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**COMPARISON OF PERCEIVED SOCIAL SUPPORT AND
EXECUTIVE FUNCTIONS OF INDIVIDUALS WHO HAVE LOST A
BELOVED PERSON OR COMPANION ANIMAL**

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ÖZET

ÖZTÜRK, Zeynep Emel. İnsan veya Hayvan Kaybı Yaşayan Bireylerdeki Algılanan Sosyal Destek ile Yürütücü İşlevlerin Kıyaslanması. Başkent Üniversitesi, Sosyal Bilimler Enstitüsü, Klinik Psikoloji Tezli Yüksek Lisans Programı. Ankara, 2024.

Bu çalışmada insan ve hayvan kaybı arasındaki benzerlikler ve farklılıkların incelenmesi amaçlanmıştır. Bu benzerlik ve farklılıklar; yas şiddeti, yürütücü işlevler ve algılanan sosyal destek açısından incelenmiştir. Yaşları 18-85 arası değişen, insan kaybı yaşamış, hayvan kaybı yaşamış ve hiç kayıp yaşamamış toplam 380 katılımcıyla yapılan bu çalışmada katılımcılara sırasıyla Onam Formu ile Demografik Bilgi Formu verilmiştir. Sonrasında verilen ölçekler insan veya evcil hayvan kaybı yaşamış grup ile daha önce kayıp yaşamamış grup olarak ayrılmıştır. İnsan veya evcil hayvan kaybı yaşamış gruba Temel Yas Unsurları Ölçeği, Çok Boyutlu Algılanan Sosyal Destek Ölçeği (ÇBASDÖ) ve Yürütücü İşlevler Ölçeği (YİÖ) seçkisiz olarak verilmiştir. Kayıp yaşamamış gruba ise ÇBASDÖ ve YİÖ seçkisiz olarak verilmiştir. Yapılan istatistikî analizler sonucunda insan ve hayvan kaybindan sonra yaşanan yas şiddeti ve algılanan sosyal destek arasında bir fark bulunmadığı gözlenmiştir. Yürütücü işlevler ile ilgili sonuçlar incelendiğinde kayıp yaşayan grup ile kayıp yaşamamış grup kıyaslandığında, kayıp yaşamış grubun anlamlı biçimde daha yüksek empati seviyesine sahip olduğu bulunmuştur. Kayıp yaşayan grup, daha önce kayıp yaşamamış grubun sosyal destek ile yürütücü işlevler arasındaki ilişkisel analizin sonuçlarına bakıldığında ise yürütücü işlevlerin alt grubu olan motivasyonun bütün bağımsız değişken grubu ile pozitif ve anlamlı bir ilişkide çıktığı görülmüştür. Sadece kayıp grupları ile yürütücü işlevler arasındaki anlamlı pozitif ilişkiler incelendiğinde organizasyon ve planlamanın olduğu görülmektedir. Dürtü kontrolünün, insan kaybı yaşayan grupta aileden gelen sosyal destek arttıkça arttığı görülmüş; kayıp olmayan grupta ise “öteki”nden gelen sosyal destek arttıkça dürtü kontrolünün azaldığı görülmüştür. Bulunan sonuçlar ile bu çalışmanın güçlü yönleri, kısıtlılıkları ve katkıları, ilgili alanyazın ışığında tartışılmıştır.

Anahtar Kelimeler: Yas, evcil hayvan, yürütücü işlevler, sosyal destek

ABSTRACT

ÖZTÜRK, Zeynep Emel. Comparison of Perceived Social Support and Executive Functions of Individuals Who Have Lost a Beloved Person or Companion Animal. Başkent University, Institute of Social Sciences, Master Program of Clinical Psychology with Thesis. Ankara, 2024.

The purpose of the current study is to explore both the similarities and differences between human loss and companion animal loss, focusing on the severity of grief, executive functions (EFs), and perceived social support (PSS). The study's sample consists of 380 adult volunteers, ranging in age from 18 to 85. Participants were selected based on their experiences and subsequently divided into three distinct groups: human loss, companion animal loss, and no loss. Initially, all participants completed a Demographic Form. Those who had experienced the loss of a human or a companion animal were randomly assigned to receive the Core Bereavement Items, the Executive Functions Index (EFI), and the Multidimensional Scale of Perceived Social Support (MSPSS). Conversely, participants in the no loss group randomly received the EFI and MSPSS. The results indicated that there were no significant differences in grief severity and perceived social support between the loss groups. However, empathy was significantly higher in the loss group compared to the no loss group. Correlation analyses among the loss group, no loss group, EFI, and MSPSS revealed that motivation was positively correlated across all groups. Organization and strategic planning were positively correlated only within the loss group. Impulse control was higher in the human loss group as perceived social support from family increased, whereas impulse control decreased in the no loss group as perceived social support from a significant other increased. These findings have been discussed in the context of the relevant literature.

