

Images of sorrow—Experiences of losing a co-twin in old age

Sirpa Pietilä Rosendahl^{1,2*}, Pia Bülow³, Anita Björklund⁴

¹Institute of Gerontology, School of Health Sciences, Jönköping University, Jönköping, Sweden;

*Corresponding Author: pisi@hhj.hj.se

²School of Health, Care and Social Welfare, Mälardalen University, Eskilstuna, Sweden

³Department of Behavioural Science and Social Work, Jönköping University, Jönköping, Sweden

⁴Department of Rehabilitation, School of Health Sciences, Jönköping University, Jönköping, Sweden

Received 22 October 2013; revised 26 November 2013; accepted 3 December 2013

Copyright © 2013 Sirpa Pietilä Rosendahl *et al.* This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

What it is like when a lifelong twin relationship ends through death in later life is the focus of this study. It draws on interview data from seven twins who are part of a longitudinal Swedish twin study (SATSA) and who lost their co-twins in old age. Data were analyzed using qualitative latent content analysis. The results showed that the experience of loss of the co-twin was profound, including an emotional as well as a behavioral dimension. Loss and loneliness were expressed as the dominant feelings related to the quality of the missing relationship as well as the loss of twin identity. However, the grief experiences in this study were primarily related to the closeness and quality of the twin relationship, rather than identity. Behavioral adjustments included the use of outside as well as internal cognitive resources to cope with life after the loss. Despite the devastating experience of losing a co-twin after a lifelong relationship, the participants engaged actively in their own grief processes. It was concluded that twin loss is unique, in the sense of losing the relational twin identity, as well as it is characterized by similar features as the loss of a close relationship among non-twins.

Keywords: Aging; Content Analysis; Sibling Death; Twin Loss

1. INTRODUCTION

The loss of a co-twin through death is, according to earlier studies on twin loss, that twin lose an equally dev-

astating experience for the surviving twin, as the loss of a child or a spouse [1,2]. This indicates something of the magnitude of this kind of sibling relationship, which is the focus of this study. According to earlier bereavement studies, we grieve most of all for those who are most important to us, such as a spouse or a child [3,4] or for twins; it may be the co-twin [1]. The concept of bereavement through death in this study is in line with Strobe, Hansson, Stroebe and Schut, (2002) which is referred to as the objective situation of having lost a loved one and which is experienced within emotional, physical, cognitive, behavioural, social and philosophical dimensions.

Grief refers to the emotional reactions, including feelings such as dejection, despair, anxiety, guilt, anger, hostility and loneliness, which are expressed in behaviours such as agitation, fatigue, crying and social withdrawal [3]. In this kind of definition, it is assumed that grief is related to negative feelings only. But more recent bereavement researches have questioned this view as there has been evidence that positive emotions also occur encountering major losses [5,6]. Positive emotions do not have to be an indication of denial of the loss or indicative of pathological behaviour, but may have an adaptive function in the grieving process [7-9]. Not only are the relationships with a spouse, children or siblings important, but also they share a special bond with one another, which is called an attachment relationship.

1.1. Attachment

Attachment relationships are according to Bowlby (1969; 1980) characterized by features such as proximity seeking, separation distress, safe haven and a secure base. Proximity seeking involves enjoying and actively seeking out the presence of the other and the relationship represents a safe haven when the person is distressed as well as it is a secure base from which new environments can be

explored. When the relationship is threatened or disrupted, the individuals will experience separation distress. This kind of attachment is called “secure attachment”. Depending on the quality of care, other attachment styles can develop, such as avoidant attachment, which is characterized by little affection in play, little or no distress on departure and as adults these individuals may develop distant and superficial relationships. In contrast, the ambivalent-resistant attachment style may be proximity seeking to the extent of being dependent on the attachment figure. The first attachment in life is between child and parent, which is an asymmetric attachment as it is the child who is attached to the parent. Adult attachment relationships are more symmetric with giving and receiving on a more equal basis [10,11]. Twins have a symmetric attachment to one another from the beginning and as such they establish a close relationship very early on in contrast to non-twins.

Attachment figures change over the life course and in adulthood the romantic partner is the preferred attachment figure over the parent [12,13]. Siblings are also considered as attachment figures, as they share a continuing bond with each other throughout life [14-17]. The death of a sibling may therefore be experienced as one major life event for the surviving sibling [18]. Twin relationships, as a kind of sibling relationship, are according to Tancredy & Fraley, (2006) placed after the romantic partner and are higher in the attachment hierarchy than non-twin siblings. Older twins also have a stronger attachment to their co-twins than older non-twins have to their siblings [19].

