How do Mid-life Adults Narrate their Peak Experiences?

An Investigation of Life Stories through Text Mining

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Abstract

Purpose. The purpose of this study was to explore and analyze thematic similarities and differences in mid-life adults' peak experiences, which are experiences first introduced by Abraham Maslow. Despite the recognition of peak experiences as significant moments in life, there has been a lack of investigation into their thematic focal points. Therefore, the research question addressed in the current research was, "How do mid-life adults narrate their peak experiences?". *Methods.* The study employed narrative analysis, focusing on 145 written accounts of peak experiences in the lives of mid-life adults. Text mining, specifically the Latent Dirichlet Allocation (LDA) topic modeling technique, augmented by human interpretation, was utilized for data analysis. *Results.* The results revealed that peak experiences among mid-life adults primarily revolved around themes of love for family, communion with others, and achievements. Notably, some experiences encompassed a combination of two or all three topics. Among the analyzed keywords, friends, love, school, children, and family emerged as the most significant factors. *Discussion and Conclusion.* The main findings of this study aligned with existing literature, highlighting, for example, similarities between the characteristics of peak experiences according to the founder Abraham Maslow and those recounted by the participants in this sample. The research offers a comprehensive understanding of the thematic focal points within the peak experiences of mid-life adults, providing a foundation for future research and practical applications. For instance, the identified themes can be employed in therapeutic settings to foster participants' awareness for their personal values.

Keywords: Peak Experiences, Life Stories, Narrative Analysis, Text Mining, Topic Modeling, LDA

How do Mid-life Adults narrate their Peak Experiences? An Investigation of Life Stories through Text Mining

It is an old saying that life can sometimes resemble a roller coaster. It encompasses both challenging moments that leave one feeling overwhelmed, as well as uplifting moments that fill one's life with positive emotions. Embracing the positive psychology approach, which emphasizes human flourishing, studying and analyzing these positive moments can offer valuable insights into what brings humans joy and fulfillment (Gable & Haidt, 2005). Writing about these uplifting moments has been shown to have significant positive effects on mental health (Burton & King, 2004). This practice helps individuals connect their identity with positive life experiences, promoting emotion regulation and overall well-being (Burton & King, 2004). In the current study, the thematic focal points of these positive life experiences of mid-life adults are investigated.

A study conducted by McLean and Lilgendahl (2008) discovered that writing about positive life experiences is particularly beneficial for older individuals, meaning people with an age above 59 and below 83, in terms of social functions. Firstly, it serves as a means of teaching and informing by sharing knowledge about earlier times with younger generations. Secondly, positive life events often serve as conversation starters, fostering social connections between old and new friends. These functions were found to be positively correlated with positive relations with others, emphasizing the importance of sharing these experiences (McLean & Lilgendahl, 2008).

Given that positive life events can occur in various contexts, a research method is necessary to identify the diverse topics that define them. Text mining, a quantitative method, is particularly useful in analyzing large volumes of natural language text to uncover patterns and extract new information (Sebastiani, 2002). Specifically, topic modeling is the most suitable approach for this, as it enables the detection of word and phrase patterns and subsequent clustering based on similarities (Bryda, 2020). In addition to topic modeling, the narrative approach will be employed by using people's life stories as the primary data for analysis. This approach is a valuable tool in the social sciences for understanding individuals' perspectives and experiences (Butina, 2015). Based on that, a mixed-methods approach will be employed, combining topic modeling and narrative analysis. The research question to be answered is "How do mid-life adults narrate their peak experiences?".

Defining Peak Experiences

Peak experiences are considered to be the "most extraordinary and wonderful experience in people's lives" (Bassi & Delle Fave, 2014). While this is a definition that also applies to other forms of positively connoted experiences like optimal experiences or flow experiences, the attempt was made to differentiate peak experiences from other constructs. This led to the main result that peak experiences, in contrast to other experiences, are transcendental or extreme and revolve around feelings of happiness and joy (Bassi & Delle Fave, 2014).

The founder of the term peak experiences, Abraham Maslow, mentioned various characteristics that illustrate the nature of peak experiences in more detail (Maslow, 1962). Some of these characteristics are listed as examples in Table 1 to make a comparison of how far the participants' peak experiences match the definition of peak experiences according to Maslow (Bassi & Delle Fave, 2014; Maslow, 1962; Privette, 1983).

Table 1
Peak Characteristics and their Explanations

Peak Characteristic	Explanation
Reaching self-actualization	Realizing one's full potential.
Being-Cognition	Instead of the common Deficiency-Cognition, a peak experience includes the Being-Cognition, meaning a cognition where an object or experience is seen as a whole that is detached from all other relations, or any purpose that it must fulfill.
Isolation in time and space	A peak experience requires an individual's full attention for the moment, perceiving it as being isolated from the dimensions of time and space.
Non-judgmental	A peak experience is neither judged nor compared to other experiences.
Ego-transcending	A peak experience is ego-transcending, meaning to see one's surroundings, for example, nature, as existing solely for itself, without serving a purpose for humans.
Increase in positive emotions, no experience of negative emotions	Increase in emotions such as 'wonder, awe, reverence, humility, and surrender before something great'; no experience of negative emotions such as fear or inhibition.
Meaningful activities	Peak experiences are most likely to occur for people who engage in meaningful activities, such as meditating, listening to music, perceiving art, being in nature, or experiencing intense love.

Peak Characteristic	Explanation
Positive consequences	After experiencing a peak experience, positive effects are perceived by the individuals. For example, having a healthier view of oneself, or feelings of having a purpose and being united with the world.
Responsibility	Peak experiences often include feeling responsible for one's activities.
Transpersonal	People describe their experiences with terms such as cosmic, pure psyche, or ecstasy.
Perceptual/receptive/ passive	During a peak experience, people are less active and not necessarily in a transaction with their environment, but instead passive and possibly do not engage in any behaviour at all.

As pointed out by Maslow (1962), there are various activities that might trigger peak experiences, which is also shown in the literature. For example, a study by Fatemi (2004) examined the extent to which the act of writing can induce peak experiences. The study revealed that out of a sample of 270 participants, 44% reported experiencing a peak experience while writing (Fatemi, 2004). Furthermore, a study by Garcia-Campayo et al. (2022) explored the connection between peak experiences and the practice of meditation. The investigation, conducted with a sample of 237 Spanish participants, demonstrated that engaging in meditation increased the likelihood of experiencing a peak experience. Approximately 79% of the meditators reported having a peak experience, compared to 46% of the non-meditators (Garcia-Campayo et al., 2022). Additionally, peak experiences can occur in relation to people's sexual lives, as it was found in a study conducted by Rokach and Patel (2021). Participants in their research described positive sexual experiences with attributes similar to those described by Maslow concerning peak experiences, such as a sense of peace, bliss, and a feeling of timelessness (Rokach & Patel, 2021). These findings show that peak experiences can be experienced in different contexts, which was further illustrated in a study by Hoffman et al. (2012). In their study, Hoffman et al. explored peak experiences by differentiating 13 categories of factors that might play a crucial role in peoples' peak experiences. These categories included interpersonal joy, external achievement, personal growth, and skill mastery, among others. The findings revealed that over half of the reported peak experiences were related to interpersonal joy, followed by external achievement as the second most frequently reported type, and personal growth as the third. Another significant relationship in this context was family togetherness, often connected to the birth of a child or feeling proud of one's offspring. This study relied on content analysis methodology, with two coders interpreting the data based on a codebook (Hoffman et al., 2012). Besides the

insightful results, the current research adds to this study by utilizing a different analytical method, consisting of both narrative analysis and text mining.

Narrative Analysis

Since storytelling and narrative analysis became popular and effective methods of gathering information about people's experiences, narrative analysis was also employed in the current research (Bryda, 2020). A life story, simply defined as the story of someone's life, holds significance as it contributes to one's identity and sense of self (Peacock & Holland, 1993). For example, life stories can be used to establish oneself as a valued member of a social group (Linde, 1993). They can also provide insights into a person's motivations, such as in the context of work. The more diverse and enriching one's experiences within a specific job field, the stronger the reasons for choosing that particular profession (Linde, 1993).

Moreover, narrative analysis, as emphasized by Stokes (2021), is a valuable method for uncovering an individual's ideologies, beliefs, and culture. In this research, the focus was put on the content of narratives rather than their structure (Riessman, 2008). This approach enables the examination of common activities and social interactions during significant moments in individuals' lives, offering a deeper understanding of individuals and what matters to them (Rappaport, 1993; Riessman, 2008). Due to these characteristics, the narrative approach is closely related to the field of psychology and is often referred to as a "root metaphor for psychology" (Sarbin, 1986). Although the data collection and especially the data analysis for narrative analysis is time-consuming, the qualitative dataset usually provides a rich opportunity for in-depth investigations (Overcash, 2003).