Keywords: Grief/Bereavement, companion animal, executive functions, social support

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LIST OF ABBREVIATIONS

AS	Acute Separation
CA	Companion animal
CBI	Core Bereavement Items
EF	Executive Functions
EFI	Executive Functions Index
EM	Empathy
FA	Family
FR	Friends
GR	Grief
IaT	Images and Thoughts
IC	Impulse Control
MD	Motivational Drive
MSPSS	Multidimensional Scale of Social Support
ORG	Organisation
SP	Strategic Planning
SO	Significant other

1. INTRODUCTION

Death remains a complex phenomenon, defying full interpretation and explanation. Biologically, the World Health Organization (WHO, 2017, p. 3) defines it as "the cessation of physiological functions, with the determination of death marking the final event in that process. For most people, death occurs with the confirmation of irreversible cessation of cardiorespiratory function". Grief, an aggregate of psychological and physical responses to losing a loved one, typically follows a trajectory of diminishing intensity over time (Bonanno et al., 2002; Jordan & Litz, 2014). Investigating into the relevant literature necessitates familiarity with key terminological distinctions. As highlighted by Bowlby (1960), Worden (2018), and Shear (2012), these terms are not synonymous: Bereavement refers to the experience of losing a loved one. Grief encompasses the emotional response to that loss. Mourning signifies the psychological process of adapting to the loss and integrating it into one's life.

In response to death, acute grief manifests as a deeply personal and unique interaction between the mourner and the deceased, often characterized as a muted process (Shear, 2012); therefore, there are personal differences to responding to death and grief process like intensity, deepness, implicit, speed of returning functionality (Bonanno & Kaltman 2001). A person who is in a mourning process may experience intense stress in the matter of separation and along with a range of emotions like sadness, blame, and anger (Field & Bonanno, 2001; Worden, 2018). Additionally, it is common to experience numerous thoughts and memories about the deceased (Simon, 2013). Shear (2012, p. 120) summarized several responses of grief: "Acute grief is a blend of yearning and sadness, with accompanying thoughts, memories, and images of the death and the deceased person, and a tendency to be more interested in this inner world than in the activities that populate ordinary life." (p.120). Moreover, Bonanno and Kaltman (2001) identified four categories of grief responses observed after the first year of loss: 1) "Cognitive disorganization" which has subtypes as confusion and preoccupation, disturbance of identify, sense of disrupted future, long-term search for meaning; 2) "Dysphoria" which has subtypes as dysphoric emotion, pining or yearning, loneliness; 3) "Health deficits" has subtypes as health behaviors/complaints, immune functioning and mortality and, 4) "Disrupted social and occupational functioning" has subtypes as social withdrawal and isolation.

It is undoubted that responses to death affect aspects of daily life. For example, individuals often experience confusion regarding how to interpret the loss and react to it, which can cause discomfort for many (Strada, 2015). To avoid this complication, in the U.S., a constituted palliative care teams brief individuals about confusion and other expected symptoms (Strada, 2015). Afterwards the death of a loved one, the bereaved may struggle with their social identity, a disturbance that is considered a part of acute grief (Carmassi et al., 2018; Shear, 2015). Blaming self after death of a loved one is one of the common grief responses. A study examining if cognitive processes and thoughts about grief are related with grief severity have shown that negative cognitions such as self-blame, maladaptive thoughts about oneself, and future were found strongly related with severity of grief (Liu et al., 2021). Supportively, the other study by Stroebe et al. (2014) investigated how self blaming and regret related with depression and grief processes. In conclusion higher levels of self blaming was found related with high grief severity and with slowly decreased grief reacts through time.

The other common reaction given in bereavement process and affects cognition of bereaved individuals is rumination. Rumination can be defined as focused behaviors and thoughts on negative symptoms and their interpretations (Nolen-Hoeksema, 1991) and can be observed on bereaved individuals in a wide range. Example to how rumination can affect a bereaved person's mind, a study investigating the development of rumination in the grief process among individuals who have lost their partners (Delespaulx & Zech, 2015) found that the tendency to ruminate is associated with a lack of inhibition. In this study, participants with high and low levels of rumination were shown a list of words related to grief, expecting them to ignore the grief-related words. The findings revealed a significant relationship between rumination and grief levels, with individuals who had higher levels of rumination being less able to inhibit thoughts about grief. Additionally, a qualitative study on anticipated death involving individuals who lost their partners suggested that spouses ruminate as a way of transforming their denial or disbelief about their partners' illnesses. This study highlighted that uncertainty about the illness increased participants' tendency to ruminate (Saldinger & Cain, 2005). It can be concluded that when the human mind is preoccupied with rumination, it significantly affects daily life.

Empathy is an evolutionary mechanism that helped our ancestors to survive by providing their communication through sharing information and emotions (Decety, 2013). It can be said that empathy assists to understand experiences and stresses of others It is

inevitable that empathy plays a crucial role in the anticipation of death. In a study, an experiment was conducted to examine the function of empathy on grief (Yoshiike et al., 2023). In this study, Bereaved participants were shown various pictures of people within their social circles. Study revealed severity of grief predicted the expression of empathy for pain and this indicated that empathy had a role in grieving. Empathy is not necessarily only from human to human, but it can orient to animals as well. A study discovered that current companion animal guardians and especially women have higher empathy and positively attitude to animals (Taylor & Signal, 2005). Supportively, three experiments were conducted (Angantry et al., 2011) to investigate how levels of empathy differ towards humans and animals. In these experiments a man, a woman, a child, a baby, a cat, a dog, and a puppy were used as targets in the same hypothetical story. Study revealed that women tend to be more empathic, particularly in scenarios with animals. Dog owners have given more empathic reactions to scenarios with dogs and there weren't any differences detected between the stories of a child and a puppy. This suggests that empathy can be appear various ways and situations.

