The School of Life:
How Negative Life Events Boost Continued Education

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Abstract

This study explored the relationship between life events and time spent on education, examining the effects of event negativity, time elapsed since the event, and the mediating role of life satisfaction. The study hypothesized that that life events, whether positive or negative, can have a considerable influence on an individual's commitment to continued education. It also proposed that negative life events have a more pronounced impact on the time dedicated to education compared to positive events and tested the assumption that individuals spend more time on education if the event occurred more recently. Furthermore, the study examined the hypothesis that life satisfaction could act as a mediating factor due to its known association with life events. Using multiple linear regression and mediation analysis on a sample of 3,797 participants, the findings indicated that while life events in general had no significant effect on time spent on education, negative life events had a substantial impact. This suggests that individuals may be motivated to pursue further learning and personal development following adversity. The study found no significant effect on time spent on education by time elapsed since the event but did find a significant negative effect by time elapsed since a negative event. No significant evidence was found to prove life satisfaction has a mediating role between life events and time spent on education. Additionally, age and highest completed education level were identified as significant predictors of time spent on education. These insights have implications for both academic research and marketing strategies in the education industry.

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1. Introduction

The online education industry is booming. According to 360iResearch (2023), the global market for open online courses is projected to expand to $109.99 billion by 2030 with a compound annual growth rate of 34%, showing immense potential for managers in the industry that make the right choices today. As timing is proven to be an important factor in marketing (Pink, 2019), this study aimed to uncover more about the importance of timing in relation to education engagement, focusing on the influence of life events in particular.

The role of life events in shaping our personal and professional lives has long been a topic of interest in the scientific community. A wide range of research demonstrates that life events can induce changes in various aspects of human behavior, such as self-appraisal (Wilson and Ross, 2001), personality, life satisfaction (Denissen et al., 2019), job satisfaction (Bakker et al., 2019), motivation (Dai, Milkman, & Riis, 2013), and consumption patterns (Koschate-Fischer, 2017). Building on this foundation, the present study explored the potential influence of life events on education engagement. In particular, it examined to what degree life satisfaction, event negativity, and event proximity act as mediating or moderating factors in this relationship.

Based on the aforementioned theories, the study hypothesized that life events, whether positive or negative, can have a considerable influence on an individual's commitment to continued education. It also proposed that negative life events have a more pronounced impact on the time dedicated to education compared to positive events and tested the assumption that individuals spend more time on education if the event occurred more recently. Furthermore, the study examined the hypothesis that life satisfaction could act as a mediating factor due to its known association with life events.

This research found that while life events generally do not significantly influence time spent on education, negative life events do have a considerable impact. People tend to spend more time on continued education after experiencing a negative life event, which points to education being used as a coping strategy. However, it did not find strong evidence that elapsed time since life events influences overall time spent on education, except for negative life events where the time spent on education decreases over time. Life satisfaction was not found to be a significant mediator in the relationship between life events and time spent on education. The study also revealed that age and highest completed education level are significant predictors of

time devoted to education, with younger individuals and those with higher education levels spending more time on continued education.

These findings emphasize the importance of timing in relation to negative life events and their impact on education pursuits, aligning with prior research on the Fresh Start Effect (Dai, Milkman, & Riis, 2013). This is important for (marketing) managers in the education industry as insights in the effects of negative life events can help them understand when individuals are most open for educational endeavors and find the optimal timing to engage with them. Managers outside the education industry can also gain valuable insights from this study, as its findings are applicable within organizations as well. By recognizing the impact of negative life events on the desire for ongoing education, managers can better comprehend their employees' needs and provide customized support through educational opportunities at the appropriate moments.

2. Theory

2.1. Literature review

The growing demand for continued education highlights the need to understand the various motivations and factors that influence individuals' participation in educational pursuits. A critical element in this context is the role of life events and their diverse consequences on individuals' personal and professional lives. This literature review aims to examine the intricate relationships between life events, personality traits, life satisfaction, motivation, and temporal landmarks, in order to uncover the power of life events on the time spent on education.

2.1.1. Continued Education

The demand for continued education is in a strong uptrend, as made clear by the current size of the online education industry. 360iResearch (2023) estimated the global Massive Open Online Course (MOOC) market at $10.87 billion in 2022 and projects it to expand further to $109.99 billion by 2030 with a compound annual growth rate of 34%, indicating that demand for continued education is growing quickly.

Research by Kizilcec and Schneider (2015) shows that people have various motivations for participating in these online courses. The primary driving force for almost 9 out of 10 learners (89%) is their general interest in the topic, closely followed by a desire for personal growth and enrichment (86%). A significant portion, two thirds (66%), are motivated by the expectation of having a fun and challenging experience. Relevance to their current job motivates more than half of the learners (56%), while aspirations to change careers inspire more than a third (36%). Just under half (45%) of learners in a typical course indicate an intention to earn a certificate.