A previous study on peak experiences through narrative analysis was conducted by Keith Cox (2015). In his research on the significance of meaning-making in life stories for individuals' well-being, Cox examined two peak experiences, also called high points, and two nadir experiences, also called low points, per participant to investigate factors such as vividness, meaning, and coherence. Afterward, scores were calculated for the three factors, and it was concluded that meaning-making in life stories influences an individual's well-being. However, while Cox (2015) examined both peak and nadir experiences, the current research focuses solely on people's peak experiences. This decision was primarily based on the notion that negative life events can elicit ongoing negative emotions like anger and sadness, while reflecting on positive experiences is likely to evoke positive emotions in the present (Cox & McAdams, 2014). Thus, the choice to concentrate on adults' peak experiences

aligns with the principles of positive psychology and the potential benefits of focusing on positive experiences and moments of strength for individuals' well-being (Seligman & Csikszentmihalyi, 2000). The decision to focus on mid-life adults as the sample was driven by the fact that this life phase is often overlooked in research, with surveys typically targeting individuals who are easier to recruit, such as students and retirees (Lachman, 2015). Based on that, it was decided to focus on mid-life adults' peak experiences as the data to be analyzed.

Text Mining and Topic Modeling

In previous studies, human coders attempted to familiarize themselves with people's positive experiences by examining them for signs of redemption (Cox et al., 2019). Redemption refers to negative life events transforming into positive ones by eliminating or reducing something negative and replacing or supplementing it with something positive (McAdams et al., 2001). In their research, Cox et al. (2019) used both human coding and automated linguistic coding, more specifically, Linguistic Inquiry and Word Count (LIWC) was employed. LIWC is a text analysis tool that analyzes language files based on an internal default dictionary, allowing for the exploration of words in multiple ways (Pennebaker et al., 2015). The two coding approaches, due to their different natures, provided complementary information about the narrative construct of redemption (Cox et al., 2019). However, human coding can be influenced by coder biases and experiences and the increasing volume of text data requires analysis techniques that can handle large amounts of data efficiently (Bittermann & Fischer, 2023; Piepenbrink & Gaur, 2017).

To address these challenges, this research employed a computer-driven analysis using text mining. While human expertise is still required for data preprocessing, text mining offers the advantage of discovering new information and outperforming other analysis tools in many areas (Jockers & Underwood, 2015; Witten, 2004). Text mining effectively handles the lack of structure and fuzziness in text data, making it suitable for analyzing the rich narrative content of the current research (Hotho et al., 2005). It also allows for the analysis of correlations between different text corpora, which is beneficial in various fields, including, for example, the medical field for detecting unknown disease causes (Stavrianou et al., 2007). However, while text mining offers numerous advantages, it is important to be aware of its limitations. For instance, the identification of search terms poses a challenge for systematic search, as text mining suggests and recognizes solely known terms, potentially overlooking unknown terms (Thomas et al., 2011). In the current research, this function may be used as a bottom-up approach, by taking these individual components filtered out by the program and

analyzing how they fit the larger picture. Another challenge might be data clustering being inaccurate or failing to recognize more complex concepts (Thomas et al., 2011).

Despite these challenges, text mining provides various functions such as categorization, visualization, and text classification that are advantageous for analyzing text data (Tan, 1999). In this research, the function of text classification, specifically topic modeling, was employed. Topic modeling involves extracting "semantically related probabilistic clusters of words [from] text corpora", allowing for the description of content within a single corpus (Daud et al., 2010; Murakami et al., 2017). Topic modeling has been successfully used in various studies, including the classification of Twitter messages and their authors into categories (Hong & Davison, 2010). By combining topic modeling techniques such as Latent Dirichlet Allocation (LDA) and so-called Author-Topic models (AT), Hong and Davison (2010) related words in documents to topics and authors.

Topic modeling offers several advantages over other text analysis approaches. It does not assume a predetermined outcome for the analysis, enabling a more unbiased exploration of the data (Piepenbrink & Gaur, 2017). Additionally, it allows for the evaluation of the proportion of text devoted to specific topics, providing insights into participants' interest levels in respective topics. Topic modeling also enables analyzing large amounts of text data, wherefore this method is well-suited for the current research (Piepenbrink & Gaur, 2017).

In conclusion, topic modeling is a suitable research method for addressing the research question, as it enables the detection and examination of common and differentiating factors among topics. Thus, it is a suitable approach to answer the research question of how mid-life adults narrate their peak experiences.

Methodology

Background of the Study

The study was based on previous research conducted by Keith Cox (2015), which involved 154 participants around the age of 57, representing different ethnicities. In Cox's study, participants completed life story interviews where they described one peak experience, also called high point, and one nadir experience, also called low point, in their lives. For both peak and nadir experiences, the participants were asked to write about episodes that took place at a particular time and place, to describe the experiences as detailed as possible, and to write about what they might say about them or their personalities. The peak experiences were described to the participants as moments that "stand[] out as an especially positive

experience, ... an especially happy, joyous exciting, or wonderful moment in the story'' and that they could be seen as "… a "high point' in the … life story …" (Cox, 2015). Finally, the data set consisted of 145 stories about mid-life adults' peak experiences, that were used for the current research (Cox, 2015).

Design

For this research, a mixed methods approach was used. This was done by first, using narrative analysis as a qualitative approach. The qualitative data were derived from life story interviews and the participants' experiences were interpreted. Secondly, quantitative analysis was applied using text mining, more specifically, the topic modelling approach with the specification of Latent Dirichlet Allocation (LDA). Besides the advantages that topic modeling provides for data analysis, the choice for using the specification of LDA was based on LDA being the most used topic-modeling approach nowadays (Owa, 2021). It can be used on the original corpus and does not necessarily require preprocessing of the data, however, it is often recommended to do so to sharpen the topics and make them more reliable, due to a more precise vocabulary use (Piepenbrink & Gaur, 2017). The main function of the LDA technique is that it gives Information about how often we can expect words that are connected to topics to appear within a document (Piepenbrink & Gaur, 2017). Metaphorically speaking, the document, often consisting of a text, can be represented as a bag, that contains a large variety of words, whereby ignoring factors like the sentence's grammar, or syntax (Harris, 1954). Also, it can tell us the likelihood of documents presenting a topic (Piepenbrink & Gaur, 2017).

The main advantages of this technique are first, that the LDA-generated output, which is usually a list of words about a particular topic, is easily understandable and accessible. Therefore, information from human experts can easily be added if necessary. Furthermore, LDA produces estimates regarding the probability that documents entail an analyzed topic, thus enabling the coding of a quantitative measure (Piepenbrink & Gaur, 2017).

Participants

The target group for this study was a sample of midlife adults derived from a study by Keith Cox (2015). After participant dropout, the sample consisted of 145 mid-life adults from Chicago with an approximate age of 57 years at the start of the study. Also, the participants have different ethnicities, with approximately 55% of the participants being Caucasian

American, and 43% being African American. The participants were recruited via mail and advertisement.

Procedure

After deciding upon a combination of narrative analysis and text mining as the study design, the data of analysis were investigated. For this, it was decided to concentrate solely on the peak experiences from Cox's sample. Eventually, to analyze the data, the platform Orange was used. This computer-based approach was extended through extensive human interpretation of the data.

Analysis

To answer the research question of how mid-life adults narrate their peak experiences, a data analysis was conducted and the results were interpreted. Before starting the data analysis, the current state of the text corpus was investigated through the creation of a word cloud (see Figure 1). Based on the word cloud, the data pre-processing was done, whereupon a new word cloud was created that shows the word weights for all stories to be analyzed (see Figure 2).

