

The Phenomenological Characteristics of Positive and Negative Autobiographical Memories in a Lebanese Adult Population Using Validated Tools

Mohammad H. Abbas

Lebanese University, Faculty of Medical Sciences

Houssein Chahrour

University College Cork, School of Medicine

Sirine El Daouk

Department of Neuropsychology, NRC, Faculty of Medical Sciences, Lebanese University

Joseph Akiki

josephakiki24@gmail.com

Saint Joseph University, Faculty of Medicine

Wassim Hamadeh

Lebanese University, Faculty of Medical Sciences

Research Article

Keywords:

Posted Date: June 15th, 2026

DOI: <https://doi.org/10.21203/rs.3.rs-10009454/v1>

License:   This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Additional Declarations: No competing interests reported.

Abstract

Background

Memory is a fundamental cognitive process, shaping personality and daily functioning. This study reviews the phenomenological properties of positive and negative autobiographical memory in a sample of Lebanese adults who experienced political instabilities, civil wars, and economic disasters.

Aim

To investigate the phenomenological properties of positive and negative memories and discuss the effect of age on memory recovery and emotional reactions of individuals exposed to pro-longed adversities.

Methods

A cross-sectional study was conducted in Lebanon over a one-month period. Data from 469 participants aged 18–56 were analyzed; all had completed the Phenomenological Questionnaire on Autobiographical Memories (CCFRA/PQAM31). Statistical analyses were performed using IBM Statistical Package for the Social Sciences, with paired t-tests and Chi-square tests applied to determine significance.

Results

The participants had a mean age of 25 years, and 71.2% were female. Positive memories were associated with higher levels of sensory detail and emotional intensity compared to negative memories. Younger participants had difficulty recalling high-arousal negative memories with clarity, whereas older participants were able to retrieve negative memories more clearly and with less fragmentation.

Conclusion

This study highlights that positive autobiographical memories are richer and more emotionally intense than negative ones, with differences in clarity and accessibility across age groups.

I. Introduction

Memory, derived from the Latin “Memoria”, refers to the capacity to encode, store, and retrieve information. Over time, efforts to categorize memory have considered its content, temporal dimensions, and the neuroanatomical and neurophysiological pathways involved (Binder & Desai, 2011; Meneses, 2015; van Strien et al., 2009). Within this broad concept, Autobiographical Memory (AM), denotes

memory for events and facts from one's own life (Atkinson & Shiffrin, 1968; Gazzaniga, 1991; Graf & Schacter, 1985; Rubin, 2006). It is defined as a highly self-relevant, temporally organized form of episodic–semantic memory that is reconstructed at retrieval rather than replayed verbatim. By linking past experiences to present goals and future plans, AM provides continuity across time while supporting learning and decision making (Rubin, 2006). The phenomenology of AM varies in terms of emotional intensity, vividness, sensory detail, chronological coherence, and visual perspective (Conway & Pleydell-Pearce, 2000; Rubin, 2006). More importantly, core functions in everyday life are supported by AM, notably keeping a coherent sense of identity, guiding future behavior, and enabling social bonding (Bluck & Alea, 2002; Conway, 2018; Klug et al., 2025; Siedlecki et al., 2015). Additionally, AM also takes part in emotional processing and regulation: positive memories are often used to enhance mood and well-being, while negative memories may prompt reappraisal, distancing, or avoidance depending on contextual demands and individual differences (Bluck & Alea, 2002; Rubin, 2006; Schaefer & Philippot, 2005). Lebanon, a country with repeated exposure to war-related stressors and prolonged political and socio-economic instability, represents a setting of cumulative adversity. Evidence highlights substantial psychological burden in the population, and systematic work among Lebanese youth exposed to armed conflict reports non-trivial rates of post-traumatic stress symptoms (Farran, 2021; Shaar, 2013). For older participants, formative years may have occurred during the Lebanese Civil War (1975–1990), a period of prolonged violence, displacement, and a profound disruption of the daily life (Zebian & Brown, 2014). Post-war Lebanon did not achieve sustained stability; rather, many Lebanese have experienced repeated political disruptions and armed conflicts, including the post-2005 period characterized by major political upheavals and shifts in external military presence, the 2006 regional war, and the May 2008 armed clashes (Boulos et al., 2025; Zebian & Brown, 2014). For younger and middle-aged cohorts, adulthood has been defined by additional layers of strain, including the long-term societal pressures associated with the Syria crisis and large-scale displacement into Lebanon, as well as nationwide political unrest that erupted in October 2019 amid deepening fiscal and governance crises (Boulos et al., 2025). According to the World Bank, the subsequent economic collapse may have been one of the worst worldwide crises since the middle of the 19th century, with far-reaching effects on security, livelihoods, and hopes for the future (World Bank, 2021a, 2021b). Acute collective shocks have compounded this prolonged distress, notably the Beirut Port explosion on 4 August 2020, which resulted in hundreds of deaths, thousands of injuries, and left hundreds of thousands homeless, in addition to causing extensive infrastructure damage (Karam, Al Barathie, et al., 2025). The country's instability persists, with warfare in 2024 marked by widespread bombings, airstrikes, and armed clashes that caused numerous deaths and mass destruction, followed by the ongoing conflict in 2026 resulting in large-scale displacement of civilians. Studying AM phenomenology in this setting may be an invaluable in describing how recurrent adversity affects the subjective qualities of both positive and negative life memories. Despite, the relevance of AM in adversity, data on the phenomenological characteristics of autobiographical memories in Lebanese adults are still limited. The present study investigates AM in a Lebanese adult population: By comparing the phenomenological characteristics of positive and negative memories and examining how age relates to the recall of negative autobiographical events. It explores phenomenological differences during memory retrieval and age-related variations in negative memory

recall. Focusing on a population exposed to prolonged political, economic, and social stress such as in Lebanon, provides insights into a context that is rarely examined in autobiographical memory research.

II. Materials and Methods

1. Study Design and Participants

The inclusion criteria comprised Lebanese citizens aged 18 to 55 years who permanently reside in Lebanon. Participants were required to self-report no history of mental illness, such as schizophrenia, bipolar disorder, or generalized anxiety disorder, and no conditions causing cognitive impairment, including Alzheimer's disease or other forms of dementia. Exclusion criteria applied to non-Lebanese individuals, Lebanese citizens not permanently residing in Lebanon, those younger than 18 or older than 55 years, and anyone reporting a mental disorder or cognitive impairment.

2. Sample Size

The minimum sample size was calculated using the G*Power software 3.1.9.7 for Windows (Heinrich Heine, Universität Düsseldorf, Düsseldorf, Germany). A sample size of 500 participants was considered adequate for this study based on standard sample size calculations for cross-sectional surveys conducted on large populations such as Lebanon. For a population exceeding several million, a minimum sample of approximately 384 participants is typically required to achieve a 95% confidence level with a 5% margin of error when assuming maximum variability ($p = 0.5$). Similarly, studies conducted on the Lebanese population have reported minimum required sample sizes ranging between 384 and 400 participants for representativeness. The present study exceeded this minimum by recruiting 500 participants to increase statistical power, improve precision, and compensate for potential biases associated with non-probability snowball sampling and online data collection. Larger sample sizes are particularly recommended in such designs to enhance reliability and subgroup comparisons. Additionally, dividing the sample into two age groups (25 years) required a sufficient number of participants in each subgroup to allow meaningful comparative analysis. Therefore, a sample size of 500 was deemed appropriate to ensure adequate representation of the Lebanese population, strengthen the validity of findings, and support subgroup analyses.

