold, M. R. (2005). Relationship among sociodemographic factors, clinical conditions, and health-related quality of life: Examining the EQ-5D in the U.S. general population. *Quality of Life Research, 14*, 2187–2196. https://doi.org/10.1007/s11136-005-8028-5

Lucas, R. E. (2007). Adaptation and the Set-Point Model of subjective well-being: Does happiness change after major life events? *Current Directions in Psychological Science, 16*(2), 75–79. https://doi.org/10.1111/j.1467-8721.2007.00479.x

Lucas, R. E., & Clark, A. E. (2006). Do people really adapt to marriage? *Journal of Happiness Studies, 7*(4), 405–426. https://doi.org/10.1007/s10902-006-9001-x

Lucas, R. E., & Diener, E. (2008). Personality and subjective well-being. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research* (3rd ed., pp. 795–814). The Guilford Press.

Luhmann, M., Hofmann, W., Eid, M., & Lucas, R. E. (2012). Subjective well-being and adaptation to life events: A meta-analysis. *Journal of Personality and Social Psychology, 102*(3), 592–615. https://doi.org/10.1037/a0025948

Lykken, D., & Tellegen, A. (1996). Happiness is a stochastic phenomenon. *Psychological Science, 7*(3), 186–189. https://doi.org/10.1111/j.1467-9280.1996.tb00355.x

Mancini, A. D., & Bonanno, G. A. (2009). Predictors and parameters of resilience to loss: Toward an individual differences model. *Journal of Personality, 77*(6), 1805–1832. https://doi.org/10.1111/j.1467-6494.2009.00601.x

Mancini, A. D., Bonanno, G. A., & Clark, A. E. (2011). Stepping off the hedonic treadmill: Individual differences in response to major life events. *Journal of Individual Differences, 32*(3), 144–152. https://doi.org/10.1027/1614-0001/a000047

Masten, A. S. (2018). Resilience theory and research on children and families: Past, present, and promise. *Journal of Family Theory & Review, 10*(1), 12–31. https://doi.org/10.1111/jftr.12255

Mauz, E., Lange, M., Houben, R., Hoffmann, R., Allen, J., Gößwald, A., Hölling, H., Lampert, T., Lange, C., Poethko-Müller, C., Richter, A., Rosario, A. S., Schenck, U., Ziese, T., Kurth, B.-M., KiGGS Cohort Research Team. (2019). Cohort profile: KiGGS cohort longitudinal study on the health of children, adolescents and young adults in Germany. *International Journal of Epidemiology, 49*(2), 375–375k. https://doi.org/10.1093/ije/dyz231

Miočević, M., O'Rourke, H. P., MacKinnon, D. P., & Brown, H. C. (2018). Statistical properties of four effect-size measures for mediation models. *Behavior Research Methods, 50*(1), 285–301. https://doi.org/10.3758/s13428-017-0870-1

Moos, R. H. (1994). *Family environment scale manual: Development, applications, research*. Consulting Psychologists Press.

Moreira, J. F. G., & Telzer, E. H. (2015). Changes in family cohesion and links to depression during the college transition. *Journal of Adolescence, 43*, 72–82. https://doi.org/10.1016/j.adolescence.2015.05.012

Müller, W., Lüttinger, P., König, W., & Karle, W. (1989). Class and education in industrial nations. *International Journal of Sociology, 19*(3), 3–39. https://doi.org/10.1080/15579336.1989.11769981

Nelson, L. J., & Barry, C. M. (2005). Distinguishing features of emerging adulthood: The role of self-classification as an adult. *Journal of Adolescent Research, 20*(2), 242–262. https://doi.org/10.1177/0743558404273074

Nelson, L., Badger, S., & Wu, B. (2004). The influence of culture in emerging adulthood: Perspectives of Chinese college students. *International Journal of Behavioral Development, 28*(1), 26–36. https://doi.org/10.1080/01650250344000244

Nomaguchi, K. M., & Milkie, M. A. (2003). Costs and rewards of children: The effects of becoming a parent on adults' lives. *Journal of Marriage and Family, 65*(2), 356–374. https://doi.org/10.1111/j.1741-3737.2003.00356.x