Interestingly, a different study on online courses by Zhang et al. (2019), that asked learners the importance of various motivations, suggests that people are mostly extrinsically motivated to enroll in an online course. Respondents scored 'Friends' as their most important enrollment factor, reporting this approximately as twice as important as their personal interest or their new/current job.

These diverse motivations behind course participation are valuable insights for marketers, enabling them to craft communication strategies well. However, according to Pink (2019), a crucial aspect in marketing is the use of the right timing, which may occur during significant life events or specific temporal landmarks.

2.1.2. Life events

Life events influence various aspects of our lives, including personality traits, life satisfaction, and consumption patterns. In this review, I explored the complex connections between life events and their diverse consequences to reveal the transformative power they hold over our personal and professional lives.

Denissen et al. (2019) examined the relationship between life events and personality traits, finding that personality traits changed due to the occurrence of life events. Out of multiple personality traits, the most significant changes were found in emotional stability, which mostly changed in an anticipatory way. Interestingly, the study found that the occurrence of certain life events differed based on preexisting personality trait levels, indicating that personality traits can also be the precursor of these life events.

Changes in personality traits at or around life events could be explained by Social Investment Theory (SIT), which proposes that people both behaviorally and psychologically invest in new social roles that demand mature functioning, such as being a working professional, a parent, or a romantic partner (Roberts et al., 2005).

Exposure to traumatic life events has been linked to a number of detrimental effects on both physical and mental health, including depression and anxiety (Kessler et al., 1997), chronic physical health problems (Krause, Shaw, & Cairney, 2004), job stress and burnout (Mather, Blom, & Svedberg, 2014).

Research by Denissen et al. (2019) also shows that there is a strong connection between life events and life satisfaction. Life events do not only produce lasting mean-level satisfaction changes, but also great short-term shifts both in anticipation of life events and right after. For example, life satisfaction tends to increase before gain-based events (like childbirth) and decrease before negative events (like unemployment). The effect on satisfaction often starts reversing right after the life event, showing that the effect is mostly transitory.

Bakker et al. (2019) found that loss-based life events negatively correlate with both work engagement and performance. Interestingly, they came to the conclusion that psychological detachment, (reduced) rumination and work role centrality play a crucial role in moderating this relationship between life events and work engagement, helping individuals cope with the effects of life events on their work lives.

Georgellis et al. (2012) found that positive life events (first marriage and childbirth), neither are indicative of job satisfaction. While the outcomes of the first marriage varied,

individuals experienced a decline in their overall job satisfaction after having their first child, with the effect lasting for up to five years.

Research by Koschate-Fischer (2017) also shows that life events have the power to alter the purchasing patterns of consumers. This relationship between life events and consumer behavior is proven to be mediated by three significant variables, namely consumer innovativeness, variety-seeking tendency, and price consciousness. The effect was strongest for first-time (versus repeated) life events.

The multitude of personal changes resulting from life events can impact the time individuals dedicate to education in various ways. First, life events can lead to alterations in personality traits (Denissen et al., 2019), potentially increasing an individual's motivation to pursue education as a means to cope with decreased emotional stability or diminished life satisfaction. Second, Social Investment Theory (SIT) posits that people invest in new social roles necessitating mature functioning (Roberts et al., 2005). As individuals adapt to these roles, they may devote more time to developing skills and knowledge associated with their new responsibilities, consequently affecting their educational engagement. Third, research has demonstrated that life events can influence both job satisfaction and work engagement (Bakker et al., 2019), suggesting that such events may prompt individuals to seek education as a means to enhance their career prospects. Finally, previous studies indicate that life events can significantly affect consumption patterns (Koschate-Fischer, 2017), which could imply that individuals may also be more open to investing in educational programs during these times.

2.1.3. Temporal landmarks

There are certain moments in a person's life that stand out in time. These moments are better known as temporal landmarks and have been proven to structure people's perception and use of time (Dai & Li, 2019). Growing literature suggests that these moments can play an important role in identity as well as personal motivation, which says a lot about the possible effects of life events.

According to Shum (1998), the three main types of temporal landmarks are public events (like a national election), personal life events (like moving to a new apartment) and reference points in calendars (like January 1st). Importantly, temporal landmark can psychologically disconnect one's past, current and future selves—leading people to perceive a contrast between their disconnected selves. This facilitates a tendency to view one's past self as inferior and one's current self as superior (Wilson and Ross, 2001).