3. Data Collection and procedure

The Phenomenological Questionnaire for Autobiographical Memory (CCFRA PQAM31), administered by Manzanero et al. (2020) to explore the phenomenological features of memories was used. This questionnaire is a revised and validated version of the Memory Characteristics Questionnaire (Johnson et al., 1988) and the Trauma Memory Quality Questionnaire (Meiser-Stedman et al., 2007). The Questionnaire contains 31 items distributed over two sections. The questions use the Likert 7-points

scale, except for the questions of the type of the event and date. The first section contained five questions asking information on the characteristics of the event itself: Type, duration, familiarity of the place, time elapsed since the event, type of participation (active participant versus spectator). The second section included 31 questions about the phenomenological characteristics of the event. The questions in this section investigate the three major categories of memory characteristics; Quality, Associated Emotional characteristics, and Accessibility. The Quality category evaluates the following characteristics: vividness, sensory and contextual information, clarity, fragmentation, capacity to recall the details, comprehension, complexity, doubts, and recall perspective. The associated emotional characteristics category accounts for the valence, arousal (Intensity), relevance, implications, feeling during the event and now, and thoughts during the event. The accessibility includes the scores of the effort to think about the event and the difficulty and frequency of talking about it, episodes of reliving the event 28 (flashbacks), as well as the memory for the related events that preceded and followed the event under study. We added a section that contains six questions for age, gender, marital state, educational level, occupational status, and history of mental or psychiatric illnesses diagnosis. The questionnaire was translated into Arabic using a forward–backward translation process conducted independently by two bilingual translators. Discrepancies were resolved through consensus to ensure semantic equivalence. A pilot study was subsequently conducted to assess clarity, cultural appropriateness, and internal consistency of the Arabic version. The pilot demonstrated acceptable reliability of scales (Cronbach's $\alpha > 0.70$), and minor linguistic adjustments were made prior to final data collection. A full version of the questionnaire can be found in the additional files section. The data of those participants were not included in the analysis. After reconciliation, the questionnaire was administered to a small sample of the participants to ensure the questionnaire is understandable. A few minor changes were introduced to the questionnaire before putting it into use. The survey was then disseminated online using social media platforms following the snowball method. Participants were informed about the study's objectives, and their participation was entirely voluntary. Responses were collected anonymously, and participants were made aware of their right to withdraw at any time without any consequences. Data collection was carried over one month.

4. Statistical Analysis

The collected data was analyzed using SPSS (Statistical Package for Social Sciences) software, version 30.0. For descriptive analysis, frequency and percentage were used for categorical variables, and mean and standard deviation were used for quantitative variables. We treated variables as nominal (gender, PQAM-31 sub-scores), categorical (age group), and continuous (PQAM-31 question scores for negative and positive events measured on Likert scales). A p-value less than 0.05 was considered significant. Quality, emotional, and accessibility variables were computed using the PQAM-31 and to assess associations between variables, paired t-test, independent T-test, and Chi-Square test were used. Data were presented as mean and standard deviation for the continuous variables, frequency and percentage for nominal and categorical variables. Results were divided into 2 categories according to age: younger group (< 25 years old) and older group (> 25 years old). This age cutoff of 25 years was selected because

previous autobiographical memory research indicates a shift in memory phenomenology and life-narrative organization around early adulthood, coinciding with identity consolidation and the end of the reminiscence bump (the tendency for older adults to have especially vivid and detailed memories from their teenage years and twenties) (Janssen et al., 2005).

III. Results

A total of 537 responses were received, of which 68 were excluded based on the predefined criteria, resulting in a final sample of 469 participants (Fig. 1).

1. Socio-demographic Characteristics of the Respondents

Table 1 shows that there was a higher percentage of females (71.2%, n = 331) than males (28.8%, n = 134). Slightly more participants were 25 years old or younger (51.6%, n = 242), while the remaining were older (48.4%, n = 227). A considerable proportion were unmarried (62.5%, n = 293) in comparison to the married individuals (37.5%, n = 176). In addition, 82.3% (n = 386) had attended university, while 17.7% (n = 83) had a non-university education. It also shows that a slight majority were unemployed (53.3%, n = 250), while 46.7% (n = 219) were employed.

Table 1
Socio-demographic characteristics of the respondents:

Socio-demographic characteristics	N (%)
Gender	
Male	134 (28.8%)
Female	331 (71.2%)
Age Group	
Younger (= or < 25 y)	242 (51.6%)
Older (> 25 y)	227 (48.4%)
Marital status	
Married	176 (37.5%)
Unmarried	293 (62.5%)
Educational Level	
University	386 (82.3%)
Non-university	83 (17.7%)
Work	
Employed	219 (46.7%)
Unemployed	250 (53.3%)

2. Characteristics of Negative and Positive Events

As shown in Table 2, the analysis revealed no significant difference in the duration of positive and negative events (negative: $M = 3.81$, $SD = 2.14$; positive: $M = 3.96$, $SD = 1.95$; $t(436) = -1.17$, $p = 0.241$). However, there was a significant difference in familiarity with the location of the events (negative: $M = 5.88$, $SD = 1.93$; positive: $M = 6.37$, $SD = 1.38$; $t(439) = 3.28$, $p < 0.001$). Additionally, there was a significant difference in timing of the events which are measured in years (negative: $M = 4.16$, $SD = 5.65$; positive: $M = 3.27$, $SD = 4.92$; $t(435) = -4.63$, $p < 0.001$). Also, the type of participation varied markedly, as people were more active when positive events (coded as 1) took place and more spectators when negative events (coded as 2) took place (negative: $M = 1.36$, $SD = 0.48$; positive: $M = 1.12$, $SD = 0.32$; $t(439) = 9.06$, $p < 0.001$). As shown in Table 2, individuals were active participants during positive events, while in negative ones they tended to be spectators.

Table 2
Means and Standard Deviation for event characteristics

Event characteristics	Negative event	Positive event	P-value**
Duration (Likert scale /7)	3.81 (2.14)	3.96 (1.95)	0.241
Where (Likert scale /7)	5.88 (1.93)	6.37 (1.38)	0.001
When (in years)	4.16 (5.65)	3.27 (4.92)	0.001
Type of participation*	1.36 (0.48)	1.12 (0.32)	0.001
*(coded 1 for active participant and 2 for spectator)			
**paired t-test			

3. Type of Negative and Positive Events Recalled

Table 3 shows the distribution of the types of events reported for negative and positive autobiographical memories according to whether participants experienced them as spectators or as active participants. Among negative memories, the most frequently reported category overall was death ($n = 152$), followed by separation ($n = 96$), explosion ($n = 55$), violence/aggression ($n = 37$), and war ($n = 35$). Negative memories were often described from a spectator perspective, particularly for death (83 out of 152), violence/aggression (34/37), financial issues (23/23), and academic issues (6/6). In contrast, some categories involved greater active participation, most notably separation (87/96), as well as explosion (35/55) and war (20/35). For positive memories, the most frequently reported categories overall were love/wedding/engagement ($n = 114$), birth ($n = 102$), leisure ($n = 101$), and work ($n = 85$). In contrast to negative memories, positive memories were predominantly associated with active participation. This was especially evident for love/wedding/engagement (105 out of 114), leisure (96/101), work (84/85), and birth (69/102). Among positive events recalled from a spectator perspective, birth was the most frequent category (33/102), whereas among events recalled with active participation, love/wedding/engagement was the most common (105/114).