1.2. Twin Loss

According to the twin study conducted by Segal, Wilson, Bouchard, & Gitlin, (1995) identical twins were found to be most and deepest grieved by their co-twin as compared to fraternal twins and loss of non-twin siblings. The cause was suggested to be related to the genetic origin of twins, as identical twins share 100% of their genes while fraternal twins share approximately 50% of their genes [1]. A twin study by Schave & Ciriello, (1983) instead suggested that the depth of twin loss is related to the closeness of the relationship which in turn is related to identity and that twins in very dependent twin relationships also defined themselves through their co-twin [20]. A difference between twins and non-twins are that twins are related to each other from the very beginning and a twin instead may develop ambiguous identity boundaries. As a consequence this may add to confusion of identity and leave the surviving twin with vulnerability when the co-twin dies [21-23]. Reactions to the loss are also related to age. The death of younger individuals are considered as more untimely and often experienced as more intense than the death of older individuals. Instead older individuals may devalue or neglect their grief

and internalize their feelings [24-26].

Generally, studies on twin loss have focused on childhood and adulthood [27-30], but experiences related to twin loss in old age specifically have to our knowledge been given less attention and need further exploring. This study will give some insight into grief in sibling relationships and particularly twin loss in later life. Additionally, it will contribute to knowledge that is helpful to those connected to bereaved twins, such as family, friends or grief counselors. The aim of this study was to explore and describe how twins experience the loss of a co-twin in later life.

2. MATERIALS AND METHODS

2.1. Method

The complexity of life and the perspective of individuals in a social context can be understood with qualitative approaches and consequently this study design was based on data consisting of narratives of loss and bereavement by older twins. Qualitative latent content analysis of the narratives focuses on personal experiences within their social context and the including of a variety of experiences with each individual’s experience adds to a greater understanding of a studied phenomenon [31,32]. The life stories of older people in this study do not only give information about the personal experiences, but also about the context. The context includes a time perspective, which in this study means that the participants had experiences of a life-long twin relationship and were able to see how it had changed over time, as well as how the co-twin relationship ended through death.

2.2. Participants

The participants are part of a qualitative study, based on the life stories of 35 older twins [33], which in turn is a subsample of a longitudinal twin-study, SATSA (= Swedish Adoption Twin Study of Ageing) [34,35]. Seven participants had lost their co-twin when they were between 75-91 years, mean age of 86 years. The participants had lost their co-twin from 6 months to 9 years before the interview were conducted. Six participants had lost the co-twin unexpectedly, who had died within hours to a couple of days and one co-twin had died after two months’ sickness. The participants were two male and five female twins, three were identical and four were non-identical twins and all were married with families. (Table 1)

2.3. Data Collection

The interviews were conducted in the participants’ homes and tape-recorded with an average recording time of approximately one hour (40 - 90 minutes). The questions of loss and bereavement were part of a life story

Table 1. Characteristics of participants.

Twins	Type of twin*	Age	Time since loss	Sudden loss	Marital status
Alice	Identical	91	12 months	3 - 4weeks	widow
Marjory	Identical	90	9 years	in a week	widow
Annie	Identical	85	12 months	in 24 hours	widow
Ellen	Fraternal	79	6 months	in 2 days	married
George	Fraternal	82	18 months	3 - 4weeks	married
Herbert	Fraternal	88	6 months	in a week	married
Rosalyn	Fraternal	86	12 months	in 4 hours	divorced
	3Id./4Fr.	M = 86			

interview regarding life as a twin and a semi-structured interview guide was at hand in case the participants needed some guidance through the interview. The following are examples of questions regarding the death of the co-twin: *What is life like without your co-twin? What happened when your twin passed away?* Accounts of the death of the co-twin were told almost without interruption from the interviewer, whereas, when focusing on the participant's own reactions and grief work regarding the loss, the interviewer intervened with questions like: *What did you think about ...? What was it like ...?*

2.4. Data Analysis

The purpose of the qualitative latent content analysis is to identify the underlying meaning by categorizing and abstracting the text on different levels in relation to the research question of the study [31,32]. The interviews were transcribed verbatim by the first author and the texts were analyzed based on the analysis steps in qualitative latent content analysis described by Graneheim, & Lundman, (2004). To get an overall impression of the content, each transcript was read several times. The text was then re-read, line by line, to identify topics and domains related to the study's purpose and research questions. Meaning units were identified and condensed into smaller units without losing the meaning of the words. The next step included abstracting the meaning units into labeling codes.

Codes related to the content were grouped together into subcategories and subcategories with similar content were further abstracted to main categories (see **Table 2**). This phase of the analysis refers to the manifest dimension, which is close to the text [31]. The next step included comparing commonalities and differences in the categories, and the pattern which was running through all categories was identified as the theme expressing the latent or underlying meaning of the text. The interviews were read and analyzed independently by the third author and agreement was reached regarding analysis and interpretation of the texts (**Table 2**).

2.5. Ethical Considerations

The study was approved by the Ethics Committee at Karolinska Institutet in Stockholm, Sweden. Further ethical considerations concerning informed consent consisting of written information about the purpose of the study, interview procedures, voluntary participation and ensuring confidentiality by changing the names and locations of the participants were taken. As recalling memories of the death of a co-twin can be emotionally intense, the participants were reminded that they were allowed to withdraw from the study if they did not want to continue. Some tears were shed but everybody wanted to continue with the interview and the participants expressed they had no objections to sharing painful memories. To ensure that the interview would finish on a positive note, the closing question had a more affirmative character, such as *"what has been the best thing about being a twin?"*.