Figure 1

Word Cloud Including Word Weights Before Pre-Processing of the Data
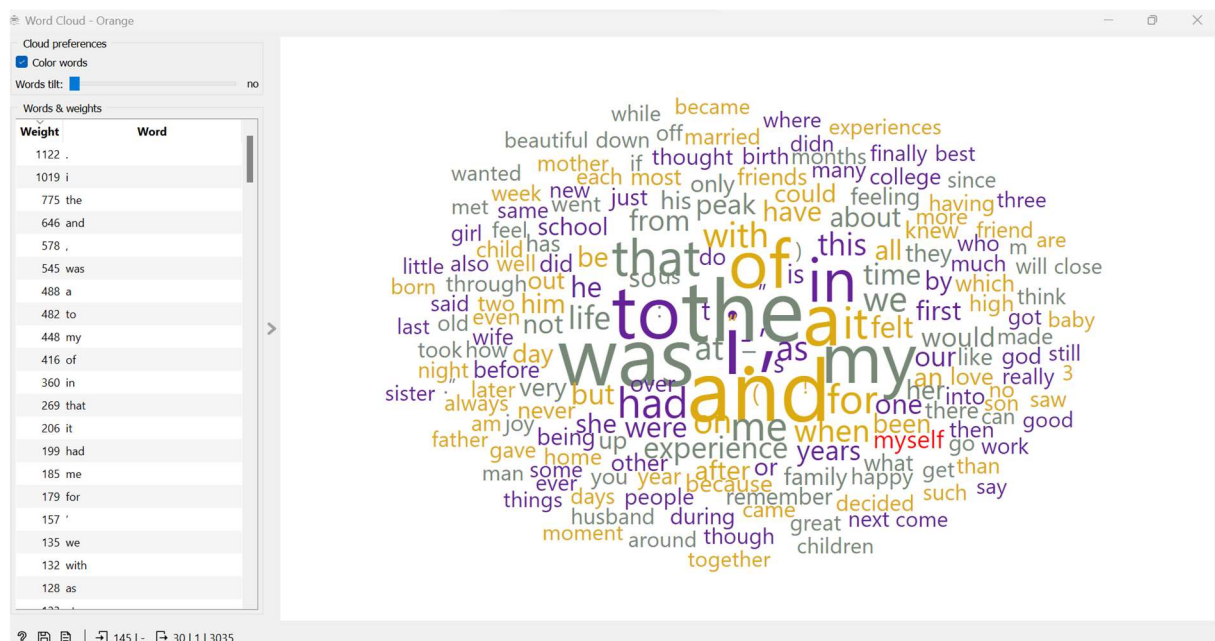
Figure 2

Word Cloud IIncluding Word Weights After Pre-Processing of the Data

As a first step of the data pre-processing, the input data were transformed to lowercase. Then the data were tokenized, which means that the textual data were split into smaller units, which are called tokens (Bioinformatics Laboratory, University of Ljubljana, n.d). Afterwards, the data were normalized, by using the UDPipe Lemmatizer with English as the language of command. This was done to transform the words into their basic grammatical form, meaning, for example, for verbs using the base form, instead of their form in the past or future tense. The next step was the filtering of the data. For this, stop words were removed from the data. Stop words are words that are commonly used in a language and are thus making it more difficult to find specific patterns within a text (Ganesan, 2023). In the appendix, a list of the used stop words was added (see Appendix A). Lastly, the document frequency was filtered, involving solely tokens that appear in 10% to 90% of the documents (Bioinformatics Laboratory, University of Ljubljana, n.d.).

After deciding that no further pre-processing was needed, the data were processed by making use of the topic modeling approach LDA. After applying LDA, various lists of words per topic were suggested and a certain number of topics needed for the analysis was chosen. This was primarily done through an iterative process until the number of topics was comprehensible for the human mind, in the way that it was a manageable number of topics with a clear differentiation between the topics. Afterward, the data were transformed into a

table, to give a better overview of the analyzed results (see Appendix B). Finally, partly in comparison to other literature, the word cloud, the text corpus as well as the data table were investigated, including the topic loadings per text document.

Results

Word Cloud

Upon analyzing the word cloud, it became evident that certain words carried significant weight in people's peak experiences. The top five prominent words that emerged were "friend", "love", "school", "child", and "family". These results suggest that close relationships with others, as well as educational experiences, are prevalent themes in mid-life adults' peak experiences.

Characteristics of Peak Experiences according to Maslow

Upon examining the participants' peak experiences, it becomes evident that they occasionally include the characteristics associated with peak experiences as described by Abraham Maslow (1962).

One notable characteristic is self-actualization, which is exemplified by a participant's account of participating in a marathon and experiencing a sense of reaching their body's full potential (see excerpt from participant 81, Table 2). Additionally, an increase in positive emotions is evident in almost all the stories. These emotions manifest in various ways, such as a sense of awe and wonderment during the birth of a child (see excerpts from participants 52 & 5). However, contrary to Maslow's notion of solely positive emotions, some participants also mentioned experiencing negative emotions, such as feeling terrified during a child's birth (e.g., see excerpt from participant 34). Also, the characteristic of experiencing positive consequences after a peak moment was occasionally reported. For example, in the excerpt from participant 78, the participant described reading the Bible and finding belief in God as a peak experience, leading to a questioning of their worldviews and a transformation in their self-perception. Furthermore, it is noteworthy that participants often engaged in meaningful activities during their peak moments. This involved creative activities like making music or art (e.g., see excerpts from participants 67 & 7). Moreover, meaningful activities were strongly associated with experiencing intense love, as indicated by the prevalent keyword "love" in the stories. For instance, a participant described this feeling as "… [t]he cold spot in [her] "heart" [being] warm and glowing" (excerpt from participant 23). Lastly, the characteristic of feeling responsible was primarily observed in the context of gaining

responsibility due to having a child, which one participant described as a "responsibility beyond [one]self" (excerpt from participant 11, Table 2). However, it also becomes noticeable that the sample's peak experiences were neither transpersonal nor solely perceptual, thus posing a difference to peak experiences as defined by Abraham Maslow (1962).

Based on these findings, it can be concluded that several of the characteristics associated with peak experiences as described by Abraham Maslow are present in the peak experiences described by the participants in this dataset, but they do not show a complete overlap.

Table 2

Maslow's Peak Characteristics and Participant's Quotes Including Participant Numbers

Peak Characteristic	Participant Quote Including Participant Number
Reaching self-actualization	"... The feeling of fitness and being able to experience your body's performance to it's ultimate potential was thrilling ..." (81)
Increase in positive emotions, no experience of negative emotions	" … I remember feeling overjoyed, scared, and in awe of what the human body is capable of." (34)
	"... The pain is forgotten but the miracle still leaves me in awe." (52)
	"… It's after when you feel warmth cuddling your little baby and the wonderment at how this child was created." (5)
Meaningful activities	"… I feel in love with the young concert-master of the orchestra, even though we never spoke a word to each other, but only communicated through the music. I believed the feeling to be mutual. I believed that communicating when making music together is one of the purest and most thrilling experiences." (67)
	"… I had three days in a row where I felt and knew that I would be a successful artist. I remember sitting on the edge of my bed in a complete state of bewilderment, a wide smile on my face as the vision of the event filled my head." (7)

Peak Characteristic	Participant Quote Including Participant Number
Meaningful activities	"… The cold spot in my "heart" is warm and glowing. The world is a wonderful place." (23)
Positive consequences	"…This broke through all my worldviews and especially the way I saw myself. I realized that regardless of what I did and how much I strove to be worthy and good, I could never be righteous because I am imperfect. As I read the Bible, I felt naked, for the truth and light of the Word stripped away all my masks and revealed to me my sins …" (78)
Responsibility	"The birth of my first child made me realize that my past and present were closely interwoven with my future, that I had responsibilities beyond myself, and, after a nights' work assisting my wife in the natural childbirth, the extreme exhaustion can be a spiritual experience." (11)

Topic Model

After analyzing the word cloud and investigating how far the participants' peak experiences match the characteristics of peak experiences according to Abraham Maslow, the general thematic focus of the stories was investigated, and the topic modeling results were analyzed. Based on the overlap between the topics' keywords, the results led to the identification of three main themes that were significant among mid-life adults' peak experiences: love towards family, communion with others, and achievements.

While the loadings add up to 1.0 between the topics, an example of love towards the family was presented in the excerpt from participant 10 with a topic loading of 0.9 (Table 3). The participant talked about multiple aspects of her life, about first being unmarried, but very much in love, and her profession, teaching. Still, the focus of her peak experience seems to be family-related, as she highlighted her "... decision to have [her] child and force the man [she] loves] to marry [her] ...", as well as the birth of her baby. A similar focus became prevalent in the excerpt from participant 27, with a topic loading of 0.86. As her peak experience, the participant described her experience of giving birth, thus including "birth" as a keyword that solely appears in relation to love towards family. Regarding this theme of giving birth, the

focus can be set differently. While the participant in excerpt 10 described the experience of her child's birth in short terms, without many details, participant 27 called it an "empowering experience" that led her to have an "... image of [herself] much like an Indian ...". Thus, her peak experience seems to be correlated with her having a positive image of herself as being a birth-giving mother. Still, both of these excerpts had the highest topic loadings for love towards the family.

When looking for the excerpt with the highest topic loading for communion with others, it became prevalent that the experience of activities in the company of close friends is a common example for this category, such as in the excerpt from participant one, with a topic loading of 0.94. In this story, the participant stated that there were "... many lovely times where [the participant felt] almost at one with the world, nature, friends, or family ...", however, the moment that was chosen as a peak experience was a trip with a friend, where the participant experienced feelings of "... joy, excitement, self-confidence, and a peacefulness about the future ...", and especially highlighted the beauty of nature within that moment. Similar attributes were mentioned in the excerpt from participant 62 with the second highest loading of 0.90, where the participant was talking about a trip with a group of close friends. Here, the importance of nature was also highlighted, through the description of "... dr[inking] from fresh streams, [eating] wildberries, and s[eeing] moose ...". Also, the aspect of friendship without sexual or romantic intentions was emphasized as an important factor for the peak experience, as it would have led to feelings of happiness due to being able to "... rel[y] on each other as friends ...". Another example that at first glance seems to show a different thematic focus, was found in the excerpt from participant 28, with a topic loading of 0.81. The woman in this document described her divorce as a peak moment, leading her to finally experience "... inner peace [,] joy [and the] freedom to control [her] and [her] son's life ...". In contrast to the other two documents, this peak experience is not friendship-related but is rather about both her life as a wife as well as her son's life, thus including wife as a keyword that solely appears for this topic. All mentioned examples, as well as others with the highest loading on topic two, relate to experiences with like-minded individuals or within intimate relationships, putting the focus on communion with others, wherefore it was decided to name the topic accordingly.