Research by Peetz and Wilson (2013) shows that an important influencer of self-appraisal is the salience of these temporal landmarks. They found that when a temporal landmark was made visible between now and the future, people would appraise their future self significantly more positive. This means that salient temporal landmarks have the power to widen the gap between the appraised current and future self, which can in turn increase motivation for positive change.

According to 'The Fresh Start Effect' (Dai, Milkman, & Riis, 2013), temporal landmarks can significantly influence one's motivation to engage in aspirational behavior, such as setting goals, searching for diets online, and visiting the gym more frequently. The research suggests that temporal landmarks do not only mark the passage of time, but also create new mental accounting periods, encouraging people to take a broader perspective of their lives and strive towards their aspirations.

In conclusion, temporal landmarks are connected to life events and educational experiences in various ways. Wilson and Ross (2011) found that these landmarks lead individuals to perceive their past selves as lesser than their present selves, which can have numerous consequences. The Fresh Start Effect (Dai, Milkman, & Riis, 2013) demonstrates that temporal landmarks can inspire individuals to adopt a wider perspective of their lives and pursue their aspirations. This, in turn, significantly impacts their motivation to engage in aspirational activities, potentially including education. Additionally, Peetz and Wilson (2013) showed the importance of the salience of temporal landmarks, which may show that life events that are more noticeable could have an even stronger effect on people.

2.2. Conceptual framework and hypothesis development

There is a strong rising demand for online continued education (360iResearch, 2023), which is partly driven by learners' internal motivations (Kizilcec and Schneider, 2015) and social factors (Zhang et al., 2019). Although these motivations may be useful in offering and marketing (online) courses, the right timing could play an even more important role (Pink, 2019).

A broad research base has shown that life events can be quite crucial when it comes to timing, as life events can lead to changes in self-appraisal (Wilson and Ross, 2001), personality, life satisfaction (Denissen et al., 2019), job satisfaction (Bakker et al., 2019), motivation (Dai, Milkman, & Riis, 2013), and consumption (Koschate-Fischer, 2017). These changes differ greatly between different kinds of life events and could be partially explained by the Social Investment Theory (Roberts et al., 2005).

As life events can lead to this multitude of personal changes, I was inclined to believe that life events would also impact an individual's time allocation for education. This was based on the assumptions that spending more time on education is a good way to cope with changes in life satisfaction and emotional stability, that continued education can be used to enhance job satisfaction, that changes in consumption patterns may lead to more educational pursuits, and that education can be a good tool to prepare for new social roles.

Based on the aforementioned assumptions, the main goal of this study was to look for a relationship between the occurrence of life events (X) and the time spent on education (Y).

Prior research has shed light on the difference between positive and negative life events (Denissen et al., 2019; Bakker et al, 2019; Georgellis et al., 2012). Because of this, this study tested the assumption that negative life events lead to more time spent on self-study in comparison to positive life events.

Researchers have shown that the effects of (life) events are strongest right before/after the event (Denissen et al. (2019) and when events are most salient (Peetz and Wilson, 2013). It is because of this, that I believed that time spent on self-study would be highest right after the life event. This belief was examined by testing the moderating effect of time in relationship to life events and time spent on education.

Among the effects discussed, life satisfaction appeared to be an important factor that is significantly influenced by life events (Denissen et al., 2019). Considering this finding, it was likely that life satisfaction may also play a relevant role in an individual's engagement in self-

study activities. For this reason, the current study tested the mediating effect of life satisfaction between life events and education.

Drawing from the aforementioned theories, I proposed the following hypotheses:

**H1:** Life events (X) have a positive effect on time spent on education (Y)

H2: The effect of life events on time spent on education is stronger for negative events

H3: The effect of life events on time spent on education decreases as time elapses

H4: The effect of life events on time spent on education is mediated by life satisfaction

Figure 1: Visual Conceptual Model of the Hypotheses
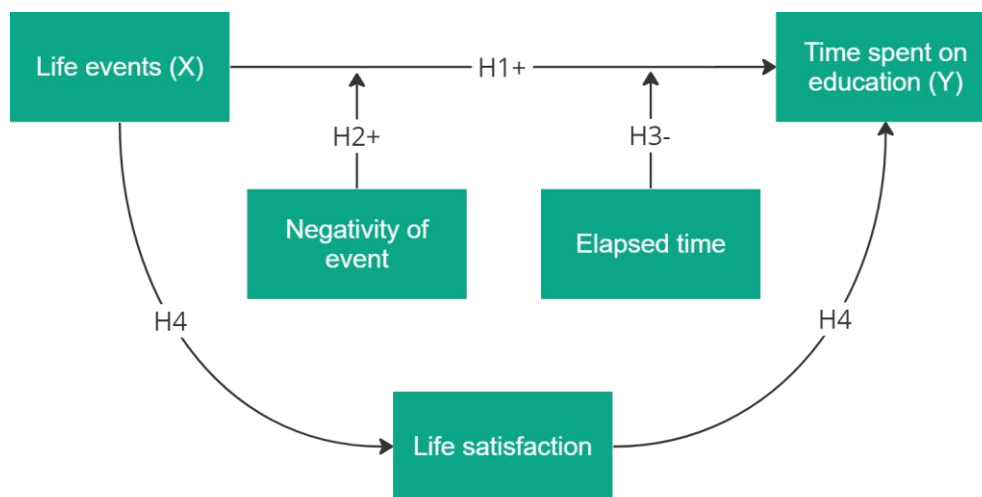
3. Method