3. RESULTS

The results showed that experiences of loss of a co-twin in old age are expressed in manifold ways. According to the analysis the experiences focused on an emotional and behavioral dimension, which are described in the two main categories: *"emotional reactions to bereavement"* and *"ways of coping with life after the loss"*. Emotional reactions included a range of feelings which were associated with the missing relationship as well as a kind of self-reflection on the feelings of the surviving twin. These subcategories were labeled *"inter-emotional reactions"* and *"intra-emotional reactions"*. The behavioral dimension in the two subcategories, describes grief work *directed outward* as well as *directed inward*. The manifold expressions running through all categories were summarized in a theme, called *"images of sorrow"* (**Figure 1**).

3.1. Emotional Reactions to Bereavement

The first main category contained the sub-categories: *"inter-emotional reactions"*, focusing on the relationship

Table 2. Example of analytic coding process from meaning unit to main categories and theme.

Meaning unit	Condensed meaning unit	Code	Subcategory	Main category	Theme
I notice that now, that if my twin sister was still here I'd have a solid basis ... but I don't have that now ...	if my twin sister was still here I'd have a solid basis	No one to lean on	Inter-emotional reactions	Emotional reactions to bereavement	Images of Sorrow
I've only got one sister left now,	only one sister left	Reduced number of siblings			
yes, it's very difficult [with the pain]	very difficult [pain]	Painful feeling	Intra-emotional reactions		
..but I comforted myself with the children and grandchildren	comfort from children and grandchildren	Comfort from family	Outward directed coping	Ways of coping with life after loss	
It was a wonderful week that I will remember for the rest of my life... We talked and laughed until midnight and had so much fun... it was indeed a wonderful week	A wonderful week to remember with talks, laughter and fun	Comfort from memories	Inward directed coping		

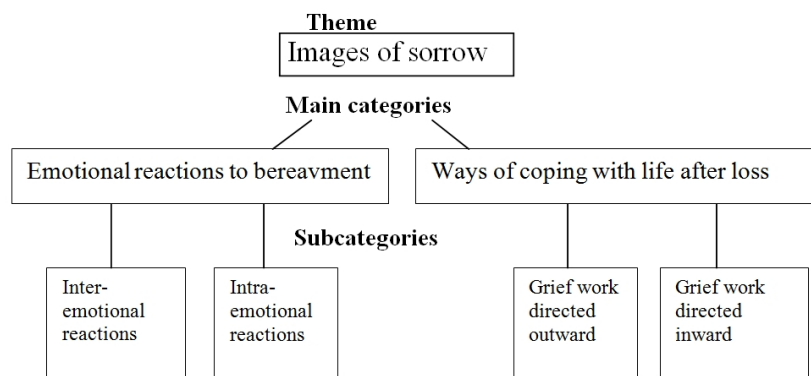


Figure 1. Taxonomy of categorization.

with the deceased and “*intra-emotional reactions*”, referring to feelings focusing on oneself.

3.1.1. Inter-Emotional Reactions

Firstly, the death of the co-twin was described as an emotionally heavy experience with negative emotions directed to the missing relationship. From the perspective of the relationship quality and closeness in the twin relationships, it seemed that those who described their twin relationship as emotionally close; it was closeness with both positive and negative connotation. Even though a relationship that was described as close, but experienced as dependent and complicated, the surviving twin still felt a deep sense of loss and loneliness.

The feelings of loss and loneliness were dominant in relation to the missing relationship as such, but the function of the twin relationship also had an impact on identity, expressed as having lost part of the self. For the first time in life, the surviving twins would have to reconsider themselves as a singleton. One female twin who had re-

connected with her twin sister in old age told: “... *yes, it is hard, I'm only a half now, there's only half of me left, the other half has disappeared, it's 6 months exactly since it happened.*” (Ellen).

Time of loss and interview varied and one twin had lost her sister nine years before the interview, her reactions were similar to those who had lost their co-twin recently or a year before. Secondly, as much as loss and loneliness were related to the missing relationship itself loss also included shared habits and routines, such as daily phone calls, practical help and support with household matters, as well as shared future plans.

“... *it has been so empty since she passed away, on my way to pick up the phone, I am reminded that, no. I should not [call her]*” (Alice).

“*Yes, we were going to make up for the time we had lost, we thought we would be together and we would travel, we expected to do so much, we thought at most, like 10 years more and I was going to continue to visit her.*” (Ellen).

Thirdly, when related to the number of deaths of other close relations, as was the case for these older participants who had lost spouses, relatives or friends close to the death of their co-twin, loss and loneliness were reinforced. A female twin said that the loss and loneliness felt so much deeper because she had experienced several deaths already. Yet, she reasoned that it was a natural part of ageing.

"... of course I miss her even more now with me getting sick too. There are so many ... yes, four of my colleagues have died recently, this is what happens at our age" (Annie).

