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## Moderating Role of Sense of Coherence on the Relationship between Grief and Embitterment among Women's Experiences Fetal Demise/Spontaneous Abortion

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**Abstract:** A time of anticipation and support, bearing a child is an emotional journey defined by the promise and certainty of new life. However, some individuals and couples have a deep and often tragic experience in the middle of this joy and expectation: fetal demise/ spontaneous abortion. The intention of the current study is to examine the association between grief and embitterment for females who have undergone fetal demise/ spontaneous abortion. The study also aims to explore the buffering impact of a sense of coherence on the association between grief and embitterment. Data from 200 married women who experienced fetal demise/ spontaneous abortion was collected in person and online by using a purposive sampling technique. For data collection, three reliable scales were used, namely the Perinatal Grief Scale (PGS) for grief, the Traumatic Embitterment Disorder Self-Rating Scale (PTED) for embitterment, and the Sense of Coherence (SOC) scale for measuring sense of coherence. Results of the study suggest a positive relationship between grief and embitterment. As grief increases, embitterment also increases. Sense of Coherence helps to decrease the impact of embitterment. Sense of Coherence significantly moderates the association between grief and embitterment. The study implications were examined.

**Key Words:** Grief, Embitterment, Sense of Coherence (SOC), Fetal Demise, Spontaneous Abortion

### Introduction

The loss of a fetus has very severe psychological and emotional consequences for women and their families. Loss of a fetus, including both spontaneous abortion and fetal death, is a challenging and sensitive topic all around the world. The term "fetal demise" is defined as the fetus that ends before birth. It can occur at any point throughout the pregnancy, from conception until delivery. Fetal demise can be because of various reasons, including genetic abnormalities, maternal health issues, and complications during pregnancy. It is traumatic for all the expecting parents and usually requires medical treatment to manage the physical and psychological impacts of this situation. It is typically a more painful experience for couples. Many couples face horrible effects of spontaneous abortion all around, usually repeated loss of the fetus (Gao et al., 2024).

Spontaneous abortion, also termed miscarriage, is the natural end of a pregnancy before the 20th week of gestation. It occurs without any purposeful intention. Those who experience spontaneous abortions face psychological, emotional, and physical challenges (Turesheva et al., 2023). It is a big responsibility to carry a kid, and the loss of a fetus causes worse mental health conditions. Studies reveal that over 20% of pregnancies end unknowingly within 22 weeks. (Quenby et al., 2021). Fetal death can be extremely difficult for couples to cope with because it might make them worry about the next pregnancy (Donegan et al., 2023).

Grief is the feeling of melancholy over some loss or tragedy. It particularly dominates the emotional side of grieving, and it exaggerates the powerful emotions of suffering, agony, and desire that come along

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with experiencing loss. For individuals affected, grieving over a loss is a totally personal and emotional process that may be quite hard. Women mostly experience shock, loss of energy, sadness and a need to find answers when their pregnancies terminate (Brann et al., 2019). These feelings may lead a woman to lack of social contact, anxiety, sadness, psychological and physical issues (Tian et al., 2023). Grieving over the loss of a fetus often involves increased emotional pain and sorrow. Individuals may feel overcome by feelings of grief, sadness, and longing for the child they had thought to welcome into their lives. This grief may be overwhelmed by feelings of guilt, shame, or inadequacy, as individuals may ask what they did wrong or why this happened to them.

Loss of the fetus and before the birth of the fetus are disastrous events for families (VandeVusse et al., 2023). Losing a child for a woman, her husbands, and her doctors is extremely hard (Tomkiewicz & Kolarz, 2023). Loss of pregnancy involves physical, psychological and emotional changes (Tyrlik et al., 2013). Ladies experience extreme levels of discomfort, anxiety, despair, and grief after they lose their fetuses (DeMontigny et al., 2020) and experience the worst psychological reactions. Studies suggested women who experience fetal loss or spontaneous abortion experience high levels of irritation, pain and grief (Callander et al., 2007).