As an outcome of responses to death of a loved human, cultures traditionally employ rituals like funerals to commemorate the deceased. Funerals have important roles such as expressing social support, expressing emotions, or/and achieve a cultural role (O'Rourke et al., 2011). For example, a study by Mitima-Verloop et al. (2021) aimed to assess the role of funerals for bereaved individuals found that funerals were considered helpful, primarily because they aid in processing the loss. The findings highlighted those bereaved participants predominantly viewed funerals positively, attributing their utility to the facilitation of loss processing. Additionally, the significance of traditions and their meaning to bereaved individuals can vary across cultures. Like in Türkiye, after funerals, individuals visit the deceased's house to give condolences (Cimete & Kuşuoğlu, 2006) on certain days like 7th and 40th. To exemplify how post-death rituals can be helpful, a study examined the grief experience of Turkish disaster victims and showed that rituals like visiting the deceased's house, usage of cultural phrases, and/or praying about the deceased one and/or bereaved loved ones, seeing the body of deceased before funeral, clothing in black, not having entertainment were found helpful for bereavement (Aksoz-Efe et al., 2018). Like the way grief reactions are personal, memorials can be intimate too, like getting tattoos. Tattoos can be functional in various ways like as feeling the permanence, processing the loss, communicating with others through tattoos, sustaining continuing bonds, etc. (Swann-

Thomas et al., 2022). Other ways of memorializing uniquely can be lighting a candle, planting a tree, or keeping the empty chair of the deceased one on special days like celebrations (Reeves, 2011).

1.1 Approaches to Bereavement

There are approaches for understanding the grief process and reactions to the death of a loved one, which are summarized in Table 1. For example, Freud (1917) stated that in conditions of loss, the ego's inhibition is devoted to grieving, which reduces the energy available to sustain daily life activities. Melancholia is a form of mourning characterized by inhibition, lack of interest, and decreased self-regard. The difference between melancholia and grief is that grief does not include lowered self-regard. Moreover, in melancholia, the lost object is ambiguous, making the mourning process potentially less intense. It is expected that once the mourning process is completed, the ego's inhibition will be reduced.

Table 1.1

Summary of Approaches to Bereavement

Developer of Theory	Determinant Terms of Theory
Freud (1917)	Determinant terms of mourning: • Melancholia • Ego • Mourning
Kübler-Ross (1981)	Five stages of mourning: • Shock and denial • Rage and anger • Bargaining • Depression • Acceptance
Rubin (1999) “The Two-Track Model of Bereavement”	Two axes of Rubin’s model: • Functioning • Relationship with deceased
Stroebe & Schut (1999) “Dual Process Model”	Components of Dual Process Model: • Loss orientation • Restoration orientation

Worden (2018)	Four tasks of Worden's task-related approach: • To accept the reality of the loss • To process the pain of grief • To adjust to a world without the deceased • To find a way to remember the deceased while embarking on the rest of one's journey through life
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Kübler-Ross (1981), in her famous book, stated grief reactions from her patients, which have similar stages contain five steps. The first stage was called "shock and denial" and researchers also called it the "no, not me" stage (p. 27). Individuals in this stage can't accept or talk about their situation (a terminal illness or loss) and they are likely to act like there isn't anything going wrong. The second step of reactions to loss is "rage and anger", in other words, the "why me?" or "why now?" stage (p. 35). In this stage, individuals can be critical, and envious, and can make the situation harder than it is for their environment. Right behind it, the third stage is "bargaining", which is symbolized by "but". Kübler-Ross stated that in this stage, promises and prayers are increased and as well it seems like peace, but it is not. After this step, the fourth stage increases which is "depression" or symbolically "yes me". It is narrated that there are two types of depression: One type is reactive depression, which includes mourning for the past or the current situation. The other depression type can come with silence. In this type of depression, individuals can mourn for a future shaped by behaviors like not talking about emotions and wanting to see their beloved ones maybe for the last time. The last step is "acceptance", which has no other description or quotes. It can be defined as humility against the facts of life.

The Two-Track Model of Bereavement Model by Rubin (1999) has two components as a multi dimensional axis. First axis is "functioning" which has ten substrates, constituted most studied subjects. For example, somatic concerns, anxiety, work etc. The second axis is "relationship with deceased" and is about examining changing conditions after the death. This axis has ten substrates, too, similar to the other axis. It involves idealization, conflict, emotional distance etc. In this model, Rubin (1999) stated that this theory can be always extended through bereaved individuals' reactions.

The Dual Process Model conducted by Stroebe & Schut (1999) is not a phasic or stepwise approach. It includes gaining flexibility in time during bereavement. The model has

two factors which are types of stress that need to be coped with: “Loss orientation” and “restoration orientation”. The first element of stressor, loss orientation focuses on the loss experience itself and the deceased one. There can be ruminations about the deceased, thoughts about loss, or a bond with the deceased. The second element which is restoration-oriented is about secondary sources for coping with death and stress. In this type of stress, a bereaved individual should learn how to cope with what and how. For example, oriented to a new social identity or start to undertake responsibilities which were deceased before his/her death. The authors stated that there is an oscillation within these two types of stress because grieving is a dynamic process and an individual needs partly confrontation and partly avoidance in his/her conditions.