The emotional dimension also involved feelings like pain, anger, reproach and guilt and they were intertwined in the emotional dimension, both associated to the relationship and the circumstances around the death, but also when reflecting over how the loss was felt by the surviving twin

3.1.2. Intra-Emotional Reactions

The participants described the depth of pain by comparing it with the loss of other close relationships or other difficult or traumatic life events. A female twin compared the grief after her twin sister with the loss of her brothers and did not think there was any difference. Related to the quality of her twin relationship, she experienced it as warm and close. Another female twin who had no siblings, instead compared the loss of her twin sister with difficult life events, which she felt as the worst thing that had ever happened in her life:

"I usually try to see a reason for something happening, but I can't with this, it's the worst thing that has ever happened to me in my whole life, I can't describe it, it is simply indescribable" (Ellen).

Emotional pain was described differently depending on gender; the female participants were more verbal about their feelings than the male participants who, instead, focused on the practical consequences of the loss.

"I had counted on the assistance from my twin brother when we were going to sell our parents' house, but now left alone, I have to manage that on my own" (Herbert).

Feelings such as anger, reproach and guilt were also part of the experienced emotional reactions. Reproach was directed towards people around the co-twin, such as next-of-kin, hospital staff for making mistakes connected to the death of the co-twin or circumstances that delayed the process of help. This was particularly evident in the stories where the co-twin had died in their own homes. A female twin described this as follows:

"She [the co-twin] just fell at home and nobody found her and no one knew, they didn't know anything. We weren't allowed to go there and no one had the keys and we couldn't get hold of her [the twin sister] or her daughter, no one knew where she was, you see. I called

the ward, [at the hospital] they didn't understand anything, so by four in the afternoon the police went round, it was terrible." (Annie).

No one seemed to feel guilty about being alive; instead, guilt was more related to the difficulties or complications in the twin relationship. Another participant blamed a "fate" that seemed unfair. According to her beliefs about twins, having been born in "twos", she expected to die in "twos", but to her surprise and disappointment her sister died first, while she survived. The emotional reactions of those who had enjoyed a warm and close life-long relationship expressed the strongest emotional reactions to the loss, whereas those who had a less close relationship showed moderate reactions. The participants with a complicated and dependent twin relationship expressed not only deep grief, but also guilt and reproach. Reactions to loss and bereavement were generally experienced as emotionally "heavy" and intense and yet the twins in this study were determined to adjust to the changes involved in life after the death of their co-twin.

3.2. Ways of Coping with Life after Loss

The second main category, contained the subcategories: "*grief work directed outward*", focuses on ways of reaching out, like telling the death story, seeking support from others and engage in activities and the category, "*grief work directed inward*", focuses on the internal process, crying, finding comfort in memories, change focus from oneself to what was best for the deceased and feeling the presence of the deceased.

3.2.1. Grief Work Directed Outward

To tell the death story was a way to verbalize the course of events and a way of organizing and making sense of the experiences. This kind of story was dominant in six interviews, but had a minor place in the interview of the one participant who claimed that his brother communicated from the "other side". All "death stories" consisted of the same components, in longer or shorter versions, for example, how the last day or the day of death had been, the course of sickness and death, the time and place of death, what the last time they had met was like. Up until the point of "death", the stories were quite detailed, but after the death, the story seemed to stop and only two participants mentioned the funeral. The day of death marked a turning point and drew a line between life before and after the death of the co-twin. Unusual days were remembered, such as the day of death, birthdays and wedding anniversaries, whereas ordinary days were not remembered particularly well. The day on which the co-twin died did not only mean the end of a close twin relationship, but it was also the beginning of a journey towards coming to terms with a new identity as a singleton. A female twin told the following story of what

happened when her twin sister died:

"She'd had fun that day. She came round and had supper, when she got home after [her trip]. It was about five thirty, she got a pain in her chest so she called her son, he came and he called an ambulance as soon as he saw her. She was having trouble breathing by then. By half past nine she was dead! That's how fast it all happened, yes."(Rosalyn).

The last day of life focused on the hours before the illness and the rapid course of death. All co-twins except one had died unexpectedly and one reason for talking about the hours before death could be a way of stressing that there was not anything particular or abnormal to indicate that these were the last hours in the co-twin's life. Suddenly, there was an illness, which rapidly turned into a terminal condition and most participants were more occupied with the rapid course to death than of the cause of death itself. Another reason, to tell about the rapid course to death, could be to stress the suddenness at which life sometimes ends. No one had actually been present when their co-twin had died, but the last meeting was part of these death stories. The twin relationship in the last meeting was almost always represented in positive terms, as was the role of the surviving twins. A female twin told:

"We drove her out to the country because she had a summer cottage there and we could collect her, if it was Saturday, Sunday so we took care of her, which was the day that I eh walked with her all the way home with the groceries so that she didn't have to carry them, that was the last time."(Marjory).