Experiencing grief after some loss is common, especially fetal loss, but the worst and most distressing responses after the loss have largely been ignored. People have different personal reactions to loss who is in grief or aspects of the loss event, such as how sudden the loss happened. They express different types of symptoms of loss. Reacting to the loss is also different for different grievers. Most of the women with fetal loss express deadness of feelings for others, too (Khalife, 2019). Nearly a quarter of them experience sinful thoughts, and most of the women take it as the loss of a family member. Pregnancy loss is conveyed as the loss of a fetus/future baby, loss of being a mother, loss of self-esteem and loss of a major part of self, and one may develop feelings of doubts related to the ability to be pregnant again (Issanov et al., 2022). Death of a fetus before birth mostly occurs in 1<sup>st</sup> trimester (Martin & Reid, 2022). Also, experiencing grief for this kind of loss may be very complicated, making the grieving process more complicated for different reasons (Leyland & Choucri, 2024). The loss of a fetus can be a very traumatic event for those who experience it. Traumatic life events may be represented as situations of extreme weakness, difficulty, and disturbance and may incorporate tragedy, sudden hardships, savagery, or sudden accidents (Parkes, 1986). People who are victims of traumatic events often exhibit psychological and physiological symptoms, such as irritation, ignorance, frustration, lack of sleep, worry, shocking responses, sadness, and hardship in focusing on one thing. They have different emotions of upset, embarrassment, worst, cruelty and powerlessness. Worst memories of life can lead to many different mental reactions, such as the development of embitterment, discouragement, uneasiness, outrage, and frustration in people (Finney, 2002)

Embitterment is a complicated sentiment followed by feelings of injustice, bitterness and rage, often resulting from recognizing that they are getting unfair treatment or having negative life events in life (Ernst et al., 2022). Women, when losing their fetuses, sometimes experience embitterment and develop feelings of bitterness. Although it's important to note that every woman develops different types of feelings, not every woman develops feelings of embitterment; this response is not universal at all. Most of the time, grief that is not supported by others and rages over the loss of a fetus can lead to developing feelings of embitterment towards people around them. Women try to express their emotions fully and struggle to cope with this loss, and these situations lead them to persistent thoughts of anger or bitterness for those who thought they had nothing to mourn over. The loss of a fetus is the most painful experience. Sentiments of ignorance, lack of belief, contradiction, rage, iniquity, uneasiness, searching, and longing are described by those women who have experienced the loss of a fetus (Badenhorst & Hughes, 2007). Loss of a fetus can be a more hurtful experience for those women who are prone to experiencing overwhelming grief, irritability, and rage during the process of grieving (Lewis & Frydenberg, 2004).

Some people are more vulnerable to developing feelings of embitterment than others. This can be because of biological factors that lead to emotional sensitivity, high reactant to being hurt, high response to criticisms, and deep feelings about oneself as a victim (Linden & Lieberei, 2023). Most of the people approximately half of the general population describe feelings of embitterment when they think of their



past traumatic life events. (Linden et al., 2009) Findings in previous research state a direct positive significant relationship between negative life events and embitterment, whereas social support is negatively related to embitterment (You & Ju, 2020). When people experience embitterment over grief, they use different ways to get out of these feelings. A sense of coherence is one of the ways people use it as a coping mechanism.

Sense of Coherence is a cognitive approach to problems that has been continuously linked with resilience related to tragedies in life. Antonovsky (1987) introduced a sense of coherence defined as strong emotions of trust and belief that every person's life events can be comprehensible, they must have the ability to cope with the needs of these events, and that these needs are significant and important to be part of. Some people try to adjust themselves well in those situations rather than think of them as challenges. This totally depends on a person's ability to deal with situations or stressors effectively; this can only be done by searching for and employing resources (Galletta et al., 2019). It has been suggested that people are more adaptable to stress and have more sense of coherence. This helps them employ the resources and use them as coping strategies and reduce the effect of tension on the person (Çamaş & Yalçın, 2021). Rotter's (2009) study concluded that people with a decreased sense of coherence may think that their loss is big, biased and embarrassing. However, people with an increased sense of coherence despite the loss are stronger in accepting the loss the way it is and making meaning of their lives. Research indicated that a sense of coherence is totally opposite to irritation and anger, a component that can be seen in embitterment, and a sense of coherence is confidently associated with psychological comfort (Galletta et al., 2019).