Finally, the third topic of achievements was represented to the highest extent in the excerpt from participant 18, with a topic loading of 0.91. Here, the peak moment is related to the acceptance of a college the participant desired to go to. The example with the second

highest loading of 0.87 for this topic can be found in the excerpt from participant 51. This story is about the participant's experience of seven weeks of field camp that she had to do as part of her undergraduate school degree. Although it was not her initial voluntary choice to take part in that camp, she described it as a peak experience. This is because she became increasingly skilled even though she expected differently, and "... came to see [her] work in terms of a responsibility, a mission". Based on these examples, it appears that the third topic is about the participants' achievements, whether in the form of a career-related goal like college acceptance, or a personal goal like becoming skilled.

However, it is worth noting that not all stories can be assigned to a single topic. Some stories exhibited evenly distributed topic loadings, indicating a mixture of themes. One example of that was when a participant received a supportive letter as well as a state swimming medal from her brother one day before the participant was going to swim in the state meet (see excerpt from participant 8). The participant stated that this was a moving experience since the brother would not be someone "... who shows emotions easily" (excerpt from participant 8). In this excerpt, it becomes prevalent that due to the meaningful interaction with the brother, the topics of love towards the family and communion with others become combined. Also, achievements seem to play an important role due to the participant taking part in a swimming contest, driven by the need to achieve a good result. Another example with evenly divided topic loadings was shown in the excerpt from a participant who talked about completing a 10K marathon with her two daughters, thus, picking up the family-related theme as well. Also, she described the training period as "... complete dedication to the anticipated goal", showing her focus on achieving something during her peak experience (excerpt from participant 81, Table 3). Another factor that made this experience a peak moment is that the participant did the marathon with eight thousand other women of all ages. This led her to feel "exhilaration", as it has shown her that older women can stay fit, and that generally, "... most things are possible if you want to accomplish a desired goal". This bonding with the other participants of the marathon shows the focus on the communion she felt with these like-minded individuals (excerpt from participant 81, Table 3).

Table 3

Topics with Topic Loadings and Participants' Quotes Including Participant Numbers

Topic	Topic Loadings	Participant Quote Including Participant Number
Love towards family	Topic 1: 0.90 Topic 2: 0.04 Topic 3: 0.06	"I 25-years-old, not married, very much in love, teaching, and wanted to be a good role model for my people, young African Americans. Started teaching in September and was pregnant by April. I made the decision to have my child and force the man I was in love with to marry me. He was a pro basketball player! … I gave birth to a 6lb 7oz baby girl, healthy and beautiful, December 18, 1974. I realized no I had to be successful. I had to take stumbling blocks and make them stepping stones." (10)
	Topic 1: 0.86 Topic 2: 0.07 Topic 3: 0.07	"My peak experience was the birth of my son. I was determined to have him bay natural childbirth and on "my terms." I felt a primal need to have my son standing up, an image of myself much like an Indian. Although this was discourage by my doctor and nurses I wouldn't give in and ultimately experienced giving birth exactly as I had envisioned it. It was an empowering experience." (27)
Communion with others	Topic 1: 0.03 Topic 2: 0.94 Topic 3: 0.03	"This was hard to answer; I feel that I've had many lovely times where I feel almost at one with the world, nature, friends, or family. My best friend … and I were on a camping retreat at Devil's Lake in Wisconsin. We were both without boyfriends and headed into the unknown – beyond our safe school and homes …The path was challenging; very rocky. The pine smelled so beautiful. The lake seemed powerful but not frightening. We drank from a fresh water spring. The water was so clear. I was filled with a combination of joy, excitement, self-confidence, and a peacefulness about the future … I felt as if I was about to fly or spin with joy. I was delighted with feeling self-confidence and peace, which I had not felt in many months. I was so happy that I was finally experiencing those feelings again … it will always be a lovely memory of a shred joyous time with a dear friend." (1)

Topic	Topic Loadings	Participant Quote Including Participant Number
	Topic 1: 0.05 Topic 2: 0.90 Topic 3: 0.05	"During my junior/senior transition summer, I took a trip (after much coaxing) with several close friends to Mt. Katahdin in Maine. The purpose of the trip was to climb Mt. Katahdin … The six of us climbed Mt. Katahdin and shared the pain of a grueling day's hike on the toughest trail. We drank from fresh streams, ate wildberries, and saw moose. The trip proved to be a bonding experience for all of us. We took our clothes off freely – yet there was no sexual tension. In fact none of us were involved and we were happy for that. We relied on each other as friends. We didn't use drugs. We ate all natural food and we shared life stories every night in our sleeping bags under the stars. I remember thinking that if my life never ended I would never find such fullness again." (62)
	Topic 1: 0.10 Topic 2: 0.81 Topic 3: 0.09	"My peak experience happen in Boston, Mass in the year 1978, that was the year I finally got divorced. I had finally reached a point in my life where I could have inner peace and joy. It gave me freedom to control my life and my son's life. It was a positive and healthy decision. I was a battered wife, need I say more." (28)
Achievements	Topic 1: 0.04 Topic 2: 0.05 Topic 3: 0.91	"I remember applying to colleges after high school. I wasn't very motivated and my high school counselor wasn't very helpful. I only applied to four universities and was accepted by two. After attending Lake Forest College for two years I decided to reapply to the other colleges that wouldn't accept me. To my surprise I was accepted with flying colors. I transferred to Ripon College in August of 1983 and was very happy to get in and complete my degree." (18)

Topic	Topic Loadings	Participant Quote Including Participant Number
	Topic 1: 0.07 Topic 2: 0.05 Topic 3: 0.87	"… I choose to describe a very personal experience of empowerment that taught me I am capable of deciding action carry out plans, follow orders and lead others. This occurred during seven weeks of field "camp" which occurred my senior year of undergraduate school as a requirement of my geology degree ... I found the work was excessively demanding and difficult. I realize now I would never have willingly subjected myself to the tests I endured those first weeks if I hadn't been required to do so for my degree. After a while, I lost weight, gained strength and endurance I had never had in my life … As a capable classroom geologist with limited field experience, I had had some doubts about my ability to carry out the field assignments over such a long duty. Instead, I became skilled at meeting those challenges and ultimately came to enjoy them. I came to see my work in terms of a responsibility, a mission … I am so thankful and proud of that experience that I consider it a peak one." (51)
	Topic 1: 0.33 Topic 2: 0.33 Topic 3: 0.33	"A peak experience that just came to mind was when … my brother gave me his state swimming medal with a very supportive letter the night before I was to swim in the state meet. He is not someone who shows emotion easily and it was really moving to receive it and it made me feel great ..." (8)
	Topic 1: 0.33 Topic 2: 0.33 Topic 3: 0.33	"At the age of 65, I ran and completed a 10K marathon in New York City with my two daughters. The training period of four months was complete dedication to the anticipated goal. The exhilaration of running with eight thousand women of all ages was a memorable "peak experience" for me. It taught me that most things are possible if you really want to accomplish a desired goal. The feeling of fitness and being able to experience your body's performance to it's ultimate potential was thrilling – age has no limitations." (81)

Common Keywords among All Topics

Upon closer examination of the topic model, it is evident that all three topics share five common keywords: "child," "love," "home," "son," and "happy" (see Appendix C). While investigating the stories' contents more closely, it becomes apparent that these keywords hold different meanings depending on the topic (see Table 4).

For instance, in the context of love for the family, the word "child" pertains to the birth of a child and the process of creation, primarily describing the formation of a family (excerpt from participant 5). Conversely, in an excerpt with a high topic loading on communion with others, the word "child" is associated with the feeling of being God's child during a religious experience with friends, representing a moment of connection with others (excerpt from participant 4). However, in the case of the topic of achievements, an example excerpt with a high topic loading featuring the word "child" revolves around a mother's pride in enabling her child to attend college. As a single parent with limited education, she considers this achievement as a dream turned into reality, emphasizing personal accomplishment (excerpt from participant 46).