Table 3
Type of Events Reported for Positive and Negative Memories (as spectator/as active participant)

Negative Event (N)		Positive Event (N)	
Academic issues	6 (0/6)	Love/Wedding/Engagement	114 (9/105)
Family issues	14 (5/9)	Academic issues	27 (1/26)
Financial issues	23 (0/23)	Leisure	101 (5/96)
Violence/Aggression	37 (3/34)	Work	85 (1/84)
Separation	96 (9/87)	Family	5 (1/4)
Explosion	55 (35/20)	Health	6 (2/4)
Accident	18 (6/12)	Birth	102 (33/69)
War	35 (20/15)		
Health	15 (5/10)		
Death	152 (83/69)		

4. Comparative Association Between Memory Characteristics of Negative and Positive Events

4.1. Memory Quality

There was a statistically significant difference in memory quality ($p = 0.0018$), with positive events rated slightly higher than the negative events, with mean scores of 11.97 ($SD = 2.15$) and 11.46 ($SD = 2.16$), respectively. In addition, positive memories were linked with richer sensory details with a mean of 4.37 ($SD = 1.44$) compared to negative memories with 3.54 ($SD = 1.30$), and this difference was highly significant ($p = 0.001$). At the item level, positive memories were characterized by significantly higher ratings for olfactory information, colors, spatial information, preceding events, vividness, talking about the event, taste, haptic details, visual information, and comprehension (Table 4). By contrast, negative memories were rated as significantly more complex and more difficult to talk about.

Table 4

Means and Standard Deviation for the PQAM-31 score of negative and positive memories

#	Characteristics	Negative	Positive	P-value*
Q1	Valence	1.73 (1.43)	6.45 (1.23)	0.001
Q2	Olfactory info	3.59 (2.59)	4.34 (2.62)	0.001
Q3	Feeling during the event	6.52 (1.12)	6.51 (1.00)	0.891
Q4	Complexity	4.80 (2.01)	3.06 (2.12)	0.001
Q5	Relevance	6.32 (1.28)	6.55 (1.02)	0.002
Q6	Auditory info	5.56 (2.07)	5.60 (2.04)	0.715
Q7	Colors	5.87 (1.92)	6.58 (1.05)	0.000
Q8	Spatial info	6.54 (1.08)	6.69 (0.82)	0.013
Q9	preceding events	5.69 (1.74)	5.94 (1.60)	0.011
Q10	Arousal	5.35 (2.18)	6.36 (1.19)	0.001
Q11	Fragmentation	5.88 (1.58)	6.22 (1.23)	0.001
Q12	clarity	5.89 (1.49)	6.23 (1.17)	0.001
Q13	Implication	5.93 (1.62)	6.24 (1.43)	0.001
Q14	Frequency of thinking about the event	5.27 (1.85)	4.95 (2.08)	0.008
Q15	Taste	1.93 (1.74)	3.22 (2.52)	0.001
Q16	Visual info	6.10 (1.51)	6.28 (1.33)	0.037
Q17	Efforts to remember the event	6.29 (1.06)	6.23 (1.20)	0.396
Q18	Talking about the event	3.89 (2.06)	4.46 (2.08)	0.001
Q19	Vividness	5.95 (1.35)	6.21 (1.22)	0.001
Q20	Recall perspective	4.14 (2.28)	3.38 (2.37)	0.001
Q21	Efforts to recall important details	2.74 (1.96)	2.90 (2.04)	0.173
Q22	Reliving the event	4.62 (2.00)	4.59 (2.12)	0.841
Q23	Haptic details	3.14 (2.38)	4.19 (2.57)	0.001
Q24	Recalling Details	5.88 (1.38)	5.83 (1.45)	0.530
Q25	Feeling now	4.84 (1.84)	4.46 (1.83)	0.001
Q26	Following event	5.40 (1.74)	5.38 (1.88)	0.879
*Paired t-test				

#	Characteristics	Negative	Positive	P-value*
Q27	Accuracy	2.79 (1.13)	2.91 (0.69)	0.059
Q28	Difficulty talking	4.55 (2.19)	3.33 (2.27)	0.001
Q29	Temporal info	6.13 (1.35)	6.09 (1.37)	0.636
Q30	Comprehension	5.79 (1.59)	6.02 (1.39)	0.010
Q31	Thoughts during event	5.87 (1.58)	5.72 (1.74)	0.128
*Paired t-test				

Table 5
Means and Standard Deviation for the specific characteristics
for PQAM-31 score of negative and positive memories

Characteristics	Negative	Positive	P-value*
Quality	11.46 (2.16)	11.97 (2.15)	0.018
Emotional	5.38 (0.97)	6.35 (0.86)	0.001
Accessibility	5.60 (1.64)	5.68 (1.70)	0.648
Sensory details	3.54 (1.30)	4.37 (1.44)	0.001
*Paired t-test			

4.2. Emotional Characteristics

Emotional traits were much higher for positive events than for negative events, with mean scores of were 6.35 (SD = 0.86) and 5.38 (SD = 0.97), respectively ($p = 0.001$). This suggests that positive memories were associated with stronger emotional valence, higher arousal, and greater personal relevance. More specifically, positive events scored significantly higher on valence, arousal, implication, and clarity, whereas negative memories were associated with significantly stronger current emotional feeling and a higher frequency of thinking about the event.

4.3. Accessibility

With regard to accessibility, no statistically significant overall difference was found between negative and positive memories, with mean scores of 5.60 (SD = 1.64) and 5.68 (SD = 1.70), respectively ($p = 0.648$). However, some individual items differed between the two types of memories. Negative memories were thought about more frequently and were associated with greater difficulty in talking about the event, whereas positive memories were described as more vivid and more often discussed. No significant differences were observed in efforts to remember the event, efforts to recall important details, reliving the event, recalling details, following the event, temporal information, accuracy, or thoughts during the event.

5. Comparative Association Between Memory Characteristics for Negative Memories by Age

While studying the association between age and memory characteristics for negative events (< 25 vs > 25), the younger group showed significantly lower scores for arousal, fragmentation, clarity, vividness, comprehension, talking about the event, and temporal information. In contrast, younger participants scored significantly higher for complexity and difficulty talking about the event. No other significant differences were observed for the remaining variables shown in Table 6. For negative high-arousal memories (Table 7), older respondents were significantly more likely to report talking about the event and demonstrated higher comprehension, whereas younger respondents were significantly more likely to report difficulty talking about the event. No other significant age-related differences were identified.

Table 6
Association of memory characteristics in negative memories with age

Q1	Characteristics	Younger	Older	P-value*
	Valence	1.74 (1.44)	1.75 (1.47)	0.950
Q2	Olfactory info	3.67 (2.58)	3.60 (2.64)	0.793
Q3	Feeling during the event	6.49 (1.13)	6.52 (1.12)	0.725
Q4	Complexity	5.01 (1.97)	4.64 (2.05)	0.047
Q5	Relevance	6.24 (1.37)	6.36 (1.22)	0.317
Q6	Auditory info	5.59 (2.01)	5.46 (2.14)	0.516
Q7	Color	6.02 (1.84)	5.69 (2.00)	0.063
Q8	Spatial info	6.44 (1.25)	6.58 (0.93)	0.174
Q9	Preceding events	5.65 (1.74)	5.76 (1.72)	0.478
Q10	Arousal	5.02 (2.26)	5.66 (2.05)	0.001
Q11	Fragmentation	5.65 (1.75)	6.09 (1.40)	0.002
Q12	Clarity	5.73 (1.61)	6.02 (1.41)	0.037
Q13	Implication	5.81 (1.69)	6.04 (1.53)	0.116
Q14	Frequency of thinking about the event	5.15 (1.90)	5.34 (1.85)	0.285
Q15	Taste	1.84 (1.58)	2.03 (1.84)	0.245
Q16	Visual info	6.10 (1.54)	6.02 (1.53)	0.584
Q17	Efforts to remember the event	6.18 (1.17)	6.33 (1.10)	0.175
Q18	Talking about the event	3.60 (2.10)	4.15 (1.97)	0.004
Q19	Vividness	5.68 (1.52)	6.17 (1.19)	0.001
Q20	Recall perspective (field vs observer)	4.08 (2.26)	4.17 (2.31)	0.671
Q21	Efforts to recall important details	2.76 (1.96)	2.71 (1.96)	0.783
Q22	Reliving the event	4.56 (2.05)	4.63 (2.00)	0.708
Q23	Haptic details	3.31 (2.43)	2.95 (2.31)	0.102
Q24	Recalling details	5.82 (1.43)	5.87 (1.43)	0.678
Q25	Feeling now	4.67 (1.86)	4.94 (1.87)	0.122
Q26	Following event	5.33 (1.77)	5.50 (1.71)	0.289
*Independent t-test				