The motive of the current study was to attain a detailed understanding of the loss of a fetus, either fetal demise or spontaneous abortion, and how this situation affects a large number of women all over the world. Exploring the relationship between grief and embitterment among women experiencing fetal demise or spontaneous abortion is important for understanding the emotional response to this traumatic event. The study also helps in understanding how women who experience such loss maintain or struggle with their sense of coherence, which can offer insights into their coping strategies and overall well-being.

## Method

### Objectives

- To explore the relationship between Grief, Embitterment and Sense of Coherence.
- To investigate the moderating effect of a Sense of Coherence on the relationship of Grief and Embitterment.

### Hypotheses

1. There is a positive relationship between Grief and Embitterment.
2. Sense of Coherence is negatively correlated with Embitterment.
3. Sense of Coherence moderates the relationship between Grief and Embitterment.

### Research Design

A cross-sectional research design was used to explore the relationship between grief, empathy, and sense of coherence.

### Sample

The sample comprised 200 married women who experienced fetal loss during the last five years. These losses include both fetal demise and spontaneous abortion. Taxila, Wah, Rawalpindi and Islamabad were the sources of data collection. Data was collected by using a purposive sampling technique. Participants were aged 18-50 and had varying levels of education, from high school to PhD/MBBS.

### Instruments

**Perinatal Grief Scale:** The Perinatal Grief Scale was used to measure grief. The scale was developed by Toedter et al. (1988). The PGS consisted of 33 items on a Likert-type scale of 1 (Strongly Agree) to 5

(Strongly Disagree). It has three components: counting Despair, Difficulty Coping, and Active Grief. Except for 11 and 32, all items were reverse-scored. After reversing the items, higher scores indicated more intense grief.

**PTED Self-Rating Scale:** The scale was invented by Linden et al. (2009) as a self-responding scale to assess the seriousness of the side effects of embitterment, including 19 items. Each item was marked on a 5-point Likert scale (0= "Not true at all" –4= "Extremely true").

**Sense of Coherence:** The SOC-13 scale was invented by Antonovsky (1987), where the score ranges between 13 and 91. Higher scores indicate a greater level of sense of coherence. The SOC-13 scale has three components: Comprehensibility (items 2, 6, 8, 9, 11), Manageability (items 3, 5, 10, 13) and Meaningfulness (items 1, 4, 7, 12). Five Items 1, 2, 3, 7, and 10 are reverse-scored. The reliability of SOC-13 ranges from 0.74 to 0.91 (Eriksson & Lindstrom, 2005).

### Procedure

The sample was approached personally and online. After briefing the participants on the important information, the questionnaires were distributed. Participants agreed to take part in the study before we collected any data. We only included those who gave their consent.

### Ethical Consideration

Participants were assured that their information would only be used for research purposes and would remain confidential.

### Statistical Analysis

To explore the relationship between grief and embitterment and to investigate the moderating effect of a sense of coherence on the relationship between grief and embitterment, data was evaluated using the statistical package for social sciences (SPSS).

## Results

**Table 1**

*Descriptive Statistics and Cronbach's Alpha for the scales of grief, embitterment and sense of coherence (N=200).*

Variables	K	α	M	SD	Range		Skewness	Kurtosis
					Actual	Potential		
Grief	33	.93	116.46	22.10	62-151	33-165	-.29	-1.02
Embitterment	19	.89	21.00	15.67	0-71	0-76	.67	.00
Sense of Coherence	13	.77	66.61	7.92	45-80	13-91	-.57	-.49

Table 1 shows alpha coefficients, descriptive statistics and normality statistics for all the studied variables. Normality statistics show that skewness and kurtosis are in the acceptable range for a claim of normality of data. The alpha coefficient of scales lies between 0.77 and 0.93, indicating that they are reliable.