Another way of directing outward was to seek support in the fellowship of friends or relatives. Almost all participants mentioned how they were comforted by spending time with family members of the deceased co-twin and, in some cases; emotional bonds in those relationships were renewed. Some participants even talked about the time spent with others as a form of compensation for the lost one. Sharing the grief with the co-twin's family also meant that new roles were formed and undertaken in the deceased co-twin's family. One female twin talked about her experiences of a new role:

"But I have got something back, I have a good relationship with my sister's children and I felt at the funeral, that they did everything for me to make me feel comfortable. One of the sons has a 6-year old daughter, she said: 'You look like my grandma, can I call you grandma?'"(Ellen).

Other ways of adjusting to a life without the co-twin included engaging in physical or other leisure activities and keeping occupied in order to distract thoughts about the deceased. Grief work directed outward shared with others is part of the process, while another part of the work is going on within the individual.

3.2.2. Grief Work Directed Inward

Other ways of dealing with the sadness and sorrow was an internal mental process. A female twin said that one way was to ease the sorrow and pain was in crying. She described that she initially wanted sedatives because she could not handle the pain, but was advised by her doctor to "cry out" the sorrow instead:

"It was very difficult, I asked my doctor to give me sedatives. Then he said 'cry out your sorrow'! It is better you cry, better than to keep it in. So I can be here and talk to myself and cry."(Annie).

Another way to cope with loss was to change perspective from the focus on oneself to what was best for the deceased, aspects such as the fact that the co-twin did not have to suffer a long-term sickness, as told by a female fraternal twin, whose co-twin died within hours:

"They said: [her friends] she looked so healthy, [a few hours before she died]. One could not see anything [symptoms of sickness]. Oh, how good for her, not having to suffer."(Rosalyn).

Some twins felt they still had a connection to their co-twins and felt the presence of the deceased. The co-twin of one male twin, became ill and suffered complications. After a couple of months, out of fear of having to spend the rest of his life in a geriatric ward, he decided to end his life by refusing to eat. This interview was different from all the others in the sense that the participant was strongly convinced that his twin brother lived in and communicated from the "other side" of death. He explained how the presence of the dead twin brother affected him and brought about uncontrollable crying. Another participant, a fraternal female twin, who did not have a premonition of the death of her co-twin, expressed that she sometimes felt the presence and talked to her deceased sister.

"It is as if my sister is present somewhere here, like she is here somehow with me... it is an indescribable feeling, it has to be experienced I think, because sometimes she feels very present and sometimes I talk to her in my loneliness."(Ellen).

Other participants described this in relation to the closeness of twins and almost expecting to "know" beforehand when the other one would die. Despite the initial chock and surprise over the unexpected death of the co-twin, all participants seemed to come to terms with it with an accepting attitude.

The co-twins of these participants had died around one year prior to the interview, where the grief can be expected to be more intense. However, one of the participants, a female twin, whose co-twin had died nine years before the interview, was still very emotional when she talked about her twin sister but seemed to find comfort in the memories of their close relationship:

"Betty and I used to meet downtown [regularly] and

every time she wanted to go to her cottage on the country side, we used to give her a ride out and then we drove her back home on Sunday. so we took care of her and without her I would not have been able to stay in this town at all, with her everything was much easier. We liked each other so much!" (Marjory).

The same twin's reflection of life after her loss was that difficult times in life develop inner strength.

"... well, one must try... I have had so many other experiences to work through to get over the misery... I have never comforted myself with alcohol, it has worked out anyway" (Marjory).

4. DISCUSSION

4.1. Results

The loss of a co-twin through death involved experiences both focusing on the emotional dimension of bereavement and behavioral adjustments to the loss of a co-twin. Not only was an important person missing, but the participants of this study talked about how the co-twin was mourned and how this was coped with. The emotional dimension of bereavement involved a range of negative emotions described in this study, which could be interpreted as similar to those of non-twin siblings who loses a close and warm relationship [25] or for married couples losing a beloved spouse [36]. However, the causes of these feelings might differ between twins and non-twin siblings. Earlier studies on twin loss have shown that what makes twin loss unique in contrast to non-twin loss is related to identity [22,23,27,29,30,37].

However, loss of identity may mean different things for twins than non-twins. Losing a co-twin is the loss of a twin identity with which the individual identity is intertwined. For the first time in life the surviving twin has to re-define oneself as a singleton. Non-twins have their own individual identity before developing a close relationship with another individual and an identity they can remember after the break-up of the relationship. In this study, a few twins expressed that they felt like a half person after the loss, but not all. A possible explanation to the individual variation of loss of identity in twins can perhaps be related to the degree of individuality within the co-twin relationship.

A strong sense of individuality could perhaps balance the loss of self that the surviving twin experiences. Another possibility could be that grief instead is related to the closeness and quality of the relationship itself. Twin relationships like all other human relationships show different characteristics. An emotionally close twin relationship can be experienced as warm and supportive, as well as it can be experienced as complicated, dependent and non-supportive which in turn may influence the experience of loss [33]. Six out of the seven participants in

this study described having supportive and harmonious relationships and with grief experiences characterized by emotional pain and loneliness, while the dependent twin relationship experienced grief characterized by loneliness, guilt and reproach. The influence of the quality of the twin relationship on the grief experience and process needs further exploring.