3.1. Participants

All data for this research was obtained from the Longitudinal Internet Studies for the Social sciences (LISS) panel, an ongoing study panel that has been tracking a representative sample of the Dutch population since 2008. Of all panel members, those who were above the age of 18, were not going to school and filled in the April 2020 assessment on (continued) education were suitable for this study. 4214 respondents matched these prerequisites.

3.2. Procedure

A yearly survey on time use and consumption (Von Gaudecker, 2020) asked LISS panel members how many hours they spent on (continued) education in the last seven days, showing us how much time was spent on self-study by each respondent. Panel members also participated in monthly surveys detailing their demographic status (Elshout, 2020), which enabled pinpointing the timing of life events. Additionally, a longitudinal study (Marchand, 2020) focused on personality required respondents to report their life satisfaction on an annual basis. As both the time use and life satisfaction study held a survey in the second quarter of 2020, this wave of the studies was included.

3.3. Measures

Life event. Life events are demographic transitions that have been derived from monthly surveys (Elshout, 2020) completed by LISS-panelists. Life events covered in this study include Paid Employment Transition, Marriage Transition, Parent Transition, Unemployment Transition, Disability Transition, Divorce Transition and Widowhood Transition. The date of the first occurrence of relevant demographics was pinpointed for every respondent to register all life events. The *life event* variable is a dummy variable which is 1 if a life event was registered within the 365 days prior to the time use survey and 0 otherwise.

Education. The dependent variable, computed as *education,* is the number of minutes that were spent on (continued) education. This variable was derived from questions about the number of hours and minutes that were spent on education, over the last seven days prior to the survey, in a multi-year study on time use and consumption (Von Gaudecker, 2020). Due to the high skewness and kurtosis (as shown in table 5.1), the distribution of the *education* variable was normalized via the following logarithmic transformation: LN(education + 1).

Life satisfaction. *Life satisfaction* was assessed in the LISS personality study (Marchand, 2020) using five Likert-scale questions about life satisfaction. These five items originate from the Diener Satisfaction with Life Scale, developed by Diener, Emmons, Larsen, & Griffin (1985). A sum of the responses to the questions provided a *life satisfaction* score between 5 and 35 for every participant, which formed this continuous mediating variable.

Event negativity. The aforementioned life events were grouped into two groups: positive and negative life events. *Event negativity* is a moderating dummy variable which is equal to 1 if the most recent registered life event in the last 365 days was either Unemployment Transition, Disability Transition, Divorce Transition or Widowhood Transition.

Elapsed time. *Elapsed time* is the number of days since the most recent life event within the last year was registered and served as a moderating continuous variable.

3.3.1. Control variables

Age. As people get older, they gradually go through more life events. To rule out that the effects of life events on education engagement are not just due to people getting older, *age* was used as a continuous control variable. The respondent's ages were approximated by subtracting their birthyear (Elshout, 2020) from the year the year of response. The age distribution is shown in Appendix 3.1.

Highest finished education. Previous education may serve as a strong indicator of an individual's inclination towards pursuing further education in the future. Consequently, the highest level of completed education (Elshout, 2020) was incorporated as a control variable in the analysis. Observed education levels include *primary school, vmbo* (pre-vocational education), *havo/vwo* (senior general secondary education/university preparatory education), *mbo* (secondary vocational education), *hbo* (higher vocational education), *wo* (scientific/academic education), *other and none*, of which *other* and *none* were left out due to their small sample size (as shown in Appendix 3.2). To effectively compare the remaining education levels, they were transformed into dummy variables, with the most common level, *hbo*, being omitted and used as the reference category.

3.4. Statistical analysis

In order to exclusively focus on data related to continued education by adults, the monthly demographic data was utilized to perform two crucial filtering steps. First, data was excluded from respondents who were studying as their primary occupation at the time of the survey, ensuring that full-time students were excluded. Secondly, data was removed from respondents who were younger than 18 years old when they completed the survey, leaving only non-studying adults in the dataset. Of these 4214 participants, a random 10% were used for a hold-out sample, leaving 3797 cases to analyze.