Similarly, the keyword "love" appears in various contexts. In relation to love for the family, the word "love" often appears within romantic relationships, as seen in the excerpt from participant 23, which solely focuses on a participant's love for her husband and family. Additionally, it arises within the context of feeling connected with the world, nature, friends, or family, highlighting a sense of communion with different individuals as well as the world and nature (excerpt from participant 1). Furthermore, love emerges in the context of a participant's college graduation, where they express learning about love during their time in college, along with lessons on "... hard work, victory, and defeat" (excerpt from participant 12). In this case, the participant emphasizes their happiness about their achievements, trust in future success, and maintaining close friendships. These findings suggest that, particularly for this topic, the participant's accomplishments hold significance, whether in terms of career-related success or success within social relationships.

Regarding the term "home," it appears that it does not necessarily hold high relevance to the content of a participant's peak experience. Instead, it often serves to provide context to the peak experience. For instance, in the context of love for the family, the word "home" is used as the desired location for giving birth to a baby, emphasizing the aspect of birth once again (excerpt from participant 48). Similarly, in the excerpt from participant one, which has the highest topic loading for communion with others, leaving home to have a "... shred joyous

time with a dear friend" is marked as a peak experience. Here, the significance lies not in the home itself but rather in the communion with the close friend. Likewise, in the excerpt from participant 123, which has the highest topic loading on achievements, the decision to return to work is described as a personal achievement and peak experience, as the participant would be "... happier working than staying at home".

A similar pattern emerges with the word "son." In stories about love for the family, it is used to refer to the peak experience of the son's birth and the positive emotions associated with it, such as wonderment ("I would have to say my peak was when my son was born … you feel warmth cuddling your little baby and the wonderment at how this child was created." (excerpt from participant 5)). However, contrary to the assumption that participants might associate their peak moments more with the birth or existence of sons rather than daughters, there is a balance here. Instead, the abundance of the word "son" can be attributed to it being derived from other words like "person," "personal," or "personality" (e.g., excerpt from Participant 33). Based on this, it was shown that the unit of analysis changed from being a whole word to syllables of a word. However, the word "son" usually occurs when participants discuss their achievements. In terms of communion with others, one participant described their divorce as a positive experience as it granted her the "... freedom to control [her] life and [her] son's life", highlighting the importance of communion with her son (excerpt from participant 28). In summary, for the topics about love towards the family and communion with others, the word "son" typically appeared in the context of positive emotions towards one's male offspring. However, with regard to achievements, the presence of the word "son" was not necessarily content-related but rather a result of an interpretation error by the computer program.

Moving on to the word "happy," it appeared in various contexts. It was often associated with engagements, marriages, and career-related events such as college graduation or acceptance into a Ph.D. program. For example, with regard to love for the family, an experience related to happiness was the participant's marriage, which brought about a sense of joy due to the family that emerged from it. The participant described himself as "... a very happy father of two daughters and four happy grandchildren" (excerpt from participant 77). In contrast to this family-related document, another document that is about the participant's happiness is the excerpt from participant 43 with the highest topic loading for communion with others. This story is about the participant's dance with a female friend of his. The participant highlighted feeling "happy with each other as friends" and that "... [e]ven though

there was no direct romantic relationship between [them], [he] sensed mutual true love ...”
(excerpt from participant 43). This demonstrates how communion with others can generate a
deep connection beyond family or romantic bonds. Additionally, in the excerpt from
participant 64, which had the highest topic loading for achievements, the participant discussed
their perception of receiving a "magna cum laude" award. This achievement not only brought
them happiness but also restored their self-confidence (Table 4).

Table 4

*Topics with Common Keywords among All Topics and Participants' Quotes Including
Participant Numbers*

Topic	Keyword	Participant Quote Including Participant Number
Love towards family	Child	"During the labor one doesn't have time to think about bad or good, just to have this moment pass. It's after when you feel warmth cuddling your little baby and the wonderment at how this child was created." (5)
Communion with others		"Truly it was the Lord's greatness that gave us that brief mystical beauty of nature. It was almost as if he was saying 'thank you – I hear your praises my children.'" (4)
Achievements		"... the idea that a single parent, with just a high school education, could actually send a child to college was a dream that became my reality." (46)
Love towards family	Love	"... We fell in love and last month we were married. The love that I thought was only in books and movies is real and we are sharing it. ..." (23)
Communion with others		"I feel that I've had many lovely times where I feel almost at one with the world, nature, friends, or family." (1)
Achievements		"I learned about myself, my culture, love, hard work, victory, and defeat. I met many people and developed some close friendships ... I was happy about my accomplishment, sad my undergraduate days were over, nervous about the future, but confident that I would be successful and would keep in touch with my close friends." (12)

Topic	Keyword	Participant Quote Including Participant Number
Love towards family	Home	"Besides being married, my peak experiences have been conceiving, delivering, and nursing three babies ... As a result of becoming a mom I have learned more about life an people than any other profession could provide." (48)
Communion with others		"My best friend ... and I were on a camping retreat at Devil's Lake in Wisconsin. We were both without boyfriends and headed into the unknown – beyond our safe school and homes ... it will always be a lovely memory of a shred joyous time with a dear friend." (1)
Achievements		"I was 59 years old and had not held a job in years. I decided I would be happier working than staying at home." (123)
Love towards family	Son	"I would have to say my peak was when my son was born ..." (5)
Communion with others		"... It gave me freedom to control my life and my son's life ..." (28)
Achievements		"... She possessed many of the qualities I had been searching for and her zest for life and personal energy gave me new energy and zest in my life ..." (33)
Love towards family	Happy	"… Today I am a very happy father of two daughters and 4 happy grandchildren." (77)
Communion with others		"... I went out to the formal with my friend Melissa even though she had a boyfriend. I felt incredibly happy during a slow dance with her. As I held her close and tight, I felt her acceptance and happiness with me. We felt truly comfortable and happy with each other as friends. Even though there was no direct romantic relationship between us, I sensed mutual true love. During that close dance, I thought: "Let this moment linger forever, it is so good." I had earned the love and respect of another human being, and this close dance was a reflection of that feeling." (43)

Topic	Keyword	Participant Quote Including Participant Number
Achievements		"During my first last year of college, I never thought of myself as working particularly hard. Yet, I managed to finish that year with a "magna cum laude" mention. This made me extremely happy and restored my self-confidence. It also allowed me and gave me an incentive to be a specially good student for my last year of undergraduate studies." (64)

Unique Keywords per Topic

The complexity of keywords also became prevalent when looking at the unique keywords per topic. In the first topic related to love for the family, the words "marry" and "birth" stood out. Typically, these words were used in the context of happiness surrounding marriage with a spouse or the birth of a child (e.g. see excerpts from participants 131 & 5, Table 5). However, there were exceptions to these cases. For example, just as was the case for the word "son", the word "birth" did not always relate to the birth of an offspring but was also used in the context of a birthday. Thus, a participant said that one of his peak experiences was to meet and marry his wife, and that he would "... always [be] amazed on her birthday [as she would] receive[] upwards of fifty cards each year ...", due to the amazing person she would be (excerpt from participant 95). While this example still relates to the love towards family, there is also a story about the concept of birth that represents an exception for that topic. This is because a participant described her hysterectomy as a peak experience since she would have gained the freedom of having "... no birth control worries" (excerpt from participant 24). While this document still relates to family matters, it focuses on personal freedom rather than on the love for the family.

In the topic of communion with others, the keywords "friend" and "wife" played exclusively significant roles. The word "friend" often appeared in the context of feeling fulfilled by engaging in activities with friends or enjoying their company (see excerpt from participant 92). Besides that, it was partly used to give context to a situation, without the presence of friends contributing to the peak moment ("... When I was 14 a friend and I were given a ride home from school by a neighbour …" (excerpt from participant 139)). Furthermore, it became apparent that the keyword "friend" could be present in a document about communion with others, even if the friendship was not the primary focus. This is

shown, for example, in the quote of a participant who talked about his first sexual experience with a sex worker, which stuck in his mind especially due to the sensitive way the sex worker dealt with him (see excerpt from participant 121). The keyword "wife" arises most of the time in the context of meeting one's wife for the first time, marrying her, or having children with her. This often goes along with concrete descriptions of the wife or the relationship between participant and wife, as was the case in the excerpt from participant 47: "When I met my present wife in 1986 things changed. She was able to show me what true love is. We developed a very romantic relationship and we became the best of friends. My life turned around, I am happy and excited. We both love and respect each other.". On the other hand, this keyword was also used in the context of being a "battered wife" and making the decision to get a divorce (excerpt from participant 28). However, the word "wife" also showed up in the context of other peak experiences independent from the relationship with the wife, such as in the quote "[I was] [t]raveling alone, talking with a member of the U.S. Diplomatic Corps and his wife and two children …" (excerpt from participant 75). Also, despite the word "wife" showing up in the quote, the story was sometimes about communion with a person other than the wife. For example, this was the case for the peak experience of participant 50, where he stated to have "... cheated on [his] wife ...", and afterward decided to pray to become a better person. As he decided to pray together with his mother, this led to a communion between him and his mother, and with God, showing a different communion than one might first assume based on the keyword "wife".