The older participants in this study talked about their deceased co-twin in ways that indicated that they had been attachment figures for one another throughout life. With such a person present, losses and crises in life were easier to cope with, but losing the co-twin through death, meant the person meeting these needs was gone, which also could explain part of the grief experience. According to Tancredy and Fraley (2006) twins are attachment figures for one another and the attachment to the co-twin in comparison to non-twin siblings is stronger for older twins, than older non-twin siblings, which this study seemed to support in part. This study also showed that there was a variation in degree of attachment in old age. Based on the life-long twin relationships, factors such as closeness of the relationship and comparing the loss of the co-twin with the loss of other siblings or a spouse, indicated that attachment to the co-twin in old age could be stronger or weaker [19].

Those who described their twin loss as the worst thing that had ever happened, in comparison to those who described their twin loss as the same as for their other siblings, indicated something of the closeness and importance of the relationship. This study seems to support the idea that we mourn the most for those who are the most important to us, but that the grief experience is more related to the quality of the relationship, than to genetic causes [1,2]. The loss of a co-twin in old age, although devastating, was perceived as more natural than at younger ages, yet the emotional reactions to bereavement in old age should be acknowledged and not mistaken for normal signs of ageing.

The behavioral dimension described in several ways of coping with loss pointed to being active in the grief process and for the participants it seemed to be a fine line of ambivalence, on one hand feeling overwhelmed with grief and on the other hand being active in their own grief process. This part of the grief process included strategies which were directed outward as well as it was an internal cognitive process. An example of the process directed outward was the telling of the "death story". According to narrative research [38,39] people tell stories when something unusual happen and by so doing the story-teller tries to make sense of the experiences. The death of the co-twin was indeed a difficult life event to talk about and it was therefore interpreted as a way of coping. This seemed to be important to the surviving twins who had to carry on with life. Telling the story of

someone dear also means that memories are kept alive and is in a sense, a continuation of the bond. Another aspect of story-telling is connected to identity, as story-telling according to narrative research serves as a form of self-representation [40,41]. Twins being confused about their identity may find story-telling as a way to re-define him/herself as a singleton.

Telling the story recalls the memories and memories are connected to feelings, in that sense story telling is a way, also to acknowledge the feelings. The participants in this study preferred to talk about what happened when the co-twin died, rather than talking about their feelings, yet it was obvious that they were emotionally touched by their own stories. In that way, story-telling brings the feelings to the surface on the terms of the storyteller, rather than on the terms of the person who is asking. Story telling also invites others into the personal experience and the burden of loss is shared [40]. In several countries, there are support groups and networks to fill this need, as well as support groups for twins who have lost their co-twin [28,30]. To seek the support and comfort from others, particularly the own family or the kin of the co-twin, was similar to that of non-twin siblings, but whether twins reaches out more in seeking the support of others, than non-twin siblings, needs further exploring.

According to this study, the grief process included actions directed outward while, at the same time, there was a process going on within the individual. Even though the emotions related to the loss were experienced as negative, positive feelings, although not literally expressed, were certainly tacit in the coping strategies. In that sense the behavioral dimension is interesting not only because of the actions taken to cope with loss, but also what kind of feelings the coping strategies generate. Bonnano & Keltner (1997) suggests that acknowledging positive feelings may have an adaptive function in the grief process, which would be an interesting aspect to follow-up in further studies [7].

Feeling the presence of the deceased was mentioned and frequently experienced by some twins post loss. These kinds of experiences are also acknowledged and described by non-twins [42,43]. Despite the advanced age of the participants in this study and a devastating experience of losing the co-twin, they showed an inner strength and competency to engage actively in their own grief process. Old age implies that individuals have experiences of both good and difficult times in life and how the difficult times were dealt with. Individuals have different ways of coping with life, but one of the benefits of old age, might just be in the consciousness of having been able to cope with the difficult times of life and through that having developed an inner strength to face further challenges.

4.2. Methodological Considerations

Data consisted of narratives which seemed to be well suited for these older participants. In narrating their experiences, the participants were given the opportunity to tell the story about losing their co-twin on their own terms. As the interview texts were in some cases structured and in other cases less structured, qualitative content analysis was well suited for the analysis. To show transparency and open up for others to evaluate the interpretations, a table showing the analytic coding process was included. A critical issue was the interpretation and labeling of the categories so that the meaning of the content did not disappear in the abstractions. To avoid this, an independent researcher (the third author) also analyzed the interviews and the agreement was reached in the discussions. Limitations could be related to the small sample size, but the qualitative nature of the study using the content analysis with the purpose of finding a variety of experiences was assessed as being sufficient in this exploratory study.

5. CONCLUSIONS

Losing a co-twin through death was experienced as a profound loss and manifold in the sense that not only a dear person was missing with everything associated with the relationship, but as well the support, safety and closeness that represent an attachment relationship, altogether the experience of loss of a co-twin involved an emotional and behavioral dimension similar to the loss of non-twins. However, a difference in grief experiences for twins seemed to be connected to identity meaning that the loss of the co-twin was also a loss of the relational twin identity and in contrast to non-twins the surviving twin had to re-define oneself as a singleton. A greater connection to the grief experiences in this study was related to the closeness and quality of the life-long twin relationship. A close and emotionally-supportive relationship with a secure attachment seemed to be different in the grief experience than the twin relationships that were dependent and complicated, which is a pattern that can be seen in both twin relationships and other human relationships.