In the analysis that was conducted in SPSS v26 (IBM, 2019), the continuous dependent variable, *education* was examined in relation to the independent dummy variable *life event*, with *event negativity* as a dummy moderator, *time* as a continuous moderator, and *life satisfaction* as a continuous mediator. Additionally, control variables, including *age* (continuous) and highest level of education completed (dummy variables) were taken into consideration.

To analyze the data, multiple regression analysis was employed, as it allowed for the simultaneous examination of the effects of multiple predictor variables on the continuous outcome variable *education*. The regression model incorporated interaction terms to account for the moderation effects of *event negativity* and *time*. Furthermore, a PROCESS mediation analysis (Hayes, 2009) was conducted to explore the indirect effects of life events on education engagement through the mediator *life satisfaction*.

4. Results

4.1. Descriptive statistics

The descriptive statistics for the continuous variables (table 4.1) of the study, including mean (M), standard deviation (SD); Skewness and kurtosis of the variables were also measured. The values for education (minutes) ($M = 101.730$ $SD = 349.275$, Skewness = 6.523, Kurtosis = 64.278), for education (log) ($M = 1.098$, $SD = 2.308$, Skewness = 1.720, Kurtosis = 1.185), for age ($M = 56.720$, $SD = 16.328$, Skewness = -0.297, Kurtosis = -0.823), for life satisfaction ($M = 25.630$, $SD = 5.560$, Skewness = -0.947, Kurtosis = 0.829), for days since event ($M = 169.960$, $SD = 112.309$, Skewness = -0.058, Kurtosis = -1.487). By using logarithmic transformation 'LN(education + 1)' to compute variable education (log), the values of the skewness and kurtosis are lying within the range of (-2 to +2) for all continuous variables used in this study, which confirms the normality of the data for regression.

Table 4.1: Descriptive Statistics of Continuous Variables

Descriptive Statistics

	M	SD	Skewness	Kurtosis
Education (minutes)	101.730	349.275	6.523	64.278
Education (log)	1.098	2.308	1.720	1.185
Age (years)	56.720	16.328	-0.297	-0.823
Life satisfaction	25.630	5.560	-0.947	0.829
Elapsed time (days)	169.960	112.309	-0.058	-1.487

The descriptive statistics for the dummy variables (table 4.2) of the study, including the number of cases (n) and their respective percentage (%). For primary school as highest finished education (n = 102, 2.7%), vmbo as highest finished education (n = 773, 20.4%), havo/vwo as highest finished education (n = 323, 8.5%), mbo as highest finished education (n = 938, 24.7%), hbo as highest finished education (n = 1045, 27.5%), wo as highest finished education (n = 499, 13.1%), for life event within the previous 365 days (N = 195, 5.1%), for negative life event in the previous 365 days (N = 59, 1.6%).

Table 4.2: Descriptive Statistics of Dummy Variables

Descriptive Statistics

	n	%
Primary school	102	2.7
vmbo	773	20.4
havo/vwo	323	8.5
mbo	938	24.7
hbo	1045	27.5
wo	499	13.1
Life event	195	5.1
Event negativity	59	1.6

4.2. Testing of Direct and Moderating Hypotheses

Using multiple linear regression and mediation analysis, the effects of the variables relevant to the direct hypotheses were tested. The results of the multiple linear regression models are shown in table 4.3, individual coefficients and standardized values are shown in appendix table 4.4.

Table 4.3: Results of Regression Analysis for Education

	Education[a]			
Predictors	***B***	***R²***	***ΔR²***	***F***
Model 1				
Control variables[b]		0.061		40.803***
Model 2				
Life event	0.066	0.061	0.000	34.989***
Model 3				
Event negativity	0.788*	0.062	0.001	31.281***
Model 4				
Control variables[b]		0.046		1.506
Model 5				
Elapsed time	-0.002	0.056	0.010	1.577
Model 6				
Control variables[b]		0.182		1.932
Model 7				
Elapsed time since negative event	-0.008*	0.261	0.079	2.572*

[a]n = 3797, [b]Control Variables (Age, primary school, vmbo, havo/vwo, mbo, wo)

***p < 0.001, *p < 0.05

Regression Analysis Models – Coefficients

Coefficients[a]