Regarding the topic of achievements, the keywords "work," "college," and "people" were notable. The theme of work often appeared in the context of experiencing success, such as being accepted into a university or receiving positive feedback on one's work (e.g. see excerpts from participants 37, 111, & 12). Besides the positive consequences for their career due to their work, participants also connected work with having fun ("… It was fun and a wonderful artistic experience …" (excerpt from participant 41)) and achieving other goals that were not career-related, such as conveying personal values and becoming part of a community (see excerpt from participant 98). Furthermore, participants talked about college usually in relation to certain achievements they made during their time in college ("During my first last year of college, I never thought of myself as working particularly hard. Yet, I managed to finish that year with a "magna cum laude" mention. This made me extremely happy and restored my self-confidence …" (excerpt from participant 64)), and the participants' college graduations (e.g. see excerpts from participants 12 & 99). An exception to this was in the

excerpt from participant 31, where he talked about his time in college just for the sake of giving background information about his career path. This path made him very unfulfilled and he eventually described his peak experience in finding his belief in God, which would have improved his life until today. This shows that the keyword "college" is used to talk about career-related achievements but about personal achievements as well. Furthermore, concerning the keyword "people" there were different focus points during the participants' peak experiences. For example, while some participants appreciated moments where they had a moment for themselves independent from others ("… [I]t downed on me that I was doing something for myself and that I had made that decision not being pressured by people or circumstances. It was purely from myself to myself …" (excerpt from participant 63); "… [T]his "peak" only occurs when I'm alone with the piano. When I finish, sometimes I'll look at the keyboard and say to myself, "Wow, did that come out of me?" (excerpt from participant 76)), other participants enjoyed people's company during their peak experiences, especially the company of people that were close to them, like their family or partners (e.g. see excerpts from participants 53 & 55). Also, many participants talked about peak experiences where they got support from other people for their achievements, for example from the audience at a state running competition, or in college (e.g. see excerpts from participants 32 & 37, Table 5).

Based on this, it becomes apparent that the different thematic focal points within the participants' peak experiences already show in the appearance of the most used keywords.

Table 5

Topics with Unique Keywords per Topic and Participants' Quotes Including Participant Numbers

Topic	Keyword	Participant Quote Including Participant Number
Love towards family	Marry	"… I felt, at the time, that persuading her to marry me was my greatest accomplishment to sate." (131)
Love towards family	Birth	"I would have to say my peak was when my son was born …" (5)

Topic	Keyword	Participant Quote Including Participant Number
		"… She brings joy into everyone's life that she meets and her whole personality, exudes love and concern for others. I'm always amazed on her birthday- she receives upwards of fifty cards each year. I usually get two- one from her and one from my insurance agent." (95)
		"… I have a new freedom as well – no birth control worries." (24)
Communion with others	Friend	"… I was in the mountains doing one of my favorite things: skiing with my best friend. I realized, as I looked at the scenery and drank wine and made jokes with Steve, that activities such as this were really why I wanted to be a part of the world." (92)
		"When I was 14 a friend and I were given a ride home from school by a neighbor. …" (139)
		"… friends of mine took me to an apartment on the north side where this prostitute lived and turned me over to her. I remember vividly as she was an extremely sensitive and compassionate person …" (121)
Communion with others	Wife	"… When I met my present wife in 1986 things changed. She was able to show me what true love is. We developed a very romantic relationship and we became the best of friends. My life turned around, I am happy and excited. We both love and respect each other." (47)
		"… Traveling alone, talking with a member of the U.S. Diplomatic Corps and his wife and two children …" (75)

Topic	Keyword	Participant Quote Including Participant Number
		"… One night I was out drinking, smoking coke, and cheating on my wife. After the sex was over, I said to myself I can not go back to Chicago like this so I went home to my mom's house at 2:00am and asked her to pray for me. She said no but I persisted and she did. While praying she asked do you think that God can save you. I said yes. She said ask him then: I honestly asked God to help me and in that same moment I felt clean and loose. I knew right then and there that I never would need a drink or a smoke or caine or anything like that ever again. Thank God for my wonderful peak experience." (50)
Achievements	Work	"The same two-day period in which I was accepted to a competitive graduate program and had a creative piece meet very positive public response. I sat in the back in the auditorium in which this work was seen by a couple hundred people. …" (37)
		"One day in late February we came home from work and found a letter in the mailbox. It was the acceptance letter from the university I eventually went. We jumped and danced and were very happy. My life changed completely and it was a wonderful moment." (111)
		"… I learned about myself, my culture, love, hard work, victory, and defeat. I met many people and developed some close friendships. When I walked across the stage I was happy about my accomplishment, sad my undergraduate days were over, nervous about the future, but confident that I would be successful and would keep in touch with my close friends." (12)

Topic	Keyword	Participant Quote Including Participant Number
		"The most wonderful time I had was working for Gary Jones and Blockstreet USA Puppet Theatre. I was with the theatre for four years and loved all of it. I learn lighting tech from Mr. Jones and because of that I received admission to DePaul University, Goodman School of Drama. It was fun and a wonderful artistic experience. And most of all, it open doors for me in theatre …" (41)
		"… I had never worked so hard in my life. I was consumed with what was going to happen that one hour in time. It was very personal. As an artist, it was a rare and important opportunity to talk about racism, sexism, homosexuality, religion, art, obscenity, men and women, etc. As a member of a theater community on which I had always been on the fringe, this was my chance to earn the respect and friendship of people I've been overloaded by …" (98)
Achievements	College	"During my first last year of college, I never thought of myself as working particularly hard. Yet, I managed to finish that year with a "magna cum laude" mention. This made me extremely happy and restored my self-confidence. It also allowed me and gave me an incentive to be a specially good student for my last year of undergraduate studies." (64)
		"One great peak experience for me was college graduation. I was on stage just about to receive my diploma and a feeling of success had just hit me. I finally realized that I had accomplished a goal, not just a goal, but a major goal in my life …" (99)

Topic	Keyword	Participant Quote Including Participant Number
		"… I had enlisted in the Army for two reasons: an older man calling me a coward because I was in college and not serving our country, the other reason was inner turmoil. I didn't get along well with others, was a loner, but wasn't happy by myself either … I contemplated suicide in April 1969. Finally went to see a psychiatrist. Due to Army red tape I never saw one. Instead, I was transferred to another base camp. A week or so later another military policeman talked with me about becoming a Christian. I started reading the New Testament. I prayed with this man (Lowell Berensten) about a week or two later, not expecting anything to happen. The next morning I felt different …" (31)
		"… I can sit down at a keyboard and lose all track of time while I'm playing, usually when I'm improvising rather than playing a set piece. Sometimes I'll have to stop because my forearms cramp up. I very rarely for other people and this "peak" only occurs when I'm alone with the piano. When I finish, sometimes I'll look at the keyboard and say to myself, "Wow, did that come out of me?" Maybe someone walking by would say "Wow, where's all that noise coming from?" but that's okay with me. I would say maybe once or twice a year this happens, even though I play almost every day." (76)
		"… Being pregnant of course was wonderful, but being a mother was truly a great job. I remember caring for my children when they were sick, up at nights; and the many wonderful day, the fun and excitement of watching challenge each stage of their growth. My son and daughter are young adults and super people. They male me feel very proud." (53)

Topic	Keyword	Participant Quote Including Participant Number
		" … This was the only relationship I have ever had in which both people just truly enjoyed each other's company, respected each other, and supported each other, without so much of the often dangerous intensity and fear of obligations that have been characteristic of all of my other relationships …" (55)
		"… Many people came down from the stands onto the track (they were crying too). Everyone was hugging each other and jumping up and down – people I didn't even know …" (32)
		"The same two-day period in which I was accepted to a competitive graduate program and had a creative piece meet very positive public response. I sat in the back in the auditorium in which this work was seen by a couple hundred people. While I was already confident and happy that I had a life plan for the next couple of years, the crowd's laughter and applause was the cream on top …" (37)

Common Keywords among Two Topics

Furthermore, there were keywords that appeared in connection with two topics. First, the keyword "joy" occurred for both the love towards the family and communion with others but was most prominent regarding the communion with others (see Appendix C). Concerning the love towards the family, the emotion of joy was predominantly connected with the love towards the husband and towards the children (e.g. see excerpts from participants 34 & 9, Table 6). For communion with others, on the other hand, many different contexts and activities were related to joy, for example, the birth of one's offspring, which was usually also connected with feelings of pride, enjoying helping others, or the beauty of nature (see excerpts from participants 85, 56, & 92).

Moreover, the word "family" presents an important keyword for both love towards the family as well as communion with others. However, the difference becomes prevalent that for the love towards family, the family plays the key role within the peak experience, such as in the excerpt from participant 79, where the participant and his wife adopted a new child, and he described this moment as their family being "… complete as [he] long felt it should be".