Q1	Characteristics	Younger	Older	P-value*
	Valence	1.74 (1.44)	1.75 (1.47)	0.950
Q27	Accuracy	2.75 (1.12)	2.81(1.16)	0.600
Q28	Difficulty talking	4.75 (2.09)	4.30 (2.30)	0.028
Q29	Temporal info	5.96 (1.44)	6.27 (1.30)	0.018
Q30	Comprehension	5.47 (1.75)	6.04 (1.43)	0.001
Q31	Thoughts during event	5.74 (1.62)	5.98 (1.52)	0.111
*Independent t-test				

Table 7

Association of the characteristics of the memories of negative high arousal memories between younger and older respondents

Q1	Characteristics (No/Yes)	Younger	Older	P-value*
	Valence	134(91.2%) / 13(8.8%)	157(92.9%) / 12(7.1%)	0.567
Q2	Olfactory info	79(54.5%) / 66(45.5%)	93(55.7%) / 74(44.3%)	0.831
Q3	Feeling during the event	3(2%) / 147(98%)	1(0.6%) / 170(99.4%)	0.254
Q4	Complexity	38(30.2%) / 88(69.8%)	43(31.4%) / 94(68.6%)	0.829
Q5	Relevance	7(4.9%) / 136(95.1%)	4(2.4%) / 162(97.6%)	0.240
Q6	Auditory info	21(14.8%) / 121(85.2%)	35(21%) / 132(79%)	0.161
Q7	Color	14(9.4%) / 135(90.6%)	21(13.2%) / 138(86.8%)	0.292
Q8	Spatial info	6(4%) / 145(96%)	3(1.8%) / 166(98.2%)	0.235
Q9	Preceding events	15(11.2%) / 119(88.8%)	17(10.6%) / 144(89.4%)	0.861
Q11	Fragmentation	11(7.6%) / 133(92.4%)	10(6%) / 156(94%)	0.573
Q12	Clarity	12(8.1%) / 136(91.9%)	8(4.7%) / 162(95.3%)	0.213
Q13	Implication	14(9.9%) / 127(90.1%)	10(5.9%) / 159(94.1%)	0.188
Q14	Multiple Retrieval	27(20.3%) / 106(79.7%)	30(19.9%) / 121(80.1%)	0.928
Q15	Taste	134(89.9%) / 15(10.1%)	143(84.6%) / 26(15.4%)	0.158
Q16	Visual info	10(6.6%) / 142(93.4%)	11(6.7%) / 154(93.3%)	0.975
Q17	Efforts to recall important elements	2(1.3%) / 151(98.7%)	1(0.6%) / 167(99.4%)	0.508
Q18	Talking about the event	81(59.1%) / 56(40.9%)	58(42.6%) / 78(57.4%)	0.006
Q19	Vividness	9(6.7%) / 126(93.3%)	7(4.2%) / 161(95.8%)	0.333
*Chi-Square				

Q1	Characteristics (No/Yes)	Younger	Older	P-value*
	Valence	134(91.2%) / 13(8.8%)	157(92.9%) / 12(7.1%)	0.567
Q20	Recall perspective (field vs observer)	68(47.9%) / 74(52.1%)	59(38.1%) / 96(61.9%)	0.087
Q21	Efforts to recall	104(77.6%) / 30(22.4%)	118(73.8%) / 42(26.3%)	0.443
Q22	Reliving the event	46(34.8%) / 86(65.2%)	54(36.7%) / 93(63.3%)	0.743
Q23	Haptic details	86(62.3%) / 52(37.7%)	111(66.9%) / 55(33.1%)	0.408
Q24	Recalling details	6(4.2%) / 138(95.8%)	7(4.3%) / 157(95.7%)	0.965
Q25	Feeling now	36(29%) / 88(71%)	33(22.9%) / 111(77.1%)	0.254
Q26	Following event	27(19.6%) / 111(80.4%)	23(14.6%) / 135(85.4%)	0.251
Q27	Accuracy	147(96.7%) / 5(3.3%)	160(94.7%) / 9(5.3%)	0.373
Q28	Difficulty talking	42(30.7%) / 95(69.3%)	72(46.5%) / 83(53.5%)	0.006
Q29	Temporal info	12(8.4%) / 131(91.6%)	7(4.2%) / 160(95.8%)	0.124
Q30	Comprehension	20(14.2%) / 121(85.8%)	7(4.3%) / 155(95.7%)	0.003
Q31	Thoughts during event	15(10.3%) / 131(89.7%)	10(6.2%) / 152(93.8%)	0.188
*Chi-Square				

6. Internal Consistency of the PQAM-31 for Negative and Positive Autobiographical Memories

The PQAM-31 demonstrated good internal consistency for both negative and positive autobiographical memories (Table 8). Cronbach's alpha was 0.805 for negative memories and 0.866 for positive memories, while the standardized alpha values were 0.822 and 0.889, respectively, across 31 items.

Table 8
Inter-item consistency and reliability statistics of PQAM-31

Reliability Statistics	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Negative events memory characteristics as per PQAM-31	0.805	0.822	31
Positive events memory characteristics as per PQAM-31	0.866	0.889	31

IV. Discussion

Our results point to three consistent patterns: Positive memories were richer and more integrated, negative memories remained cognitively active but harder to verbalize. Older participants also recalled negative memories with greater clarity and less fragmentation, especially when those memories were highly arousing.

1. Socio-demographic Profile of the Participants

The sample consisted mainly of female, unmarried, and university-educated participants, with just over half being unemployed. Those characteristics are comparable to those reported in some previous studies that used the same validated tool in conflict-affected populations (Manzanero et al., 2015, 2020). Rather than undermining the findings themselves, these sample characteristics mainly limit how far the findings can be generalized. Although the effect of gender on AM is not consistent across studies (St Jacques et al., 2011), there are some evidence that women tend to produce more emotionally elaborated autobiographical narratives than men (Ferree & Cahill, 2009). Education, by contrast, does not appear to exert a strong or consistent influence on AM phenomenology (Janssen et al., 2005).

2. The Events Remembered

The nature of events participants recalled are also relevant to interpreting the phenomenological findings. Even though participants were instructed to recall events from the past year, negative memories were, on average, older than positive ones and were also associated with less familiar locations. Explosions, deaths, and public violence are more likely to occur in chaotic or unfamiliar settings, whereas weddings, births, and celebrations typically unfold in known environments. As familiar contexts support the integration of sensory, spatial, and temporal information into a more coherent autobiographical representation (Conway & Pleydell-Pearce, 2000; Rubin, 2006), it is therefore reasonable to think that some of the reduced contextual integration seen in negative memories may reflect the conditions under which they were encoded, rather than emotional valence alone. Participants were also more often active agents in positive events and more often spectators or bystanders in negative ones. The event categories illustrate this clearly: deaths, explosions, and war-related experiences were more often described from the position of a witness, whereas weddings, leisure experiences, and work achievements overwhelmingly involved active participation. This difference may

help explain later recall. Active participation recruits self-referential and multisensory processing that supports richer autobiographical traces (Conway, 2018; Rubin, 2006), whereas witnessing a distressing event produces a memory organized more around exposure than agency. This may partly explain why negative memories were more often recalled from an observer perspective. The event distribution also captures something important about life in Lebanon. Negative memories were dominated by death, separation, explosion, violence, and war, whereas positive memories clustered around weddings, births, leisure, and work achievements. Nearly one in five negative memories referred to either an explosion or a war-related event, a distribution that sets this sample apart from much of the autobiographical memory literature conducted in more stable societies (Boulos et al., 2025; Zebian & Brown, 2014). In this context, the boundary between private memory and shared national experience appears less distinct than models developed in comparatively stable Western settings typically assume. Collective adversity may also shape autobiographical memory at a structural level: Zebian and Brown (2014) described a “Living in History” effect in Lebanese adults exposed to chronic upheaval, whereby autobiographical memories were organized around public historical events rather than only around personal developmental phases. More recent findings indicate that young Lebanese adults tend to use national events as temporal anchors more often than their French counterparts (Boulos et al., 2025). These observations help contextualize the present event distribution. In Lebanon, experiences of personal loss, threat, and transition are often situated within a context where recurrent national crises continuously reshape the rhythm of daily life.