Model		B	SE	β	t	p
1	(Constant)	2,739	0.146		18.757	0.000
	Age	-0.025	0.002	-0.176	-10.696	0.000
	Primary school	-0.345	0.233	-0.024	-1.482	0.138
	vmbo	-0.582	0.105	-0.101	-5,513	0.000
	havo/vwo	0.091	0.141	0.011	0.647	0.517
	mbo	-0.601	0.098	-0.112	-6.103	0.000
	wo	0.287	0.121	0.042	2.379	0.017
2	(Constant)	2.725	0.150		18.112	0.000
	Age	-0.025	0.002	-0.175	-1.398	0.000
	Primary school	-0.345	0.233	-0.024	-1.481	0.139
	vmbo	-0.582	0.106	-0.101	-5.512	0.000
	havo/vwo	0.090	0.141	0.011	0.642	0.521
	mbo	-0.599	0.098	-0.112	-6.088	0.000
	wo	0.287	0.121	0.042	2.376	0.018
	Life event	0.066	0.168	0.006	0.394	0.694
3	(Constant)	2.743	0.151		18.218	0.000
	Age	-0.025	0.002	-0.177	-10.530	0.000
	Primary school	-0.342	0.233	-0.024	-1.471	0.141
	vmbo	-0.583	0.105	-0.102	-5.525	0.000
	havo/vwo	0.093	0.141	0.011	0.662	0.508
	mbo	-0.597	0.098	-0.112	-6.069	0.000
	wo	0.295	0.121	0.043	2.448	0.014
	Life event	-0.178	0.200	-0.017	-0.889	0.374
	Event negativity	0.788	0.350	0.042	2.250	0.025
4	(Constant)	2.444	0.630		3.878	0.000
	Age	-0.013	0.012	-0.077	-1.038	0.301
	Primary school	-1.691	1.907	-0.064	-0.887	0.376
	vmbo	-0.662	0.617	-0.085	-1.073	0.285
	havo/vwo	0.389	0.664	0.045	0.586	0.558
	mbo	-1.056	0.523	-0.163	-2.018	0.045
	wo	0.005	0.547	0.001	0.009	0.993
5	(Constant)	2.810	0.681		4.127	0.000
	Age	-0.013	0.012	-0.075	-1.007	0.315
	Primary school	-1.647	1.902	-0.062	-0.866	0.388
	vmbo	-0.623	0.616	-0.080	-1.012	0.313
	havo/vwo	0.564	0.674	0.066	0.837	0.404
	mbo	-1.050	0.522	-0.162	-2.012	0.046
	wo	0.003	0.546	0.000	0.005	0.996
	Days since event	-0.002	0.002	-0.102	-1.400	0.163
6	(Constant)	3,473	1,620		2,144	0,037
	age	-0,020	0,029	-0,093	-0,674	0,503
	primary school	-2,998	2,975	-0,133	-1,007	0,318
	vmbo	-1,859	0,984	-0,265	-1,890	0,064
	havo/vwo	0,415	1,302	0,043	0,319	0,751
	mbo	-1,774	1,037	-0,237	-1,711	0,093
	wo	1,574	1,337	0,164	1,177	0,245
7	(Constant)	4,123	1,580		2,610	0,012
	age	-0,017	0,028	-0,078	-0,586	0,561
	primary school	-3,390	2,861	-0,150	-1,185	0,242
	vmbo	-1,456	0,960	-0,207	-1,517	0,136
	havo/vwo	1,207	1,295	0,125	0,932	0,356
	mbo	-1,410	1,008	-0,189	-1,399	0,168
	wo	1,351	1,287	0,140	1,049	0,299
	days since negative event	-0,008	0,003	-0,300	-2,329	0,024

[a]DV = Education

4.2.1. Hypothesis 1

For the first hypothesis, the association between life events and time dedicated to education was explored. The hypothesis proposed that the occurrence of a life event in the last 365 days would positively influence the amount of time spent on education. The results from the regression (model 2) suggest that life events explained 0.0% of the variance in education ($\Delta R^2 = 0.000$, $F = 34.989$, $p < 0.001$). *Life events* demonstrated a positive, but small and insignificant effect on time spent on *education* ($B = .066$, $SE = 0.168$, $\beta = 0.006$, $p = 0.694$). As no significant effect was found, hypothesis 1 was not supported.

4.2.2. Hypothesis 2

For the second hypothesis, the moderating role of event negativity in the relationship between life events and education was examined. The hypothesis proposed that if a life event that occurred in the last 365 days was negative (versus positive), more time was spent on education. The results from the regression (model 3) suggest that event negativity explained 0.1% of the variance in education ($\Delta R^2 = 0.001$, $F = 34.989$, $p < 0.001$). *Event negativity* demonstrated a significant, positive effect on *education* ($B = 0.788$, $SE = .350$, $\beta = 0.042$, $p < 0.05$), which is quite substantial. Based on these findings, the hypothesis was confirmed.