**Table 2**

*Correlation Coefficient for the scales of grief, embitterment and sense of coherence (N=200).*

Variables	1	2	3
1 Grief	-----		
2 Embitterment	.178*	-----	
3 Sense of Coherence	-.377**	-.259**	-----

\* $p < .05$ , \*\*  $p < .01$

Results in Table 2 indicate a relationship between grief, embitterment and sense of coherence among women who experience fetal demise/ spontaneous abortion. Findings suggest that there is a significantly



positive relationship between grief and embitterment. This means that when grief increases, embitterment also increases. It also indicated that a sense of coherence is negatively correlated with embitterment. It suggests that people who have an increased sense of coherence help to decrease embitterment.

**Table 3**

*The moderating impact of a Sense of Coherence on the relationship between grief and embitterment among women experiencing fetal demise (N=200)*

Predictor	Embitterment (95% CL)				
	B	Se	p	LL	UL
Constant	-186.4	64.4	.004	-313.5	-59.3
Grief	1.9	.49	.000	.92	2.88
Sense of Coherence	1.49	.88	.093	-.256	3.25
Sense of Coherence x Grief	-.014	.007	.031	-.028	-.001
R <sup>2</sup>	.167				
ΔR <sup>2</sup>	.020				

Table 3 revealed the moderating role of a sense of coherence on the relationship between grief and embitterment ( $B = -.014$ ,  $t = -2.16$ ,  $p = .031$ ). Sense of Coherence causes a 2% variance in this relationship ( $\Delta R^2 = 0.02$ ). This also shows that the more the person has a sense of coherence, the impact of grief and embitterment is weakened.

**Figure 1**

*Moderating the role of a sense of coherence in the relationship between grief and embitterment*

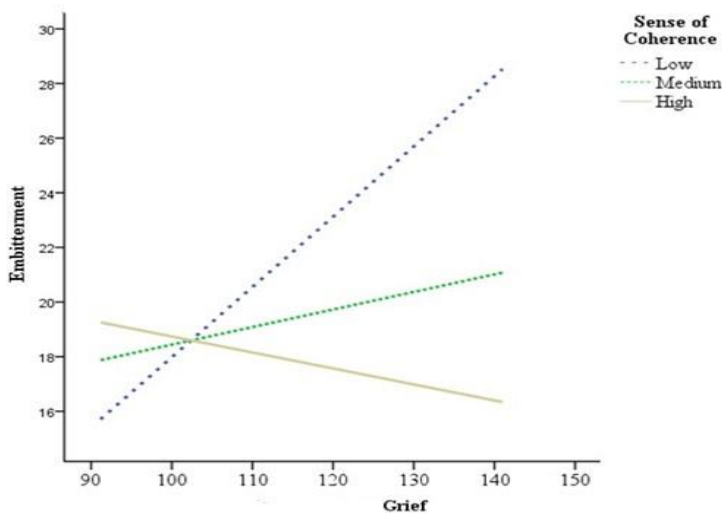


Figure 1 revealed that as grief increases, embitterment also increases, whereas the sense of coherence acts as a moderator by decreasing embitterment.

## Discussion

Loss of a fetus is a sensitive and challenging for many women and their families all over the world. Loss of a fetus before birth is common (Lidegaard et al., 2020). Loss of a fetus is a huge event that occurs in someone's life that can strongly affect the mental well-being of especially women. The purpose of this investigation was to explore the relationship between grief, embitterment and sense of coherence. Moreover, the study's motives are to investigate the buffering effect of a sense of coherence. The sample was only those women who experienced fetal demise or spontaneous abortion.