The other theory is less step-related, but more task-related, as stated by Worden (2018). He emphasized that although step-related or time-related grief theories can be effective, completing a task can be effective too for that numbness. Worden entitled his first task “to accept the reality of the loss”. After loss, some individuals can think about reuniting with the deceased but in this task, it is the goal that acceptance that is not possible. The opposite of this task can be a component of denying as not believing the death of a loved one; denying the meaning of loss, which can be seen as “selective forgetting” like not remembering the deceased one’s face or time of death. Spiritualism can be another denying form because of containing reunion ideas. The way of acceptance and thus, accomplishing this task is accepting the death of a loved one both emotionally and mentally. The second task is “to process the pain of grief”. The main goal of this task is living those emotions like anxiety, anger, loneliness, and guilt, and it is a personal process like the severity of emotions. The contradiction of this task is denying the feelings, and avoiding situations that increase emotions. On the other hand, society can make this task harder through comments and grievers can regress to previous tasks. The third task of Worden’s approach is “to adjust to a world without the deceased”. The goal of this task is to build a life in the absence of the deceased, and it addresses three areas external, internal, and spiritual. In an external area orienting the world, taking charge of new tasks which formerly deceased did. These can make it easier to complete the third task. When examining, internal adjustments represent cooperating with self like self-esteem, and self-efficacy. Internal adjustments can mean a time to acclimatize to oneself’s conditions and its as important as external adjustments. For example, a person who has lost his/her partner leaves to be part of the relationship but starts to be him/herself. The last component of this task is spiritual adjustments. After a loss,

perception of the world or life can be changed permanently, and bereaved individuals could want to take control of their lives. The condition of being unsuccessful in this task is not trying to adapt or change or experience a conflict with self. The fourth and last task is “to find a way to remember the deceased while embarking on the rest of one’s journey through life” (p. 50). Worden explained that the description of this task has been changed through experience and it got this final name. It is stated that describing being unsuccessful in this task but “not living” was found most properly by the author. This last task can be compelling for many people because the relationship with the deceased can be an obstacle to making new relationships. Finally, Worden added that individuals, in any task, can adjust, can’t adjust, or loop in any task repeatedly, and grieving should be considered as a “fluid process” (p. 52).

1.2. Bereavement of Companion Animal

It is estimated that approximately 1.3 million dogs, 4.6 million cats, 11.2 million birds, 850 thousand aquaria, 808 thousand small mammals, and 157 thousand terrariums are owned in Türkiye (FEDIAF, 2023). It can be said that companion animals (CAs) are rooted in human life and bring social benefits. For example, a study made with companion animal owners indicated that companion animals are counted as members of the family, a friend, a company, “a fur baby”; besides that, they provide comfort, they have a supporting and caring role, and accept their guardian without criticism (Adams, Bonnett & Meek, 2000; Adrian, Deliramich & Frueh, 2009; Cohen, 2002; Hill, 2020; Laing & Maylea, 2018; Packman et al., 2014; Rémillard et al., 2017; Rennard et al., 2019). To support this, a study was conducted to examine how emotional and situational variables affect bereaved individuals in conditions of companion animal loss (Cowling et al., 2020) showed that labels of companion animals are effective on grief. Bereaved individuals’ grief severity was found higher when were calling their companion animals “baby” or “child” than “good company”. Additionally, a study comparing companion animal owners and non-owners about the social benefits of having companion animals showed that individuals who have companion animals enjoy well-being and feel socially stronger (McConnel et al., 2011); being a guardian for a companion animal and meeting its needs, interaction with it physically reduces stress, regulates blood pressure while psychologically increases sociality and self-esteem, decreases depression symptoms, loneliness, and isolation (Ling, Kelly & Diamond, 2016; Wells, 2009). Another study (Bao & Schreer, 2016) aimed to compare subjective well-being between companion animal guardians and non-guardians and showed that companion animal

guardians are significantly more satisfied in life than non-guardians but there aren't any differences emotionally. These studies mentioned above show that companion animals are positively effective in human life in various areas such as emotional, mental, and physical well-being.

Just as having a companion animal can bring numerous advantages to human life, it is inevitable not to respond to the death of a companion animal. Individuals who lost their companion animal can show grief physically, cognitively, and emotionally such as lack of sleep and sleep quality, preoccupation with thoughts about their companion animal, loss of appetite, regret, guilt, hopelessness, and loss of meaning (Adams, Bonnett & Meek, 2000; Archer & Winchester, 1994; Gerwolls & Labott, 1994; Rujoiu & Rujoiu, 2014). Supportively, a study conducted to examine reactions to the death of companion animals indicated that individuals who have lost their companion animals mostly showed negative emotions like guilt, regret, depression, confusion/shock, anxiety, and anger; interruption of daily tasks and routines can be counted as behavioral reactions (Rémillard et al., 2017). Considering reactions to companion animal loss given above, it can be said that the experience of losing a companion animal is akin to losing a beloved human to death. To extend that, a study that compared grief experiences between those who have lost a human and a companion animal showed that there are no differences in grief severity and closeness between the two groups (Lavorgna & Hutton, 2019). In the same study, one of the salient findings is that grief severity was predicted by social support and individuals who have lost their beloved humans perceived more social support than individuals who have lost their companion animals. Additionally Brown & Symons (2016) made a study to examine a link between attachment to deceased companion animals and a human figure showed that attachment to humans and companion animals is not different. As it is seen, responses to companion animal loss can be varied just as human loss of death.