3. Memory Quality: How Positive and Negative Memories Differed

Positive memories were phenomenologically richer than negative ones. They showed higher overall quality, more sensory detail as well as stronger emotional characteristics. At the item level, the pattern held across almost every modality examined. Positive memories contained more olfactory detail, richer color, more spatial information, greater visual detail, and substantially more taste and touch information. They were also rated as clearer, more vivid, and less fragmented. Negative memories, in contrast, were rated as more complex with auditory detail the main exception. These findings align with previous work: Talarico et al. (2004) found that emotional intensity predicts autobiographical vividness, with positive events often producing richer phenomenological profiles and Comblain et al. (2005) reported a similar positive-memory advantage across age groups. Tromp et al. (1995) documented reduced clarity and visual detail in aversive memories, and Manzanero et al. (2015), using the same instrument in a conflict setting, found greater fragmentation and complexity in negative memories. The present results also parallel the broader positive-negative contrast reported in Gaza with the CCFRA/PQAM-31 (Manzanero et al., 2020). Positive memories didn’t just outperform on a few dimensions; the differences were evident across nearly every modality measured by the PQAM-31. Negative memories were not selectively reduced in one sensory domain; they were generally less rich and less well integrated overall. Williams et al. (2022) offer a useful framework for understanding this pattern. Under threat or cognitive overload, negative events may be encoded in a more data-driven manner, with sensory fragments captured without being fully integrated into a coherent whole. Positive events more readily engage conceptually driven processing, which binds multimodal information into a more unified representation. Our findings are

consistent with that distinction: negative memories were more fragmented and more complex, while positive memories were richer and more coherent. The similarity to other conflict-affected samples is also noteworthy. Similar qualitative patterns have been reported in Palestinian participants (Manzanero et al., 2015, 2020). That does not imply that context is irrelevant; Lebanon's combination of chronic instability, public disaster, and economic collapse may shape the intensity or expression of some dimensions. It does suggest, however, that the relative impoverishment of negative autobiographical memory is not a purely local artefact.

4. The Emotional Paradox and Accessibility of Negative Memories

The emotional findings were more complicated than the sensory findings. Negative memories were associated with lower recalled arousal, lower perceived relevance to current life, and fewer perceived implications for the future. On the surface, that might suggest that their emotional force had faded. Other items told a different story: negative memories evoked stronger current feelings during recall and were harder to discuss. Feelings during the original event did not differ between positive and negative memories. This pattern suggests selective attenuation rather than a general loss of emotional intensity. Emotional intensity at encoding appears similar across valences, but some elements of the emotional trace are dampened at retrieval for negative memories while others remain elevated. The Self-Memory System (Conway & Pleydell-Pearce, 2000) offers one interpretation. The working self may downregulate aspects of negative memory that threaten coherence or ongoing goals while leaving intact the affective impact of re-encountering distressing content. Schacter et al. (2024) described adaptive biases within this system, including consistency and positivity biases. In chronically stressed settings, such biases may become especially important for preserving a workable sense of self. Reconsolidation offers another plausible mechanism (Else & Kindt, 2017). Each retrieval episode places a memory into a temporarily labile state, allowing some features to be updated before re-stabilization. In a setting where negative memories are repeatedly prompted by conversation, media exposure, and the visible remnants of crisis, recalled arousal and perceived relevance may shift over time even when distress during recall remains high. The verbal inhibition finding is especially important. Negative memories were harder to talk about and had been discussed less often with others, despite being thought about more often and despite eliciting stronger current feelings during recall. The difficulty, in other words, was not lack of emotional engagement but difficulty converting experience into words. Dual Representation Theory (Brewin et al., 1996) is useful here. Under high stress, encoding may shift away from the verbally accessible memory system, which supports temporal order and narrative construction, and toward a system that stores sensory fragments, affect, and bodily responses. A person may therefore retain vivid sensory residue while struggling to narrate the event coherently. That combination fits what we observed: stronger current affect alongside lower verbal accessibility. This pattern is not unique to diagnosed PTSD. Bisby et al. (2020) showed that negative material can strengthen sensory-perceptual encoding while weakening contextual binding even in healthy individuals. Similarly, Brewin and Field (2024) argued that trauma memories tend to be less coherent, with fragmentation concentrated around the most emotionally intense moments. The greater fragmentation and complexity observed here in negative memories may reflect a similar process operating below the clinical threshold. In that sense,

the present findings are compatible with work linking traumatic memory phenomenology to identity-related disturbance and post-traumatic adaptation (Hyland et al., 2023), even though no direct clinical diagnoses were assessed in this study. The overall accessibility score did not differ significantly between positive and negative memories, but the item-level results clearly did. Negative memories were thought about more often, yet they were discussed less with others and were harder to talk about when discussed. The two valences did not differ in flashback-like reliving, in unclear recall of important elements, or in the effort required for retrieval. This pattern is consistent with the hypothesis that negative memories would remain cognitively accessible while being more difficult to narrate or verbally elaborate. These results suggest that accessibility is not unitary. At minimum, involuntary cognitive accessibility and voluntary verbal accessibility can move in opposite directions. This helps explain why broad composite scores may obscure meaningful differences. Seen in context, the profile of negative memories in this sample resembles a subclinical intrusion-narration gap rather than simple forgetting. Karam, El-Jamal, et al. (2025) documented a high burden of trauma-related symptoms in Lebanon, making it plausible that even non-clinical participants carried symptom levels sufficient to shape autobiographical recall. Manzanero et al. (2025) similarly argued for a continuum of accessibility rather than a strict threshold between normal and pathological remembering. The Lebanese sample fits more comfortably in the middle of that continuum: negative memories remained cognitively accessible and emotionally active but were harder to narrate and integrate.

5. Age, Positivity, and Arousal

Age was associated with the phenomenology of negative memories, but not globally. Participants older than 25 recalled negative events that were clearer, more vivid, less fragmented, less complex, more frequently discussed, richer in temporal detail, and better understood. Younger adults tended to describe negative memories as more complex and harder to talk about. These findings may support that older participant would demonstrate more coherent and less fragmented recall of negative autobiographical memories. The absence of age differences in other domains is also informative. There were no age effects for sensory modalities, feelings during the original event, current feelings during recall, flashback-like reliving, observer perspective, or retrieval effort. Age differences therefore do not primarily reflect better sensory encoding or weaker emotional response. They appear to involve post-encoding processes: narrative organization, verbal accessibility, and meaning making. Grilli and Sheldon (2022) argued that aging shifts autobiographical memory toward gist and meaning rather than sensory richness. That fits the present data more closely than an account based on simple memory strength. Older participants did not show richer sensory recall; they showed better comprehension and more coherent organization of negative events. This pattern partially resembles what the literature describes as the positivity effect. Socioemotional Selectivity Theory (Carstensen, 2021) would predict greater regulatory prioritization of emotional wellbeing as people age. However, our age cutoff at 25 falls far outside the range at which the classic positivity effect is usually observed. Recent work suggests that the standard age-related positivity effect emerges much later in adulthood (Niu et al., 2024), and Siedlecki et al. (2025) further showed that it is sensitive to depressive symptoms. A straightforward aging account is therefore unlikely. A more plausible explanation is that these differences reflect