4.2.3. Hypothesis 3

For the third hypothesis, the moderating role of time in the relationship between life events and education was examined. The hypothesis posited that as more days elapsed since a life event (within the past 365 days), individuals would devote less time to education. The results from the regression (model 5) were insignificant and suggested that days since event explained 1% of the variance in education ($\Delta R^2 = 0.01$, $F = 1.557$, $p = 0.144$). *Elapsed time* (days) demonstrated a fairly large, negative effect on *education* ($B = -0.002$, $SE = 0.002$, $\beta = -0.102$, $p = 0.163$). While the negative direction and magnitude of the effect align with the hypothesis, the insignificance of the effect means that hypothesis 3 was not supported.

4.3. Testing of Indirect Hypothesis

The indirect hypothesis of the study was tested using the PROCESS bootstrapping method suggested by Hayes (2009). The results in table 4.5 show the total, direct, and indirect effect of life events on education through life satisfaction.

Table 4.5: Regression Analysis Models – Coefficients

	B	*SE*	*t*	*p*	LLCI	ULCI
Total effect of X on Y	.1221	.1715	.7122	.4764	-.2141	.4584
Direct effect of X on Y	.1168	.1715	.6813	.4958	-.2194	.4531
	B			*BootSE*	LLCI	ULCI
Indirect effect of X on Y	.0053			.0063	-.0045	.0200

4.3.1. Hypothesis 4

For the fourth hypothesis, the mediating role of life satisfaction was explored. The hypothesis proposed that the increased amount of time spent on education due to the occurrence of a life event in the last 365 days is (partly) mediated by the change in life satisfaction score. The estimates show that there's no significant total effect ($p = 0.4764$) and no significant direct effect ($p = 0.4958$) of life events on education. The estimates also indicate that the indirect effect of life events on education through *life satisfaction* is not significant ($B = 0.0053$, 95% CI [-0.0045 - 0.0200]. This concludes that hypothesis 4 was not supported.

4.4. Additional Results

4.4.1. Elapsed Time Since Negative Event

In addition to the tested hypotheses, the role of elapsed time since a negative event in relation to time spent education was examined. As the time since a life event (within the past 365 days) in showed a large but insignificant effect, I tested if there would be a significant effect by elapsed time in the case of negative events. The results from the regression (model 7, found in table 4.3 and 4.4) were significant and suggested that the days since negative event explained 7.9% of the variance in education ($\Delta R^2 = 0.079$, $F = 2.572$, $p < 0.05$). *Elapsed time since negative event* (days) demonstrated a large, negative effect on *education* ($B = -0.008$, $SE = 0.003$, $\beta = -0.3$, $p < 0.05$). This strong negative relationship proves that people spend most time on education right after a negative life event has happened.

4.4.2 Control Variables

In the results from the linear regression models (found in table 4.4), multiple control variables demonstrated significant effects on time spent on education, showing that both age and highest finished education are important factors for predicting time spent on education.

Age showed a significant and quite strong negative effect on education ($B = -0.025$, $SE = 0.002$, $\beta = -0.177$, $p < 0.001$), which indicates a generational effect and/or shows that people tend to spend less time on education as they get older.

Highest finished education was also proven to be a strong predictor for time dedicated to continued education, as *vmbo* ($B = -0.583$, $SE = 0.105$, $\beta = -0.102$, $p < 0.001$) and *mbo* ($B = -0.597$, $SE = 0.098$, $\beta = -0.112$, $p < 0.001$) were both significantly linked to quite less time spent on education than reference variable *hbo*. The significant and positive increase in time spent on education for *wo* ($B = -0.583$, $SE = 0.105$, $\beta = -0.102$, $p < 0.05$) also supports this precedent.

5. General Discussion

5.1. Conclusions

This research demonstrated that, although life events in general do not significantly influence time spent on education, negative life events do have a significant effect. This indicates that people tend to spend more time on continued education if they experienced a negative life event in the previous year, whereas life events in general have no impact. These findings support the notion that individuals might turn to education as a coping strategy to counteract adverse effects following a negative life event, such as the negative effects on life satisfaction (Denissen et al., 2019) and work engagement (Bakker et al., 2019). The study also builds upon the Social Investment Theory (Roberts et al., 2005) by showing that people tend to pursue education after adverse events that may require new roles.

Although the study did not find strong evidence to support the idea that elapsed time since life events influences time spent on education overall, it did reveal a significant relationship in the case of negative life events. Specifically, as more time passes after a negative life event, individuals tend to spend less time on education. This pattern suggests that people are most likely to focus on education immediately following a negative event, which is consistent with the findings on event proximity by Denissen et al. (2019) and complements the research by Peetz and Wilson (2013) that emphasized the importance of event salience.