"There is a positive relationship between grief and embitterment" was the first hypothesis of the current study. Results in Table 2 indicate that there is a significant positive relationship between grief and embitterment. This means that when grief increases, embitterment also increases. The findings of the

present study are aligned with previous studies, which also suggested embitterment is characterized by some other mental health issues, such as sadness, uneasiness, and prolonged mourning (Kerns et al., 2018). Grieving is a process of being sad over a lack of support from others. When people don't receive comfort from others in their grief, they feel alone and ignored, and this feelings leads to developing embitterment. Grief can lead to feelings of embitterment, as feelings of anger and hatred may increase with the passage of time. *A previous study found a positive relationship between negative life events and embitterment* (Javaid & Mahmood, 2023). Negative life events can activate a range of emotions and embitterment, specifically feelings of rage, injustice, and a sense of injustice. Hence, the first hypothesis of the current study is accepted.

The second hypothesis was that "Sense of Coherence is negatively correlated with embitterment". Results in Table 2 also indicate that there is a significantly negative correlation between a sense of coherence and embitterment. Results aid the hypothesis that if the sense of coherence increases, embitterment decreases. Previous studies also supported the hypothesis that a decrease in the sense of coherence leads to increasing psychological distress (Gómez-Salgado et al., 2020). Also, a high sense of coherence was linked to less distress (Kase et al., 2023). Research finds a negative relationship between a sense of coherence and mental health issues (Downey & Crummy, 2022). Higher SOC individuals think their lives are important and that their surroundings are understandable and controllable (Schafer et al., 2023).

The third hypothesis was that a "sense of coherence moderates the relationship between grief and embitterment". Table 3 reveals that a sense of coherence plays a moderating role in the association between grief and embitterment. Figure 1 also explains the part of the sense of coherence in the relation of grief and embitterment. Previous studies also supported the hypothesis that a "Sense of Coherence moderates the relationship between grief and embitterment" as a sense of coherence and engagement have both been negatively related to fatigue, whereas coping has been positively correlated with a sense of coherence (Mitonga-Monga & Mayer, 2020). An increased sense of coherence may serve as a moderator between grief and embitterment by providing individuals with cognitive, emotional, and behavioural resources to steer the grieving process more effectively. It can empower individuals to make sense of their experiences, cope with the challenges of grief, and find meaning during loss, ultimately reducing the likelihood of developing embitterment. However, the study also highlights the function of a sense of coherence as a potential protective factor in the face of adversity. Women who are able to understand or interpret their situation, discover meaning within the lived experience, and feel a sense of manageability and comprehensibility may be better equipped to cope with the challenges associated with the loss of a fetus (Elzen et al., 2023). Hence, the hypothesis was accepted.

## Implications

1. The present study will have a great influence on healthcare providers as they will assess the sense of coherence in women who have experienced fetal demise/spontaneous abortion to identify those at risk of embitterment.
2. Healthcare providers can tailor support and interventions to fulfil the needs of each individual by working on their level of sense of coherence.
3. The findings of the current study support the expansion of grief theories to include a sense of coherence as a moderator in the relationship between grief and embitterment.
4. Support groups can be developed to promote a sense of coherence and reduce embitterment among women who have experienced fetal demise/spontaneous abortion.

## Limitations and Suggestions

1. The study relies on self-reported data, which can be subjective and lead to biases. It is suggested that a longitudinal study be conducted to examine the interaction between grief, embitterment, and sense of coherence over time.
2. The participants filled out the questionnaire casually, which might have affected the results.



3. One of the major limitations is that this study only considers the grief of women who experience fetal demise/ spontaneous abortion; the grief of men after that loss is not considered in this study, so it is suggested to include men in further studies.

## Conclusion

In conclusion, the study has important implications for the development of interventions aimed at supporting women who have experienced fetal demise/spontaneous abortion. By promoting a sense of coherence through interventions that enhance meaningfulness, manageability, and comprehensibility, healthcare providers may be able to minimize the likelihood of embitterment and promote more adaptive coping strategies among these women.

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