The story of the ninth participant shows that these feelings must not be exclusive to one's own family, but can also relate to another person's family, such as the family of her partner, as she stated to "adore" her partner's whole family. This was found to be different for communion with others, where the family sometimes solely provides background information for the experience, but the peak experience itself is about the communion with other people, or animals, such as in the excerpt from participant 36: "When I was growing up, we had a family dog – a toy French poodle. Mimi was like a best friend to me. I shared all my thoughts, both good and bad, with her …" (Table 6).

The keyword "school" often occurred in relation to the participants' achievements, however, to a greater extent, it was related to communion with others (see Appendix C). For example, in the excerpt from participant 26, the participant was grateful that the director of the graduate school the participant applied to made the effort to call him and tell him that they had not receive his application yet, leading the participant to still get accepted at this school. This proved to be an important communion, even though the two people involved probably did not have a close bond towards each other, however, it led to the participant securing his next career move. Another example of the school playing an important part in people's communion with others is shown in the excerpt from participant 38, where the participant wrote a paper in graduate school and was anxiously awaiting the professor's reply. After he got back a positive response and an offer to be the professor's assistant as well, the participant shared the good news with his wife, and they celebrated together with champagne. This example shows the positive experience of the communion between the participant and his professor and the communion between the participant and his wife because in her he had a person with whom he could celebrate the good news.

Lastly, the keyword "husband" appeared for both love towards the family and achievements, while it played only a marginally significant role for the love towards the family. The only times the husband gets thematized within the topic of love toward the family is when the participant and husband share the experience of their child's birth, but also the death of one of the newborns, whereupon the couple gave each other a lot of support (see excerpts from participants 34, 52 & 60). Besides that, the death of a participant's husband is included in the excerpt from participant 128, as despite that tragic incident, she said that she "… can't complain [as she still has] that home and … look[s] on the bright side [as they] all get along fine…". Within the frame achievements, on the other hand, the husband gets thematized due to the great positive influence he would have on the participant's life, which led her to experience him as "… a wonderful inspiration to [her, and as] very kind and patient.

The perfect calming balance to [her] otherwise hectic life, [giving her] an indescribable energy and sense of confidence because he [was] so proud of [her] …", which creates the impression that the participant viewed her successful and happy marriage as an accomplishment in her life (excerpt from participant 22). Likewise, another participant described her acceptance to a PhD program as a peak experience, and in relation to this positively mentioned her husband's support in her decision to return to school even though "… it implied moving and changing [their] lives drastically] …" (excerpt from participant 111, Table 6). Thus, in connection with the participant's achievements, the support of the partner also seemed to contribute to the peak experience.

These results show that besides the topics sharing common keywords, the keywords' meanings can take different forms depending on the context.

Table 6

Topics with Common Keywords among Two Topics and Participants' Quotes Including Participant Numbers

Topic	Keyword	Participant Quote Including Participant Number
Love towards family	Joy	"… My labor was induced early the next morning and four hours later our son was born. I remember feeling overjoyed, scared, and in awe of what the human body is capable of." (34) "… what he did gave me the greatest joy and sense of security I had ever known. It was only a week later that he asked me to marry him, saying that he could no longer think of having a life without me." (9)
Communion with others	Joy	"My peak experience is when my daughter was born in 1946. An emergency cesarean was necessary after a long labor, 23 hours after water broke and 12 hours of labor. She is my pride and joy as well as my two granddaughters." (85) "… I decided to help some people in my hometown to learn how to read and write … The peak of that experience is that I remember this seventy year old man who cried of joy the day that he learned read and write his own name." (56)

Topic	Keyword	Participant Quote Including Participant Number
		"… The view from the chair was incredible – the lake was blue, the sky was blue, the trees were green and loaded with snow, and I was in the mountains doing one of my favorite things: skiing with my best friend. I realized, as I looked at the scenery and drank wine and made jokes with Steve, that activities such as this were really why I wanted to be a part of the world. I don't want to look back on my life and regret not having taken the time to enjoy the beauty and gifts of this planet. I only get one crack – I want to be happy with how I do it." (92)
Love towards family	Family	"… I remember the nurse putting the baby in my arms and thinking how beautiful and perfect she was. Our family was complete as I long felt it should be." (79)
		"… That summer, I had been taken to the fabled annual family reunion, which marked a very significant point in any relationship within the family. Those brought to reunions were persons considered to be seriously involved with members of the family. I adored them all …" (9)

Topic	Keyword	Participant Quote Including Participant Number
Communion with others	Family	"When I was growing up, we had a family dog – a toy French poodle. Mimi was like a best friend to me. I shared all my thoughts, both good and bad, with her …" (36)
Achievements	School	"I remember applying to colleges after high school. I wasn't very motivated and my high school counselor wasn't very helpful. I only applied to four universities and was accepted by two. After attending Lake Forest College for two years I decided to reapply to the other colleges that wouldn't accept me. To my surprise I was accepted with flying colors. I transferred to Ripon College in August of 1983 and was very happy to get in and complete my degree." (18)
		"… Then in June we found out he was chosen, the only one chosen to attend Northwestern for 10 months. I was so happy that he could leave everything behind and start a new safe life, together. It was like a bug weight had been lifted from our shoulders. It was exciting – the thought of moving to another state for him to go to school – plus getting paid to do it. Finally we had some good luck." (16)
Communion with others	School	"I applied a couple of graduate schools in the east coast this spring. I didn't hear anything from NU till late March. One Sunday after I received a phone call from the director of the Material Science Dept. telling me he did not receive my transcripts yet and I was almost the last one they were gonna to consider. I was surprised about that because I had sent my transcripts twice over him. I really appreciate his call, which saves my position here. Next day I fax the document over and sent the third official copy. This time he did receive it. I guess without that call, I won't wind up in NU today." (26)

Topic	Keyword	Participant Quote Including Participant Number
		"I had written one of these term papers for a course in graduate school where one feels a combination of hope and dread for the professor's reaction. Sometime later, the professor called me on the phone to compliment me on the paper and ask me to serve as his assistant the next year, a very prestigious distinction. This all came out of the blue for me, in the midst of a spaghetti dinner with my wife. Bubbling with excitement, I went on about the wonderful event to my wife and we decided, despite relatively straightened circumstances, to buy a bottle of champagne to celebrate." (38)
Love towards family	Husband	"… my husband and I waited three years to have a child. It was the most special moment in my life. The miracle of life will always move me. From that instant of birth, your life changes forever. My husband was there for the birth …" (52)
		"After 3 years of trying to conceive a child, my husband and I gave birth to our first child on March 1, 1989. The evening before his birth my water broke and I remember while driving to the hospital I thought about the fact that the next time I got into our car my life would be changed forever – my husband and I even talked about that en route. My labor was induced early the next morning and four hours later our son was born. I remember feeling overjoyed, scared, and in awe of what the human body is capable of." (34)

Topic	Keyword	Participant Quote Including Participant Number
		"Two years ago I gave birth to twins. They were born 16 weeks early. One twin died and my son was in intensive care for 4 ½ months. The day we were able to take him home was a wonderful day. It was my mother-in-law's birthday – mine was the next day and my husband's was 4 days later – I was so proud of my husband and I. It was our first year of marriage and we made it through the most awful experience of our lives. I never thought I'd make it through the months – I'm much stronger than I know." (60)
		"… but then after 21 years we lost my husband and things began to change a little. Only 4 months he passed away the doctors for cancer and me. So things do change some but I can't complain. I still have that home and I still go every 6 weeks to the Kellogg center- but I look on the bright side- and we all get along fine." (128)
Achievements	Husband	"… He has been a wonderful inspiration to me, he is very kind and patient. The perfect calming balance to my otherwise hectic life. He gives me an indescribable energy and sense of confidence because he is so proud of me." (22)
		"The experience that stands out in my mind as a "peak" experience is when I got accepted to a PhD program. I was unhappy with that I was doing and decided to return to school. My husband agreed to the plan even though it implied moving and changing our lives drastically …" (111)

Discussion

Main Findings

To reach the main aim of answering the question of how mid-life adults narrate their peak experiences, the adults' peak experiences were used as the data to be analyzed. Based on this, the word cloud was investigated. Then, the text corpus was explored, while comparing the nature of the sample's peak experiences with traditional peak experiences according to

Maslow. Afterward, the topic model was interpreted, meaning that three main themes were identified, and different topic loadings, as well as common keywords, were analyzed. Based on this, the main content of the adults' peak experiences could be interpreted.