Like in human loss, some circumstances affect experiencing companion animal loss like attachment and being close to a companion animal. For example, the study comparing predictors of the severity of grief between human and companion animal loss stated that closeness with the deceased and being biologically woman is related to higher grief severity in both human and companion animal loss (Eckerd et al., 2016). In the other study which examined reactions to companion animal death was found that variables that affect grief severity are more related to bereaved individuals themselves than the deceased animal's characteristics (Adams, Bonnett & Meek, 2000). In the same study, it was found that making

decisions about euthanasia is a significant variable among individuals who experience higher levels of guilt. This is due to the disturbance of thoughts and emotions, which is more pronounced than the feelings experienced from losing a companion animal due to natural causes. It is noteworthy that participants of this study were found to refrain from their reactions to society and maybe try to hide them because of society's reactions. To continue examples of how attachment affects companion animal loss, a quantitative study that aimed to search the mental situations of bereaved companion animal guardians with drawings about deceased animals showed that individuals who have higher attachment with their companion animals have lower psychosocial adaptation to the loss (Packman et al., 2017). Supportively, Cowling et al. (2020) also found that higher grief reactions are related to higher attachment to companion animals. In summary, increased attachment and closeness to deceased companion animals can cause a more severe bereavement process.

Another variable that affects the experience of bereavement is the cause of death, which has shown contradictory results in the existed literature. A study aimed at examining the relationship between the euthanasia of companion animals and grief severity showed that the sudden death of companion animals was found to be related to feelings of anger and guilt (Testoni et al., 2017). Additionally, a study conducted by Barnard-Nguyen et al. (2016) investigated bereaved individuals who had to euthanize their companion animal and found that sudden death is related to increased grief severity and a positive relationship was found between sudden death and anger. A quantitative study by Rennard et al. (2019), which aimed to examine eulogies for deceased companion animals, showed that if euthanasia decisions were unexpected, bereaved guardians exhibited higher levels of guilt. In contrast, one study that evaluated the grief of companion animals and their guardians' psychosocial adaptation to it found that the anticipation of a companion animal's death is not related to adaptation to the grief process (Packman et al., 2011). Supporting this, Cowling et al. (2020) found that the cause of companion animals' death is not significantly related to feelings of guilt.

With the causation of death and relationship with companion animals, coping strategies for the death of companion animals are another factor that affects the process of bereavement. For example, a study tried to explain the experience of companion animal death in vulnerable populations (Rémillard et al., 2017) through hotline support. In this study it was stated that bereaved individuals tried to cope with loss by being more active in daily life, writing letters to deceased animals, interacting with other animals, praying, and using substances. In the other study (Rennard et al., 2019), individuals used those symbolic

memorials and remembrances which also include happy memories with deceased animals and gratitude for the time with them. It was indicated that some individuals found settling rituals like burying or cremation (Packman et al., 2014). Maintaining how coping strategies affect bereaved individuals, a study intended to investigate adaptive and maladaptive cognitive emotion regulation strategies on companion animal death showed that higher scores of maladaptive cognitive emotion regulation were found significantly related to higher grief scores (Green et al., 2018). In summary, upon examination, there are numerous reactions which are given by humans to companion animal death and these responses are effective on the severity of grief.

The importance of companion animals in human lives and the most common reactions following the death of a companion animal have been outlined above. In exploring memorials for companion animals, a study examining eulogies for companion animals (Rennard et al., 2019) found that memorials and rites were considered therapeutic by individuals. Participants shared happy memories, gave speeches celebrating the lives of companion animals, and engaged in rituals such as lighting candles. A notable observation from this study is that the language used in eulogies for deceased companion animals is similar to that for deceased humans. Additionally, some individuals express their feelings for their deceased companion animals through tattoos. A quantitative study (Hill, 2020) on individuals who got tattoos in memory of their companion animals found that these tattoos served to celebrate their bond, preserve a memory, initiate conversations, and share experiences about the deceased animals, especially if the tattoos were in visible locations. Supporting this, another study (Harris, 2019) found that individuals often chose tattoos depicting paw prints, shapes of hearts, or images reflecting their companion animals looking at their guardians. Another common form of memorialization includes burial, ceremonial organization, or cremation, allowing guardians to keep a part of their companion animal with them (Harris, 2019). The same study mentioned that some individuals keep a bracelet, brooch, necklace, or plush toy containing their companion animal's fur. Conversely, a study aimed at evaluating the relationship between the use of memorials, the number of memorials, and posttraumatic growth found no significant relationship between the use of memorials and posttraumatic growth (Spain, O'Dwyer & Moston, 2019). In summary, it can be said that practices such as tattooing and creating memorials or commemoratives after the loss of a companion animal are similar to those following human loss and are beneficial for the bereavement process.