accumulated experience and emotion regulation rather than age alone. Colombo et al. (2021) showed that reappraisal changes the relationship between emotion and memory quality, and Orlovsky et al. (2024) found that older adults are better at using autobiographical memories as tools for reappraisal. In Lebanon, even a few years' age difference may correspond to meaningfully different levels of exposure to collective crisis: The “older” group in this study is not old in the conventional sense, but it has lived through more of the country's cascading instability. Manzanero et al. (2015) reported a similar pattern in Palestinian participants, where longer conflict exposure was associated with more organized and less fragmented negative memories and, likewise, Rubin et al. (2011) proposed that cumulative stress may have a curvilinear relationship with resilience: moderate exposure may support adaptation, whereas extreme exposure overwhelms it. The age findings became clearer once arousal was considered. For low-arousal negative memories, age differences were absent. For high-arousal negative memories, older participants found them easier to discuss, talked about them more often, and showed better comprehension. Sensory and contextual details remained broadly similar across age groups. In our sample, the age-related advantage was most evident when emotional arousal was high. The perceptual material seems to be available to both groups; what differs is whether participants can organize it, verbalize it, and make sense of it afterwards. McClay et al. (2023) showed that large negative emotional shifts can segment memory, breaking continuous experience into discrete and disconnected units. If high-arousal negative events are especially prone to fragmentation at encoding, successful narration later depends more heavily on top-down regulation during retrieval. That is precisely where the older group appears to have held an advantage. The developmental difference in this sample therefore seems to lie less in memory capacity than in regulatory skill and narrative organization.

6. Implications

More than simply providing insights into how AM operates in populations exposed to prolonged socio-political instability, these findings offer perspectives for diagnostic and therapeutic approaches, particularly in contexts where trauma-related symptoms are common and clinical resources are limited, such as Lebanon (Karam, El-Jamal, et al., 2025). The most actionable result is that younger adults did not appear to encode negative events less vividly than older adults. In fact, their difficulty lay in organizing, understanding, and verbalizing what they remembered, particularly when the memory was highly arousing. Consequently, narrative integration is therefore a plausible therapeutic tool: Because it aims to integrate fragmented experiences into a coherent chronological life narrative, Narrative Exposure Therapy may be of particular relevance. This is further supported by evidence from recent meta-analyses showing improvements in symptoms of PTSD, depression, and anxiety using this therapeutic tool (Geng et al., 2024; Raeder et al., 2023). More importantly, in contexts where distress is widespread and specialist care is limited, the distinction between preventive and therapeutic work is less sharp than in more stable settings (Karam, El-Jamal, et al., 2025). Beyond formal clinical settings, if negative memories in a non-clinical sample are already showing a pattern of high cognitive accessibility but reduced verbal integration, then low-intensity community interventions that encourage structured narration could be useful. Therefore, even before symptoms reach a clearly defined clinical threshold,

approaches that help individuals organize and communicate difficult experiences may be particularly valuable.

7. Strengths and Limitations

The findings of this study must be interpreted in the light of both its strengths and limitations. The coexistence of chronic instability, public disasters, and economic collapse in Lebanon, make it an especially informative setting for the study of AM. Additionally, the sample is relatively large, as well as the use of a validated instrument with prior use in conflict-affected settings strengthen the findings. Also, the request to remember positive and negative memories permitted direct within-person comparisons, which is beneficial to detect some subtle emotional and age-related differences and reduce the impact of individual variability due to individual reporting style and general response tendencies. Examining arousal as a moderator of age effects also added useful nuance, and internal consistency was strong for both positive and negative memories. However, the study cross-sectional design means that age differences cannot be attributed confidently to development, resilience, accumulated experience, or cohort membership. Additionally, the use of self-report questionnaires could have led to recall bias and introspective errors, particularly with remote or emotionally relevant memories. Snowball sampling produced a sample that was younger, more educated, and more digitally connected than the general Lebanese population, resulted in selection bias and restricts the generalizability of the results. The age cutoff at 25 is unconventional relative to most positivity-effect research, which limits direct comparison with standard aging studies. A number of possible confounding factors were not evaluated such as trauma history, psychiatric symptoms, personality traits, and cognitive functioning. These are known to affect autobiographical memory phenomenology. Psychiatric symptoms, emotion regulation strategies, personality, or cognitive function, all of which could shape autobiographical memory phenomenology and these variables should be included in future research and longitudinal designs should be used to further explain causal pathways. A further limitation is that the instruction to recall events from the past year was not followed uniformly, particularly for negative memories. That deviation is itself meaningful, but it also introduces a systematic confounding variable: negative memories were older than positive ones on average. Despite these limitations, the findings still suggest a consistent pattern in how AM operates under chronic collective adversity.

V. Conclusion and Future Perspectives

Positive memories in the studied Lebanese adult population tended to be more vivid, sensory-rich, emotionally impactful, and resonant than negative memories which highlights the influence of emotional context on event recollection. By providing insights into the mechanisms underlying processing of negative Autobiographical Memory and their associated emotional responses, especially in contexts of prolonged exposure to prolonged stressful life events and stressful factors, this study provides a useful basis for future longitudinal and clinically informed work in Lebanon and similar settings, and paves the way for a deeper comprehension of how collective crises reshape autobiographical memory. Future studies are required to examine the

change of the phenomenology of negative memory, in context of prolonged stressful factors and whether how predicts later clinical outcomes. By adopting a longitudinal follow-up would help distinguish age effects from cohort effects and clarify whether verbal inhibition, fragmentation, and observer-style recall remain stable over time or shift as crises accumulate. Additionally, studies that directly measure trauma exposure, depressive symptoms, and emotion regulation strategies would also help determine whether the age differences seen here reflect adaptation, selective resilience, or unmeasured symptom burden. Comparative work across other conflict-affected populations using the same instrument would further clarify which aspects of the Lebanese profile are general and which are context-specific. By evaluating lifetime adversity and trauma load and current mental health symptoms, as well as by comparing within-country cohorts or diaspora populations, future research could separate age effects from cohort-specific exposure.

Declarations

This letter certifies that the research project entitled “The Phenomenological Characteristics of Positive and Negative Autobiographical Memories in a Lebanese Adult Population Using Validated Tools” received approval to be conducted during the academic year 2019-2020. The Research Committee acknowledges that it has reviewed and discussed the proposal presented by the researchers. The research committee approved the study and authorized the research project to proceed. None of the investigator and co-investigator participating in this study took part in this decision. The committee was informed about the progress of the study. The researchers provided a copy of the final report to the Research Committee at Lebanese University.

Author Contribution

M.H.A. and W.H. conceptualized the study and developed the methodology. M.H.A., S.E.D., and W.H. curated the data and performed the formal analysis. All authors contributed to the investigation and validation of the results. M.H.A., S.E.D., J.A., and W.H. prepared the visualizations. M.H.A., H.C., J.A., and W.H. wrote the original draft of the manuscript. W.H. supervised the project. All authors reviewed and edited the manuscript and approved the final version.