While life satisfaction has a known relation to life events, this study has not found significant evidence to prove its mediating role in the relationship between life events and time spent on education. Thus, life satisfaction does not explain the increased time spent on education due to life events.

Additionally, the study demonstrated that both age and highest completed education level are significant predictors of the amount of time an individual devotes to education. A stronger effect was observed for age, with younger individuals generally spending more time on continuing education. The level of education also showed significant effects; individuals with lower levels of education tended to spend less time on subsequent education, while those with higher levels of education spent considerably more time.

Overall, the effects of negative life events and their timing found in this study reiterate the importance of timing, as stated earlier by Pink (2019). They also imply that people strive more towards their aspirations after a negative life event, which builds upon prior research on The Fresh Start Effect (Dai, Milkman, & Riis, 2013).

5.2. Managerial Implications

The study's findings suggest that negative life events may lead individuals to engage more in education, indicating a unique motivational factor driving their pursuit of further learning and personal development following adversity. It also shows that younger individuals, and those with higher levels of education, are more likely to engage in subsequent learning. These insights contribute to our understanding of the complex interplay between life events, motivation, timing, and demographic factors in shaping educational engagement, which is both relevant for marketing managers and managers looking to

The findings of this study mainly carry significant implications for marketing managers in the (online) education industry. Understanding that negative life events can serve as a strong motivator for individuals to seek further education allows marketing managers to tailor their campaigns and messaging to better resonate with potential students who have experienced such events. By empathizing with their challenges and emphasizing the transformative power of education, marketing managers can effectively communicate the value of their offerings to this audience segment. Using the gathered insights on the importance of timing, marketers can take one step further by reaching potential students at the best possible time, which is right after a negative life event.

Additionally, taking into account the influence of age and highest completed education level on time spent in education, marketing managers can identify target groups that may be more easily converted. Focusing on younger individuals and those with higher levels of education may yield higher conversion rates, as these segments tend to invest more time in continuing education. Marketing messages could emphasize the benefits of ongoing learning and skill development, illustrating how their programs can help these individuals achieve their personal and professional goals.

By leveraging these insights and adapting their marketing strategies accordingly, marketing managers in the education industry can better tailor communication to potential students and improve overall enrollment rates, ultimately contributing to the success of their institutions and organizations.

Managers and policymakers outside the marketing department can also benefit from recognizing that negative life events may lead to increased desire for education. Using this knowledge, organizations could provide employees with resources and opportunities for learning and development during these periods, helping employees channel their energy productively and navigate challenging circumstances.

5.3. Limitations & Further Research

Despite the valuable insights gained, the study is not without limitations. The reliance on self-reported data may introduce biases, such as recall bias, which could affect the accuracy of the results. Additionally, the dependent variable is based on the amount of time a respondent spent on education in the week prior to the survey, making it more prone to outliers when compared to longitudinal data. Lastly, only 59 of the respondents reported a negative life event in the year prior to the survey, which undermines the statistical power and generalizability of the findings.

Future research could address these limitations by employing longitudinal study designs, using a larger sample size, implementing more objective measures for time spent on education, and considering additional variables that may influence the relationship between life events and time spent on education. By addressing these limitations, future studies can enhance our understanding of the complex interplay between life events and ongoing education.

To gain an even better understanding of the role of life events in educational pursuit, it may also be interesting to examine the effects of specific types of events, which could vary considerably. Additionally, it may be worthwhile to study the amount of time people spend on education leading up to life events, uncovering any anticipatory effects not addressed in this study. Lastly, future research could explore the importance of salience in relation to this topic by testing whether people are more interested in education when they are made aware (vs. not aware) of recent or upcoming life events.

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7. Appendix

3.1: Age distribution

	Frequency	Percent
18-35 years old	547	14.4
36-50 years old	751	19.8
51-65 years old	1148	30.2
66-80 years old	1178	31.0
81+ years old	173	4.6
Total	3797	100

3.2: Highest finished education

	Frequency	Percent
Primary school	102	2,7
vmbo	773	20,4
havo/vwo	323	8,5
mbo	938	24,7
hbo	1045	27,5
wo	499	13,1
Other	78	2,1
None	39	1,0
Total	3797	100,0

3.3: Primary occupation

	Frequency	Percent
Paid employment	1710	45.0
Family Business	29	0,8
Autonomous professional	200	5,3
Job seeker following job loss	80	2,1
First-time job seeker	14	0,4
Exempted from job seeking following job loss	16	0,4
Takes care of the housekeeping	337	8,9
Is pensioner	1109	29,2
Has (partial) work disability	165	4,3
Performs unpaid work while retaining unemployment benefit	9	0,2
Performs voluntary work	88	2,3
Does something else	40	1,1
Total	3797	100,0