Drawing upon the results, the research question of how mid-life adults narrate their peak experiences can be answered with a focus on the love towards the family, communion with others, and achievements. The importance of educational experiences as well as close relationships with others also shows in the word cloud, with the most significant words being "friend", "love", "school", "child", and "family". With regards to the different foci per topic, it stands out that the love towards the family, especially marriage and a child's birth plays a crucial role. Furthermore, communion with others is mostly connected with experiences shared with friends or spouses. Moreover, the participants usually experience their achievements as being college or work-related. Also, they often experience their achievements in the company of other people or even judge the people's feedback as an achievement itself. While these characteristics could easily be related to the single topics due to the prototypical topic loadings, others were found in multiple topics at the same time, leading the stories to have balanced topic loadings. Thus, some of the factors contributing to peak experiences, such as the experience of joy, spending time with the family and husband, or being in school, occurred for stories with a different thematic focus.

When going into the three main topics found in this sample, it appears that all the topics were also found in other studies about people's peak experiences. For example, for the participants in this dataset, two of the most important factors for the peak experiences were their children and other family members, generally relating to their love towards the family. A study by Hoffman et al. (2012) has shown that interpersonal joy, as one of the most important categories among peak experiences, was usually related to family-relatedness as well, usually occurring in the context of a child's birth or being proud of one's offspring (Hoffman et al., 2012). However, as an addition in this dataset, the love towards the family was also thematized in the form that participants were happy about their family's presence in significant moments of their lives, such as college graduation, or being accepted by other families than their own, such as the partner's family (see excerpts from participants 99 & 9, Table 4).

Furthermore, within the topic of communion with others, it is worth noticing that experiences with friends or the intense feeling of friendship with another person play a crucial role in the peak experiences of the participants, but also the connection to other, less close

persons (see Appendix C). In the study by Hoffman et al. (2012) it was shown that rather than friendships, romantic relationships are more closely associated with people's peak experiences. Although this observation does not align with the current sample, it is noteworthy that love, and thereby romantic relationships, are the second most influential factor in determining a peak moment for this sample as well, following closely behind friendships. The connection between peak experiences and communion with others was also found in other studies. For example, in a study by Mouton and Montijo (2016), it was found that falling in love with someone, marrying someone, or giving birth to a child were experiences that were usually related to people's peak moments.

Also, it is noticeable that regarding people's achievements, the presence of other people is an important factor, for example, to have an audience to present one's achievements to. Concerning the topic of achievements, the study by Mouton and Montijo (2016) only found work-related peak experiences that were about success at work and found less personal-related achievements. Furthermore, with regard to achievements, a study by Hoffman et al. (2012) has shown that personal growth is related to peak experiences. However, in the current study, this was only occasionally the case. For example, the experience of personal growth can be found in some of the participant's religious or spiritual experiences, as these experiences often went along with questioning one's former beliefs and gaining new insights (e.g. see excerpt from participant 78). However, more often, participants highlighted their personal growth in connection with their college graduations (e.g. see excerpts from participants 12 & 99, Table 4).

Finally, it was noticeable that all of the people's peak experiences, regardless of the topic they were assigned to, revolved around the keywords "child", "love", "home", "son", and "happy", but still had different weightings with regard to other keywords.

When comparing the findings of the current study with the findings from literature, it is noticeable that the sample's experiences match the definition of peak experiences by Maslow to a certain extent. First, the participants partly thematize reaching self-actualization during their peak experiences. Also, many participants reported experiencing positive emotions during their peak experience, and positive consequences afterward. Furthermore, the participants usually experienced their peak moments during meaningful activities, and during a moment when they felt responsible for something or someone. However, still, there are some characteristics that were not mentioned in the peak experiences of this sample, such as experiencing a being-cognition, being isolated in time and space, being non-judgmental, and being less ego-focused. Also, the characteristics of peak experiences being transpersonal and

perceptual, receptive, and passive, do not show within the participants' peak experiences. Based on that, it can be concluded that the participants' peak experiences do not have a complete overlap with the definition of peak experiences according to Maslow. It should be considered that the lack of complete overlap may be related to the question posed to the participants. The sample has geared its descriptions towards telling stories that ''... stand[] out as an especially positive experience, ... an especially happy, joyous exciting, or wonderful moment in the story'' ", and were told that peak experiences can be seen as "… a "high point' in [their] life story …" (Cox, 2015). This generalized definition, which did neither include details according to Maslow's definition of peak experiences nor how peak experiences differentiate from other positive life experiences, might be a reason why the participants' peak experiences do not completely overlap with peak experiences as defined by Abraham Maslow.

Limitations and Strengths

The text mining approach offers various advantages including the handling of unstructured data and the analysis of correlations between different text corpora (Hotho et al., 2005; Stavrianou et al., 2007). Still, there are limitations that come with this approach that should be acknowledged. While the LDA technique brings about strong reasons for its usage, such as enabling access to an easily understandable data output and enabling the coding of a quantitative measure of the data, it remains doubtful whether this purely computer-based approach should be used on its own (Harris, 1954; Nelson et al., 2021; Piepenbrink & Gaur, 2017). This was also shown in the current study, as the computer program changed the unit of analysis from being a word to a word syllable, which is shown in the word "son" being one of the common keywords across the topics, as the program has read it as a word syllable of other words. Still, it was decided to not exclude this word from the results, as the word "son" still seemed to play an important role in the mid-life adults' peak experiences. Also, due to this finding, there was an even stronger focus on human interpretation to minimize this limitation of the computer-based approach.

Another limitation of the current research is the nature of the sample, as it could benefit from more diversity, for example regarding the place of residence, since all participants were from Chicago (Cox, 2015). Also, it would give further insights if attention were paid to including participants with different demographics, for example in terms of income of the participants, or their school education. However, still, the sample was relatively varied, due to the sample consisting of Caucasian American and African American

participants, and a small number that identified as interracial or other (Cox, 2015). Also, the focus on mid-life adults instead of younger participants is an advantage, as this age span is rarely included in research (Lachman, 2015).

Despite these limitations, this research offers a comprehensive overview of the significant themes in mid-life adults' peak experiences, particularly due to the manageable number of topics identified.

Implications for Future Research and Practice

Based on this overview, several implications can be drawn for future research. Firstly, it would be valuable to compare the results of this study with self-report measures of the participants. This would help investigate the relationship between the thematic focus of peak experiences and participants' psychological measures. For instance, it could be explored whether more extroverted individuals are more likely to emphasize communion with others compared to more introverted individuals. Such comparisons could provide insights into the psychological correlates of thematic focus and can become useful in practice. In terms of practical applications, the findings of the current research can also be utilized in therapy settings. Therapists can incorporate discussions about peak experiences to help patients become more aware of their values and what truly matters to them. Also, patients might be encouraged to write their peak experiences and related values down to increase their mindfulness. This might serve as a basis to personalize mental health care further.

Furthermore, this research serves as a foundation for future studies to delve deeper into the various facets and factors associated with each theme. For example, this could lead to a summary of the factors that contribute to a well-functioning communion with others. For this, the participants' stories that put a focus on communion could be investigated in greater depth, looking for factors that contributed to their positive experience, such as specific ways of communicating with each other or having a religious or otherwise meaningful experience together. In practice, this information could for example be integrated into the organization of adult community activities, such as work or company excursions.

Lastly, applying a similar study design to a different sample, potentially with younger participants, would allow for a comparison of how thematic focus may shift with age. This would provide insights into potential developmental differences and additionally offer the same practical benefits to younger individuals as for older people.

Overall, the present research provides a strong foundation for future investigations, facilitating a better understanding of midlife adults' peak experiences. The indication that they mainly revolve around love towards the family, communion with others, and achievements, might pave the way for more targeted interventions.

Conclusion

In conclusion, midlife adults' narratives of peak experiences predominantly revolve around themes related to family love, communion with others, and personal achievements. Notably, children, love, home, and happiness are recurring elements across all categories. However, family love is uniquely attributed to marriage and the birth of children, while communion with others centers on friendships and the potential influence of relatively unknown individuals in creating peak experiences. Furthermore, personal achievements often entail work or educational accomplishments, with the presence of others playing a role in transforming these achievements into peak experiences. It should still be noted that some stories relate to multiple topics, implicating the complexity of mid-life adults' peak experiences.

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Appendix A

Table of Stop Words

I	The	And	Was
a	To	,	My
Of	In	That	It
Had	Me	For	'
We	With	As	At
On	-	When	This
Experience	Felt	Time	Where
He	But	From	Have
Peak	One	Be	Would
An	So	She	About
After	T	Her	Not
Him	Been	His	By
Very	His	Could	Up
Or	Myself	They	Because
Never	Ever	Did	Only
Just	Like	Being	Over
Do	Most	Has	Peak
One	Would	First	Never
Now	Come	Could	would
get	never	peak	one
experience	feel	life	could
know	day	go	two
year	take	even	though
come	think	say	week
later	make	time	give
thing	like	well	since
give	see	much	

Appendix B

Excerpt of Data Table

Appendix C

LDA Topic Model with Number of Topics N = 3