References

1. Atkinson RC, Shiffrin RM (1968) Human memory: A proposed system and its control processes. In K. W. Spence & J. T. Spence (Eds.), *Psychology of learning and motivation* (Vol. 2, pp. 89–195). Academic Press. [https://doi.org/10.1016/S0079-7421\(08\)60422-3](https://doi.org/10.1016/S0079-7421(08)60422-3)
2. Binder JR, Desai RH (2011) The neurobiology of semantic memory. *Trends Cogn Sci* 15(11):527–536. <https://doi.org/10.1016/j.tics.2011.10.001>

3. Bisby JA, Burgess N, Brewin CR (2020) Reduced memory coherence for negative events and its relationship to posttraumatic stress disorder. *Curr Dir Psychol Sci* 29(3):267–272.
<https://doi.org/10.1177/0963721420917691>
4. Bluck S, Alea N (2002) Exploring the functions of autobiographical memory: Why do I remember the autumn? *Critical advances in reminiscence work: From theory to application*. Springer Publishing Company, pp 61–75
5. Boulos L-J, Rigoulot L, Fares M, Kai NA, Khaty R, Zahran F, Allé MC (2025) When personal narratives meet historical events: How the multi-crisis context in Lebanon is shaping life narrative temporality. *Memory* 33(7):861–869. <https://doi.org/10.1080/09658211.2025.2535368>
6. Brewin CR, Dalgleish T, Joseph S (1996) A dual representation theory of posttraumatic stress disorder. *Psychol Rev* 103(4):670–686. <https://doi.org/10.1037/0033-295X.103.4.670>
7. Brewin CR, Field AP (2024) Meta-analysis shows trauma memories in posttraumatic stress disorder lack coherence: A response to Taylor (2022). *Clinical Psychological Science*, 12(5), 1027–1033.
<https://doi.org/10.1177/21677026241240456>
8. Carstensen LL (2021) Socioemotional selectivity theory: The role of perceived endings in human motivation. *Gerontologist* 61(8):1188–1196. <https://doi.org/10.1093/geront/gnab116>
9. Colombo D, Serino S, Suso-Ribera C, Fernandez-Alvarez J, Cipresso P, Garcia-Palacios A, Riva G, Botella C (2021) The moderating role of emotion regulation in the recall of negative autobiographical memories. *Int J Environ Res Public Health* 18(13):7122. <https://doi.org/10.3390/ijerph18137122>
10. Comblain C, D'Argembeau A, Van der Linden M (2005) Phenomenal characteristics of autobiographical memories for emotional and neutral events in older and younger adults. *Exp Aging Res* 31(2):173–189. <https://doi.org/10.1080/03610730590915010>
11. Conway MA (2018) Autobiographical memory. In J. H. Byrne (Ed.), *Learning and memory: A comprehensive reference* (2nd ed., pp. 65–83). Academic Press.
<https://doi.org/10.4324/9780429022791-2>
12. Conway MA, Pleydell-Pearce CW (2000) The construction of autobiographical memories in the self-memory system. *Psychol Rev* 107(2):261–288. <https://doi.org/10.1037/0033-295X.107.2.261>
13. Elsey JWB, Kindt M (2017) Tackling maladaptive memories through reconsolidation: From neural to clinical science. *Neurobiol Learn Memory* 142(Pt A) 108–117.
<https://doi.org/10.1016/j.nlm.2017.03.007>
14. Farran N (2021) Mental health in Lebanon: Tomorrow's silent epidemic. *Mental Health Prev* 24:200218. <https://doi.org/10.1016/j.mhp.2021.200218>
15. Ferree NK, Cahill L (2009) Post-event spontaneous intrusive recollections and strength of memory for emotional events in men and women. *Conscious Cogn* 18(1):126–134.
<https://doi.org/10.1016/j.concog.2008.11.008>
16. Gazzaniga MS (1991) Interview with Endel Tulving. *J Cogn Neurosci* 3(1):89–94.
<https://doi.org/10.1162/jocn.1991.3.1.89>

17. Geng C, Zhang M, Zhang L, Yin H, Wang S (2024) Effects of narrative exposure therapy for treating depressive and anxious disorders: A systematic review and meta-analysis. *Psychiatry Invest* 21(4):329–339. <https://doi.org/10.30773/pi.2023.0281>
18. Graf P, Schacter DL (1985) Implicit and explicit memory for new associations in normal and amnesic subjects. *J Experimental Psychology: Learn Memory Cognition* 11(3):501–518. <https://doi.org/10.1037/0278-7393.11.3.501>
19. Grilli MD, Sheldon S (2022) Autobiographical event memory and aging: Older adults get the gist. *Trends Cogn Sci* 26(12):1079–1089. <https://doi.org/10.1016/j.tics.2022.09.007>
20. Hyland P, Shevlin M, Brewin CR (2023) The memory and identity theory of ICD-11 complex posttraumatic stress disorder. *Psychol Rev* 130(4):1044–1065. <https://doi.org/10.1037/rev0000418>
21. Janssen SMJ, Chessa AG, Murre JMJ (2005) The reminiscence bump in autobiographical memory: Effects of age, gender, education, and culture. *Memory* 13(6):658–668. <https://doi.org/10.1080/09658210444000322>
22. Johnson MK, Foley MA, Suengas AG, Raye CL (1988) Phenomenal characteristics of memories for perceived and imagined autobiographical events. *J Exp Psychol Gen* 117(4):371–376
23. Karam EG, Barathie A, Hayek J, Mascayano F, Susser F, E., Bryant R (2025) Recall bias secondary to major trauma: Results from a prospective study of the Beirut Port Blast. *Eur J Psychotraumatology* 16(1):2494360. <https://doi.org/10.1080/20008066.2025.2494360>
24. Karam EG, El-Jamal M, Osman R, Toukan S, Mouawad GI, Barathie A, J (2025) The aftermath of multiple trauma on a nation: Unraveling Lebanon's unique mental health struggle. *Front Psychiatry* 15:1444245. <https://doi.org/10.3389/fpsyt.2024.1444245>
25. Klug K, Camia C, Rohrmann S (2025) Autobiographical memory functions of tattoo event memories. *Identity* 25(4):452–466. <https://doi.org/10.1080/15283488.2024.2409762>
26. Manzanero AL, Guarch-Rubio M, Vallet R, Vara A (2025) On post-traumatic stress disorder and the accessibility of memories: Traumatic memories in refugees and asylum seekers. *Psychiatry Psychol Law* 1–14. <https://doi.org/10.1080/13218719.2025.2510227>
27. Manzanero AL, López B, Aróztegui J, El-Astal S (2015) Autobiographical memories for negative and positive events in war contexts. *Anuario de Psicología Jurídica* 25(1):57–64. <https://doi.org/10.1016/j.apj.2015.02.001>
28. Manzanero AL, Fernández J, Gómez-Gutiérrez MDM, Álvarez MA, El-Astal S, Hemaïd F, Veronese G (2020) Between happiness and sorrow: Phenomenal characteristics of autobiographical memories concerning war episodes and positive events in the Gaza Strip. *Memory Stud* 13(6):917–931. <https://doi.org/10.1177/1750698018818221>
29. McClay M, Sachs ME, Clewett D (2023) Dynamic emotional states shape the episodic structure of memory. *Nat Commun* 14:6533. <https://doi.org/10.1038/s41467-023-42241-2>
30. Meiser-Stedman R, Smith P, Yule W, Dalgleish T (2007) The Trauma Memory Quality Questionnaire: Preliminary development and validation of a measure of trauma memory characteristics for children and adolescents. *Memory* 15(3):271–279. <https://doi.org/10.1080/09658210701256498>