1.3. Social Support

When social support was examined, its definition wasn't specifically outlined through the 1980s but was evaluated under an umbrella term as "social relationships," which comprises three components (House et al., 1988). According to this approach, the first element of a social relationship is "social integration," meaning the existence of social relationships and/or their quantity. The second component is "social network structure," which defines a network between two individuals and its frequency. The final component is "relational content," which refers to a definable source of social relationships, such as a friend or family member, and this component includes social support. While the first two components involve the demands and social regulations of behaviors, social support encompasses positivity and healthiness. Cobb (1976) was one of the first analysts to conceptualize social support in three main aspects: 1) the individual knows that they are cared for and loved by their environment, 2) the individual knows that they are esteemed and valued, and 3) the individual acknowledges that they are part of a social network. For Cobb (1976), social support begins in the prenatal stage and is then shaped by an individual's environment. Higher social support can alleviate crises or major life changes, thus it was suggested that social support should be evaluated in relation to specific life events, like pregnancy or retirement. Another approach for understanding adaptation to the environment requires knowledge of how supportive a group an individual has, and which challenges an individual faces (Mechanic, 1976). It was emphasized that the adequacy of an individual's coping skills is related to how those individual sources their social support from family, friends, neighbors, etc. In 1977, another approach suggested that while conceptualizing social support, one should consider four elements: Psycho-emotional needs, relationships as sources of support, characteristics of the environment, and the interaction of these three components (Kaplan et al., 1977). This perspective includes two sub-components under the second and third elements of conceptualizing social support: (1) Morphological and (2) Interactional Properties of Support. Under the morphological component, "anchorage" represents an individual's network, "reachability" represents the quality and quantity of an individual's social network, and "density" refers to whom an individual communicates with. The Interactional Properties of Support include sub-components such as "content," which refers to the meaning of received social support, with variables like rituals, personal values, and interactions facilitating meaning-making. "Directedness" represents aspects of interactions, "intensity" refers to the strength of the connection between received and

perceived social support, and "frequency" indicates the number of interactions. In summary, these components aim to create opportunities for social support (Kaplan et al., 1977). As shown, there are various approaches and theories to understand social support and its functionality.

After examining approaches to social support, it is crucial to notice associations between social support and psychological and physical well being. Uchino (2009) suggested that higher social support levels can be related to positive early life experiences, some personality traits, and higher self esteem; thus, can affect physical health. Supportively, a study revealed that lower perceived social support could cause increased symptoms of clinical depression, anxiety, and bipolar disorder (Wang et al., 2018). When the relationship between social support and psychological well-being was analyzed, Portero & Oliva (2007) found a significant correlation, indicating that the development of social support levels in elderly individuals positively affects their psychological well-being. Similarly, a study found a statistically significant correlation between higher psychosocial levels and higher social support on immigrants (Yanardağ et al., 2022). Supportively, measurements taken from disaster victims claimed that providing help from various sources related to higher perceived social support (Kaniasty, 2012). It can be said that these studies above showed that higher perceived social support can be affected by mental or somatic circumstances and vice versa.

Social support can be crucial in the bereavement process, and receiving it from family, relatives, or the 'inner circle' after the loss of a loved one is particularly important (Dyregrov, 2006; Kaniasty, 2012; Kaunonen et al., 1999). A quantitative study conducted by Cacciatore et al. (2021) aimed to explore grief support and related behaviors. The study involved asking participants four open-ended questions about the meaning of social support and how one's social circle can provide more effective support. It highlighted that the tone of social support is significant in grief management and can influence emotional, mental, and physical outcomes. Various studies have suggested that higher levels of social support may inversely correlate with clinical symptoms such as depression, anxiety, and post-traumatic stress. For instance, Van der Houwen et al. (2010) found that bereaved individuals who lost their first-degree relatives and received more social support exhibited lower levels of rumination and depressive symptoms. Additionally, a study by Vanderwerker & Prigerson (2004) indicated that after the death of a loved one, greater social support plays a protective role against depression and prolonged grief and is associated with better life quality in bereaved individuals. Similarly, research involving women who experienced miscarriages

showed that perceived social support inversely relates to symptoms of anxiety, depression, and post-traumatic stress (Scheidt et al., 2012). Conversely, a study by Logan et al. (2018) examining the relationships among bereavement, anticipated death, and social support found that levels of social support and the anticipation of death did not significantly affect grief symptoms. This study also revealed that bereaved individuals who provide support to others did not offer significantly more support than those who had not recently experienced a loss, and no direct relationship was found between experiencing a loss and providing social support. In summary, social support plays a pivotal role in the bereavement process, underscoring its importance across numerous aspects of human life.

In the discussions so far, the importance of social support in individuals' daily lives has been emphasized, with a particular focus on bereaved individuals. These findings underscore the inevitable impact of social support on individuals who have lost their companion animals. Although social support is often readily provided in cases of human loss, studies indicate that support for the loss of companion animals can be insufficient. For instance, a cross-cultural study aimed at investigating the responses of bereaved individuals to the loss of their companion animals found that a lack of empathy could lead to disenfranchisement, and this societal attitude forced bereaved individuals to withhold their grief reactions (Packman et al., 2014). Supporting this, a study comparing the experiences of loss between humans and companion animals revealed that perceived social support for human loss is higher than for companion animal loss (Lavorigna & Hutton, 2019). Similarly, an analysis of online comments about companion animal loss showed a societal lack of understanding of the human-animal bond, thus invalidating the expression of grief (Laing & Maylea, 2018). This study also noted a perceived hierarchy among animals, with certain pets like cats and dogs considered more 'grievable' than others. Furthermore, research examining how social context affects bereaved individuals found that social constraints were predictive of depression following companion animal loss (Bussolari et al., 2021). In summary, these studies exemplify the inequality in the experience of grief between humans and companion animals.