Oliveira, J. E., Mendonça, M., Coimbra, S., & Fontaine, A. M. (2014). Family support in the transition to adulthood in Portugal—its effects on identity capital development, uncertainty management and psychological well-being. *Journal of Adolescence, 37*(8), 1449–1462. https://doi.org/10.1016/j.adolescence.2014.07.004

Park, C. L., Cohen, L. H., & Murch, R. L. (1996). Assessment and prediction of stress-related growth. *Journal of Personality, 64*(1), 71–105. https://doi.org/10.1111/j.1467-6494.1996.tb00815.x

Penick, N. I., & Jepsen, D. A. (1992). Family functioning and adolescent career development. *The Career Development Quarterly, 40*(3), 208–222. https://doi.org/10.1002/j.2161-0045.1992.tb00327.x

Pocnet, C., Antonietti, J.-P., Strippoli, M.-P.F., Glaus, J., Preisig, M., & Rossier, J. (2016). Individuals' quality of life linked to major life events, perceived social support, and personality traits. *Quality of Life Research, 25*(11), 2897–2908. https://doi.org/10.1007/s11136-016-1296-4

Pomerantz, E. M., Grolnick, W. S., & Price, C. E. (2005). The role of parents in how children approach achievement: A dynamic process perspective. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 229–278). Guilford Publications.

Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers, 36*(4), 717–731. https://doi.org/10.3758/BF03206553

Rabinowitz, J. A., Osigwe, I., Drabick, D. A. G., & Reynolds, M. D. (2016). Negative emotional reactivity moderates the relations between family cohesion and internalizing and externalizing symptoms in adolescence. *Journal of Adolescence, 53*, 116–126. https://doi.org/10.1016/j.adolescence.2016.09.007

Ravens-Sieberer, U., & Bullinger, M. (1998). Assessing health-related quality of life in chronically ill children with the German KINDL: First psychometric and content analytical results. *Quality of Life Research, 7*(5), 399–407. https://doi.org/10.1023/a:1008853819715

Reifman, A., Arnett, J. J., & Colwell, M. J. (2007). Emerging adulthood: Theory, assessment and application. *Journal of Youth Development, 2*(1), 37–48. https://doi.org/10.5195/jyd.2007.359

Reiss, F., Meyrose, A.-K., Otto, C., Lampert, T., Klasen, F., & Ravens-Sieberer, U. (2019). Socioeconomic status, stressful life situations and mental health problems in children and adolescents: Results of the German BELLA cohort-study. *PLoS ONE, 14*(3), e0213700. https://doi.org/10.1371/journal.pone.0213700

Roepke, A. M. (2013). Gains without pains? Growth after positive events. *The Journal of Positive Psychology, 8*(4), 280–291. https://doi.org/10.1080/17439760.2013.791715

Roepke, A. M., & Seligman, M. E. P. (2015). Doors opening: A mechanism for growth after adversity. *The Journal of Positive Psychology, 10*(2), 107–115. https://doi.org/10.1080/17439760.2014.913669

Ross, C. E., & Van Willigen, M. (1997). Education and the subjective quality of life. *Journal of Health and Social Behavior, 38*(3), 275–297.

Rutter, M. (1987). Psychosocial resilience and protective mechanisms. *American Journal of Orthopsychiatry, 57*(3), 316–331. https://doi.org/10.1111/j.1939-0025.1987.tb03541.x

Rutter, M. (1999). Resilience concepts and findings: Implications for family therapy. *Journal of Family Therapy, 21*(2), 119–144. https://doi.org/10.1111/1467-6427.00108

Scharf, M., Mayseless, O., & Kivenson-Baron, I. (2004). Adolescents' attachment representations and developmental tasks in emerging adulthood. *Developmental Psychology, 40*(3), 430–444. https://doi.org/10.1037/0012-1649.40.3.430

Schneewind, K. A. (1988). Die Familienklimaskalen (FKS) [The family climate scales]. In M. Cierpa (Ed.), *Familiendiagnostik* (pp. 232–255). Springer.