Behavioral adjustments included the use of outside as well as internal cognitive resources to cope with life after the loss. Despite the devastating experience of losing a co-twin after a life-long relationship, the participants engaged actively in their own grief processes, showing an inner strength and competency to cope with their loss. The study showed that twin loss is unique in the sense of losing the relational twin identity, as well as it is characterized by similar features as the loss of a close relationship among non-twins.

6. ACKNOWLEDGEMENTS

This study was supported by National Institute of Aging, USA, The

Swedish Research Council, Sweden, Institute of Gerontology/Research School of Health and Welfare, Jönköping University, Jönköping, Sweden.

REFERENCES

- [1] Segal, N.L., Wilson, S.M., Bouchard, Jr., T.J., and Gitlin, D.G. (1995) Comparative grief experiences of bereaved twins and other bereaved relatives. *Personality and Individual Differences*, **18**, 511-524. [http://dx.doi.org/10.1016/0191-8869\(94\)00174-Q](http://dx.doi.org/10.1016/0191-8869(94)00174-Q)
- [2] Segal, N.L. and Ream, S.L. (1998) Decrease in grief intensity for deceased twin and non-twin relatives: An evolutionary perspective. *Personality and Individual Differences*, **25**, 317-325. [http://dx.doi.org/10.1016/S0191-8869\(98\)00050-6](http://dx.doi.org/10.1016/S0191-8869(98)00050-6)
- [3] Stroebe, M.S., Hansson, R.O., Stroebe, W. and Schut, H. (2002) Handbook of bereavement research. Consequences, coping and care. American Psychological Association, Washington DC.
- [4] Worden, J.W. (2002) Grief counseling and grief therapy—A handbook for the mental health professional. Springer Publishing Company, New York.
- [5] Bonnano, G.A. and Kaltman, S. (2001) The Varieties of grief experience. *Clinical Psychology Review*, **21**, 705-734. [http://dx.doi.org/10.1016/S0272-7358\(00\)00062-3](http://dx.doi.org/10.1016/S0272-7358(00)00062-3)
- [6] Wortman, C.B. and Boerner, K. (2007) Beyond the myths of coping with loss. Prevailing assumptions versus scientific evidence. In: Friedman, H.S. and Silver, R.C., Eds., *Foundations of Health Psychology*, Oxford University Press, New York.
- [7] Bonnano, G.A. and Keltner, D. (1997) Facial expressions of emotion and the course of conjugal bereavement. *Journal of Abnormal Psychology*, **106**, 126-137. <http://dx.doi.org/10.1037/0021-843X.106.1.126>
- [8] Ong, A.D., Fuller-Rowell, T.E. and Bonnano, G.A. (2010) Prospective predictors of positive emotions following spousal loss. *Psychology and Aging*, **25**, 653-660. <http://dx.doi.org/10.1037/a0018870>
- [9] Wortman, C.B. and Silver, R.C. (1989) The myths of coping with loss. *Journal of Consulting and Clinical Psychology*, **57**, 349-357. <http://dx.doi.org/10.1037/0022-006X.57.3.349>
- [10] Bowlby, J. (1969) Attachment and loss. Vol. 1 attachment. Basic Books, New York.
- [11] Bowlby, J. (1980) Attachment and loss, Vol. 3: Loss, sadness and depression. Basic Books, New York.
- [12] Hazan, C. and Shaver, P. (1987) Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology*, **52**, 511-524. <http://dx.doi.org/10.1037/0022-3514.52.3.511>
- [13] Hazan, C. and Shaver, P. (1994) Attachments as an organisational framework for close relationships. *Psychological Inquiry*, **5**, 1-22. http://dx.doi.org/10.1207/s15327965pli0501_1
- [14] Campbell, L.D., Connidis, I.A. and Davies, L. (1999) Sibling ties in later Life: A social network analysis. *Journal of Family Issues*, **20**, 114-148. <http://dx.doi.org/10.1177/019251399020001006>
- [15] Cicirelli, V. (2010) Attachment relationships in old age. *Journal of Social and Personal Relationships*, **27**, 191-199. <http://dx.doi.org/10.1177/0265407509360984>
- [16] Packman, W., Horsley, H., Davies, B. and Kramer, R. (2006) Sibling bereavement and continuing bonds. *Death Studies*, **30**, 817-841. <http://dx.doi.org/10.1080/07481180600886603>
- [17] Doherty, N.A. and Feeney, J.A. (2004) The composition of attachment networks throughout the adult years. *Personal Relationships*, **11**, 469-488. <http://dx.doi.org/10.1111/j.1475-6811.2004.00093.x>
- [18] Cicirelli, V.G. (2009) Sibling death and death fear in relation to depressive symptomatology in older adults. *Journal of Gerontology: Psychological Sciences*, **64B**, 24-32. <http://dx.doi.org/10.1093/geronb/gbn024>
- [19] Tancredy, C. M. and Fraley, C. R. (2006) The nature of adult twin relationships: An attachment-theoretical perspective. *Journal of Personality and Social Psychology*, **90**, 78-93. <http://dx.doi.org/10.1037/0022-3514.90.1.78>
- [20] Schave, B. and Ciriello, J. (1983) Identity and intimacy in twins. Praeger Publications, New York.
- [21] Ainslie, R.C. (1985) The psychology of twinship. University of Nebraska Press, Lincoln.
- [22] Macdonald, A.M. (2002) Bereavement in twin relationships: An exploration of themes from a study of twinship. *Twin Research*, **5**, 218-226.
- [23] Woodward, J. (1997) The loss of a twin. *Bereavement Care*, **16**, 33-35. <http://dx.doi.org/10.1080/02682629708657418>
- [24] Harwood, D. (2001) Grief in old age. *Reviews in Clinical Gerontology*, **11**, 167-175. <http://dx.doi.org/10.1017/S0959259801011273>
- [25] Moss, S.Z. and Moss, M.S. (1989) The impact of the death of an elderly sibling. *The American Behavioural Scientist*, **33**, 94-106. <http://dx.doi.org/10.1177/0002764289033001009>
- [26] Moss, S.Z. and Moss, M.S. (1995) Death and bereavement. In: Blieszner, R. and Bedford, H.V. Eds., *Handbook of the Aging and the Family*, Greenwood Publishing Group, Westport.
- [27] Bryan, E.M. (1995) The death of a twin. *Palliative Medicine*, **9**, 187-192. <http://dx.doi.org/10.1177/026921639500900303>
- [28] Segal, N.L. (2000) Entwined lives. Twins and what they tell us about human behavior. Penguin Groups, London.
- [29] Withrow, R. and Schwiebert, V.L. (2005) Twin loss: Implications for counselors working with surviving twins. *Journal of Counseling and Development*, **83**, 21-28. <http://dx.doi.org/10.1002/j.1556-6678.2005.tb00576.x>
- [30] Woodward, J. (1998) The lone twin. Understanding twin bereavement and loss. Free Association Books, London.
- [31] Graneheim, U.H. and Lundman, B. (2004) Qualitative content analysis in nursing research: Concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today*, **24**, 105-112.