1.4. Executive Functions

Many researchers have described executive functions (EFs) (Cristofori, Cohen-Zimmerman & Grafman; 2019). Executive functions are derived from frontal lobe functions, and comprise “high level” cognitions as an umbrella term which - working memory, ability to sustain attention, problem-solving, reasoning, inhibition to unwanted stimulus, future-

oriented behavior, the flexibility of mind, multitasking, etc. while it coordinates emotions, thoughts, perception, and behaviors; therefore, it provides an integrative functioning to a person (Alvarez & Emory, 2006; Babacan Yıldız, 2020; Cristofori, Cohen-Zimmerman & Grafman; 2019; Kahokehr, Siegert & Weatherall, 2004; Welsh, 2002).

1.4.1. Theories of Executive Functions

Approaches to executive functions through time which presented in this study are summarized in Table 1.2. When considering descriptions of EFs chronologically, Luria (1973) was the first scientist who tried to enlighten the cerebral organization of the human brain, that highly complex system that includes perception, memory, thinking, speech, and attention. He described three principal systems that have a hierarchical order working interactively: The first component of this system is regulating the course and level of stimulation. This component which is located on the brainstem and the medial region of the cortex both regulates the cortical tone and operates with its collaboration; briefly, it can be said that it provides a muscle tone. The second component is receiving, construing, and keeping information. This system is from posterior regions of occipital, temporal, and parietal lobes and works “according to the principle of diminishing modal specificity and increasing functional lateralization” (p. 79). The third component of executive functions is about programming, regulating it, and reflecting it in behavior. This system is in the anterior regions of the hemispheres and includes planning, correcting, acting toward received information, and corresponding.

Table 1.2

Approaches to Executive Functions

Developer of Theory	Determinant Terms of Theory
Luria (1973)	The three principal systems: • Regulating the stimulation • Receiving, construing, and keeping information • Programming, regulating, and reflecting
Lezak (1982)	Componets of conceptualized EFs: • Formulating goals • Capacity of planning • Behaving for aims • Performing effectively

Sohlberg & Mateer (2001)	Interrelated modules of EFs: • Initiation and drive • Response inhibition • Task persistence • Organization • Generative thinking • Awareness
Keil & Kaszniak (2002)	Items of indicative ingredients: • Scheduling, strategy use and rule adherence • Generation, fluency, initiation • Shifting and suppression • Concept formation and abstract reasoning

Another approach to Executive Functions (EFs) comes from Lezak (1982), who stated that understanding a person's capacity for EFs involves questioning 'how' their performance is and 'whether' they can perform a specific task. He conceptualized EFs into four groups. The first group pertains to formulating goals, which involves regulating needs and desires appropriately before they arise and recalling past experiences to prevent 'acting out' behaviors. A person needs a motive to act; otherwise, they might become aimless, leading to a disruption of abstract, long-term aims, and resulting in diminished interest in surrounding stimuli. The second component is the capacity for planning, encompassing the calculation of alternate possibilities and choices within a structured framework for intended behavior. Impairments in planning can cause individuals to lose track of time or become lost in dialogues in daily life. The third component, according to Lezak (1982), involves acting towards goals. This is similar with Luria's study in 1973, which described it as organizing actions to achieve goals, regulating EFs, and engaging in aim-directed behavior. The final component pertains to performing effectively; it requires individuals to monitor their actions from an external viewpoint and engage in intensive self-correction if necessary. An impairment in this area means the individual cannot regulate or correct their actions effectively.

Sohlberg & Mateer (2001) identified six components of executive functions, noting that these components are interrelated, and individuals may experience difficulties in one or more subcategories. The first is 'initiation and drive,' which refers to a system activated by environmental conditions to initiate behavior. 'Response inhibition' is the ability to suppress impulses that are not aligned with goal-directed behavior. The third component, 'task persistence,' derives from working memory, encompassing the ability to maintain attention

throughout tasks. 'Organization' involves the monitoring and sorting of environmental information and the clear retrieval of information from working memory. This encompasses goal identification, planning, and timing. 'Generative thinking' enables individuals to flexibly generate solutions from a broad perspective. The impairment in generative thinking involves difficulties in processing novel stimuli. The final category, 'awareness,' pertains to the level of insight, the coordination between oneself and environmental stimuli, and the regulation of behavior accordingly.

Another approach to EFs conducted by Keil & Kaszniak (2002), was built with four components. The first component is “scheduling, strategy use and rule adherence” which stands for specifying an aim and subaims therein planning, providing rules as a requirement for accomplishing that aim, and adherence is needed to persist on those rules. The second component is “generation, fluency, initiation” which explains that monitoring the self with time constraints, thus regulating the behavior. The third one is “shifting and suppression” which is about sustaining the attention to aimed stimuli and the ability to recede from unsuitable behaviors. It can be said that this component includes an ability to suppress those persistent behaviors. Lastly, “concept formation and abstract reasoning” is similar with Lezak (1982) which was mentioned above, and this component includes thinking abstractly and not being robust through stimulus.