31. Meneses A (2015) Serotonin, neural markers, and memory. *Front Pharmacol* 6:143. <https://doi.org/10.3389/fphar.2015.00143>
32. Niu X, Utayde MF, Sanders KEG, Denis D, Kensinger EA, Payne JD (2024) Age-related positivity effect in emotional memory consolidation from middle age to late adulthood. *Front Behav Neurosci* 18:1342589. <https://doi.org/10.3389/fnbeh.2024.1342589>
33. Orlovsky I, Ready RE, Gutchess A, Heideman K, Martins-Klein B (2024) The role of autobiographical resilience memories in emotion regulation: An account of age differences in mnemonic and positive reappraisal. *Exp Aging Res* 50(5):652–677. <https://doi.org/10.1080/0361073X.2023.2254659>
34. Raeder R, Clayton NS, Boeckle M (2023) Narrative-based autobiographical memory interventions for PTSD: A meta-analysis of randomized controlled trials. *Front Psychol* 14:1215225. <https://doi.org/10.3389/fpsyg.2023.1215225>
35. Rubin DC (2006) The basic-systems model of episodic memory. *Perspect Psychol Sci* 1(4):277–311. <https://doi.org/10.1111/j.1745-6916.2006.00017.x>
36. Rubin DC, Dennis MF, Beckham JC (2011) Autobiographical memory for stressful events: The role of autobiographical memory in posttraumatic stress disorder. *Conscious Cogn* 20(3):840–856. <https://doi.org/10.1016/j.concog.2011.03.015>
37. Schacter DL, Greene CM, Murphy G (2024) Bias and constructive processes in a self-memory system. *Memory* 32(6):656–665. <https://doi.org/10.1080/09658211.2023.2232568>
38. Schaefer A, Philippot P (2005) Selective effects of emotion on the phenomenal characteristics of autobiographical memories. *Memory* 13(2):148–160. <https://doi.org/10.1080/09658210344000648>
39. Shaar KH (2013) Post-traumatic stress disorder in adolescents in Lebanon as wars gained in ferocity: A systematic review. *J Public Health Res* 2(2):e17. <https://doi.org/10.4081/jphr.2013.e17>
40. Siedlecki KL, Hicks S, Kornhauser ZG (2015) Examining the positivity effect in autobiographical memory across adulthood. *Int J Aging Hum Dev* 80(3):213–232. <https://doi.org/10.1177/0091415015590311>
41. Siedlecki KL, Zucchetto M, J., Yazdani N (2025) The influence of instructional constraints and cognitive control on the positivity bias and the positivity effect in autobiographical memory. *Int J Aging Hum Dev* 101(3):284–305. <https://doi.org/10.1177/00914150241268181>
42. St Jacques PL, Conway MA, Cabeza R (2011) Gender differences in autobiographical memory for everyday events: Retrieval elicited by SenseCam images versus verbal cues. *Memory* 19(7):723–732. <https://doi.org/10.1080/09658211.2010.516266>
43. Talarico JM, LaBar KS, Rubin DC (2004) Emotional intensity predicts autobiographical memory experience. *Mem Cognit* 32(7):1118–1132. <https://doi.org/10.3758/BF03196886>
44. Tromp S, Koss MP, Figueredo AJ, Tharan M (1995) Are rape memories different? A comparison of rape, other unpleasant, and pleasant memories among employed women. *J Trauma Stress* 8(4):607–627. <https://doi.org/10.1007/BF02102891>
45. van Strien NM, Cappaert NLM, Witter MP (2009) The anatomy of memory: An interactive overview of the parahippocampal-hippocampal network. *Nat Rev Neurosci* 10(4):272–282.

<https://doi.org/10.1038/nrn2614>

46. Williams SE, Ford JH, Kensinger EA, Cognitive (2022) Affect Behav Neurosci, 22(5), 869–903.
<https://doi.org/10.3758/s13415-022-01013-z>
47. World Bank (2021a), May 1 Lebanon sinking into one of the most severe global crises episodes, amidst deliberate inaction [Press release]. <https://www.worldbank.org/en/news/press-release/2021/05/01/lebanon-sinking-into-one-of-the-most-severe-global-crises-episodes>
48. World Bank (2021b) Lebanon economic monitor, spring 2021: Lebanon sinking (to the top 3). <https://www.worldbank.org/en/country/lebanon/publication/lebanon-economic-monitor-spring-2021-lebanon-sinking-to-the-top-3>
49. Zebian S, Brown NR (2014) Living in history in Lebanon: The influence of chronic social upheaval on the organisation of autobiographical memories. *Memory* 22(3):194–211.
<https://doi.org/10.1080/09658211.2013.775310>

Figures

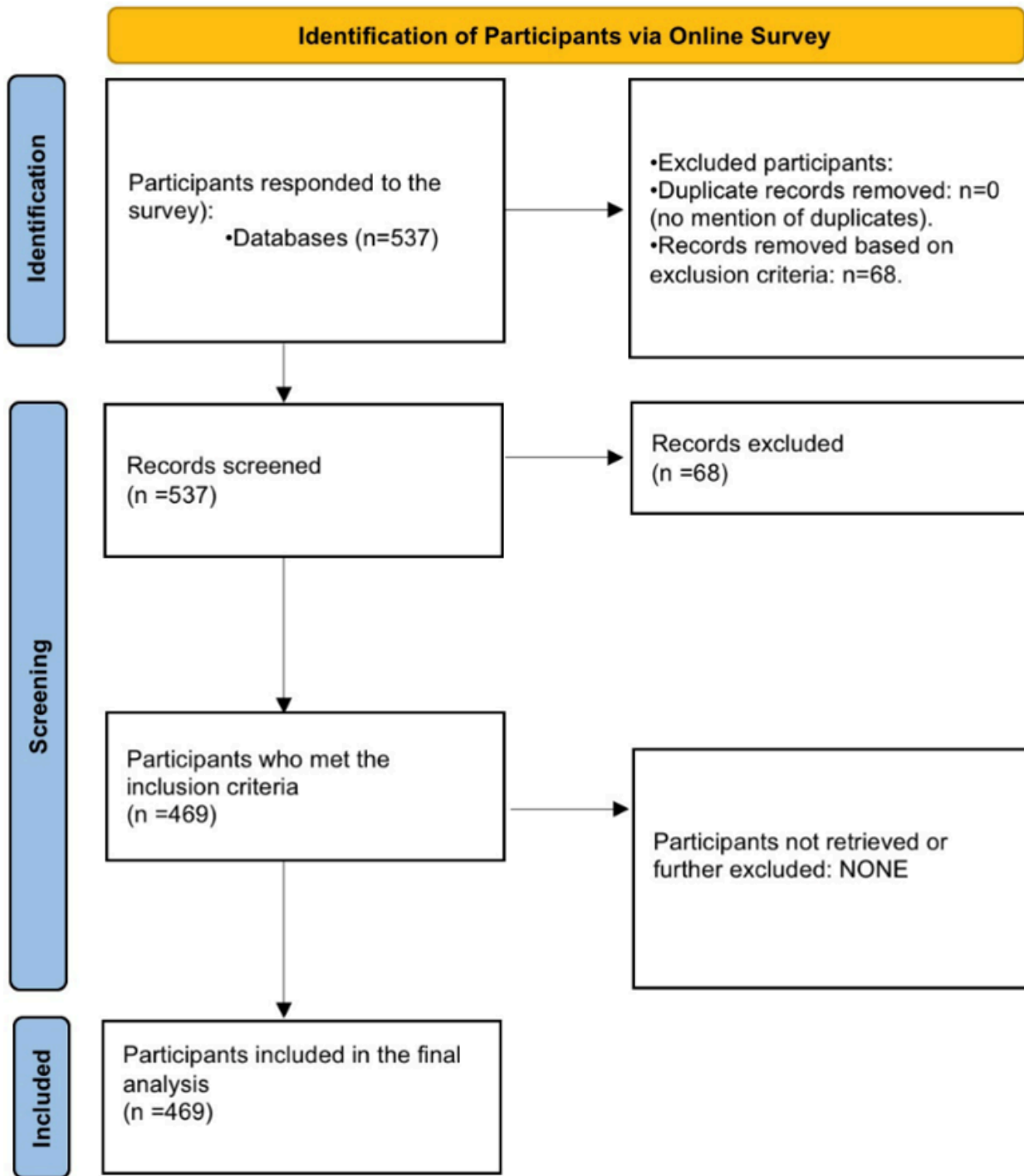


Figure 1

Flowchart of participant identification, screening, and inclusion