- <http://dx.doi.org/10.1016/j.nedt.2003.10.001>
- [32] Krippendorff (2004) Content analysis. An introduction to its methodology. Sage Publications, California.
- [33] Pietilä, S., Bülow, P. and Björklund, A. (2012) Older twins' experiences of the relationship with their co-twin over the life-course. *Journal of Aging Studies*, **26**, 119-128. <http://dx.doi.org/10.1016/j.jaging.2011.10.002>
- [34] Lichtenstein, P., Gatz, M., Pedersen, N.L., Berg, S. and McClearn, G. (1996) A co-twin control study of response to widowhood. *Journal of Gerontology: Psychological Sciences*, **51B**, 279-289. <http://dx.doi.org/10.1093/geronb/51B.5.P279>
- [35] Lichtenstein, P., De Faire, U., Floderus, B., Svartengren, M., Svedberg, P. and Pedersen, N.L. (2002) The Swedish twin registry: A unique resource for clinical, epidemiological and genetic studies. *Journal of Internal Medicine*, **25**, 184-205. <http://dx.doi.org/10.1046/j.1365-2796.2002.01032.x>
- [36] Osorio-Parraguez, P. (2013) Health and widowhood: Meanings and experience of elderly women in Chile. *Health*, **5**, 1272-1276. <http://dx.doi.org/10.4236/health.2013.58173>
- [37] Bryan, E.M. and Higgins, R. (2002) Comments on and extracts from: The death of a twin: Mourning and anniversary reactions—Fragments of 10 years of self-analysis by George Engel. *Twin Research*, **5**, 206-209.
- [38] Bülow, P.H. and Hydèn, L.-C. (2003) In dialogue with time: Identity and illness narratives about chronic fatigue. *Narrative Inquiry*, **13**, 71-97. <http://dx.doi.org/10.1075/ni.13.1.03bul>
- [39] Riessman, C. (1993) Narrative analysis. SAGE Publications, California.
- [40] Bennett, K.M. and Vidal-Hall, S. (2000) Narratives of death: A qualitative study of widowhood in later life. *Ageing and Society*, **20**, 413-428. <http://dx.doi.org/10.1017/S0144686X99007813>
- [41] Mishler, E.G. (1999) Storylines. Craftartists' narratives of identity. Harvard University Press, Texas.
- [42] Bennett G. and Bennett, K.M. (2000) The presence of the dead: An empirical study. *Mortality*, **5**, pp. 139-157. <http://dx.doi.org/10.1080/713686002>
- [43] Rees, W.D. (1971) The hallucinations of widowhood. *British Medical Journal*, **4**, 37-41. <http://dx.doi.org/10.1136/bmj.4.5778.37>