Schulenberg, J., Maggs, J. L., & Hurrelmann, K. (1999). *Health risks and developmental transitions during adolescence*. Cambridge University Press.

Schulenberg, J. E., Sameroff, A. J., & Cicchetti, D. (2004). The transition to adulthood as a critical juncture in the course of psychopathology and mental health. *Development and Psychopathology, 16*(4), 799–806. https://doi.org/10.1017/S0954579404040015

Schwartz, S. J. (2016). Turning point for a turning point: Advancing emerging adulthood theory and research. *Emerging Adulthood, 4*(5), 307–317. https://doi.org/10.1177/2167696815624640

Schwartz, S. J., Zamboanga, B. L., Luyckx, K., Meca, A., & Ritchie, R. A. (2013). Identity in emerging adulthood: Reviewing the field and looking forward. *Emerging Adulthood, 1*(2), 96–113. https://doi.org/10.1177/2167696813479781

Schwartz, S. J., Côté, J. E., & Arnett, J. J. (2016). Identity and agency in emerging adulthood. *Youth & Society, 37*(2), 201–229. https://doi.org/10.1177/0044118x05275965

Seiffge-Krenke, I. (2006). Leaving home or still in the nest? Parent-child relationships and psychological health as predictors of different leaving home patterns. *Developmental Psychology, 42*(5), 864–876. https://doi.org/10.1037/0012-1649.42.5.864

Seiffge-Krenke, I. (2009). Leaving-home patterns in emerging adults. *European Psychologist, 14*(3), 238–248. https://doi.org/10.1027/1016-9040.14.3.238

Seiffge-Krenke, I. (2016). Experiencing the transition to adulthood in Germany: Including emerging adults of the "forgotten half." In R. Žukauskienė (Ed.), *Emerging adulthood in a European context* (pp. 79–93). Routledge/Taylor & Francis Group.

Seiffge-Krenke, I., Overbeek, G., & Vermulst, A. (2010). Parent–child relationship trajectories during adolescence: Longitudinal associations with romantic outcomes in emerging adulthood. *Journal of Adolescence, 33*(1), 159–171. https://doi.org/10.1016/j.adolescence.2009.04.001

Stanca, L. (2012). Suffer the little children: Measuring the effects of parenthood on well-being worldwide. *Journal of Economic Behavior & Organization, 81*(3), 742–750. https://doi.org/10.1016/j.jebo.2010.12.019

Steinberg, L. (2001). We know some things: Parent–adolescent relationships in retrospect and prospect. *Journal of Research on Adolescence, 11*(1), 1–19. https://doi.org/10.1111/1532-7795.00001

Tedeschi, R. G., Park, C. L., & Calhoun, L. G. (1998). *Posttraumatic growth: Positive changes in the aftermath of crisis*. Routledge.

Umberson, D., & Karas Montez, J. (2010). Social relationships and health: A flashpoint for health policy. *Journal of Health and Social Behavior, 51*(1_suppl), S54–S66. https://doi.org/10.1177/0022146510383501

von Rueden, U., Gosch, A., Rajmil, L., Bisegger, C., Ravens-Sieberer, U., the European KIDSCREEN group. (2006). Socioeconomic determinants of health related quality of life in childhood and adolescence: Results from a European study. *Journal of Epidemiology and Community Health, 60*(2), 130–135. https://doi.org/10.1136/jech.2005.039792

Wallston, K. A., Wallston, B. S., Smith, S., & Dobbins, C. J. (1987). Perceived control and health. *Current Psychology, 6*(1), 5–25. https://doi.org/10.1007/BF02686633

Ware, J. E., Kosinski, M., Dewey, J. E., & Gandek, B. (2001). *How to score and interpret single-item health status measures: A manual for users of the SF-8 health survey*. QualityMetric Inc.

Withers, M. C. (2020). A Latent Profile Analysis of the parent–adolescent relationship: Assessing both parent and adolescent

outcomes. *Family Process, 59*(1), 244–256. https://doi.org/10.1111/famp.12411

Zarrett, N., & Eccles, J. (2006). The passage to adulthood: Challenges of late adolescence. *New Directions for Youth Development, 111*, 13–28. https://doi.org/10.1002/yd.179