1.4.2. Relation Between Grief and Executive Functions

In daily life, the interaction between daily stimuli and executive functions (EFs), such as working memory, is inevitable. To explore this further, a study conducted by Schmeichel & Demaree (2010) investigated the relationship between individual differences in spontaneous emotion regulation and working memory capacity. In this study, participants were exposed to negative feedback about themselves, and results showed that those with higher working memory capacity tended to improve their performance. Similarly, Klein & Boals (2001) examined the relationship between daily life stress and working memory load through three experiments. The first experiment revealed that as stress levels increased, working memory scores decreased, demonstrating that stress impacts working memory capacity. The second experiment, building on the first, explored whether positive life events relate to working memory impairment, finding that negative life stress correlated with intrusive thoughts, but no relationship was found between positive life events and stress. In the third experiment, participants evaluated both positive and negative intrusive thoughts,

revealing that intrusive thoughts were associated with both types of events, but avoidance was only related to negative events. This suggests that negative life events more strongly push individuals to avoidance, thereby increasing cognitive activity. Supporting these findings, Schmeichel (2007) showed how attempting to control cognitions affects sequential cognitive control, leading to two conclusions: Firstly, that using executive functions can temporarily inhibit the subsequent capacity for executive control, and secondly, that expressing negative emotions excessively may reduce short-term memory span. These studies collectively suggest that working memory can be influenced by stress and daily life events and, in turn, can affect these events and their expressions.

Contrary to these findings, Gabel & McAuley (2017) hypothesized that highly reactive individuals experiencing high levels of negative affect would perform better on EF tasks. Their study found that a negative (but not positive) effect was associated with EF task performance, although the nature of this relationship varied depending on the moderator. Furthermore, Mitchell & Phillips (2007) reviewed the impact of positive and negative mood on EFs across three dimensions: 'working memory and planning,' 'fluency and creativity,' and 'inhibition and switching.' They concluded that negative mood has no effect on planning and switching, but a positive mood can impair performance, especially in younger populations. Overall, there is evidence of a correlation between EFs and daily life, which mutually influence each other, with studies providing both supportive and contrary evidence when examining the literature.

Rumination and cognitive load are another factor considered a component of EFs which affect reciprocally. A study was conducted to examine working memory, rumination, and cognitive control levels on emotional and non-emotional tasks (De Lissnyder et al., 2012). It was shown that individuals who have higher rumination scores have lower cognitive control on tasks. In another study examined a relation between impaired executive functions and adversity of inhibition with individuals who more tend to ruminate showed that individuals more tend to ruminate have more difficulties on tasks and they also have difficulties set switching if they have difficulties on inhibiting related with former task (Whitmer & Banich, 2007). To continue as an example of inverse relation between rumination and EFs, a study aimed to inspect tend to rumination and cognitive flexibility indicated that participants who more tend to ruminate behaved more perseveratively and have adversity on set switching (Davis & Nolen-Hoeksema, 2000) and there wasn't any difference between genders. In the same study, researchers indicated that

participants who are higher ruminators are troubled adapting to changing conditions. In another study aimed to inspect the relation between sad mood and inhibition, an essay was written to some of the participants about a sad event with tests which evaluate attention. It was found that individuals who wrote essays about a sad event had worse performance on attention and research suggested that it may be related with lack of cognitive clearness and lack of attention because of sad events (King, 2020). As explained above, it is undeniable that in daily routine, cognitive components and behaviors are affected by EFs.

Within daily routines, alongside several cognitive functions, the social environment and its impact can significantly affect executive functions (EFs). To measure this, a study aimed to examine the relationship between perceived social support and cognitive functioning in the elderly (Pillemer & Holtzer, 2016). For this purpose, a neuropsychological battery and a scale of perceived social support were administered to elderly participants, controlling for variables such as geriatric depression, age, and education. The results indicated that higher scores of perceived social support and greater social interactions predicted enhanced cognitive functions. Similarly, another study with middle-aged individuals found that higher social support was associated with more successful inhibition, as measured by Stroop Test results (Sims et al., 2011). To observe the effects of EFs in daily life, a study was conducted across various age groups in two experiments (Ybarra et al., 2008). The first experiment revealed that social interaction was a predictor of cognitive functioning during conversations across all groups. The second experiment demonstrated that individuals engaged in social interaction exhibited higher cognitive functioning scores than those in the intellectual activities and control groups. Contrastingly, a study examining the relationship between social support and cognitive functions among non-clinical elderly participants found no significant relationship between these variables (Sims et al., 2014). The researchers posited that their unexpected results might be related to the reciprocity theory, suggesting that an imbalance in the equilibrium of giving and receiving social support, or overly high levels of social support, could become burdensome and thus impact cognitive performance negatively. Another study investigated the association between virtual social support and working memory by exposing participants to virtual stress (Perry, 2014). This study found no significant effect of receiving virtual social support on stress responses or working memory tasks. The researcher suggested that the lack of significant effects could be due to the stress stimuli not being sufficiently stressful for participants or

because participants effectively managed and resolved the stressful stimuli they were exposed to.

Various factors influence executive functions (EFs), and conversely, EFs are affected by numerous factors, including the death of a loved one, which inevitably impacts EF levels and severity. In a study by Maccallum & Bryant (2010b), participants with complicated grief and those without were examined for their attentional biases toward the deceased, an aspect of EFs. This was evaluated using an Emotional Stroop Task, aiming to determine the impact of the conspicuousness of information. Participants with complicated grief showed slower response times to death-related words, indicating an attentional bias. Furthermore, Reid & Dixon (2000) conducted a study with bereaved individuals to explore the relationship between grieving, problem-solving, and depressive symptoms. The results indicated that those grieving did not perform worse on problem-solving tasks than those who had not experienced a loss. However, grief symptoms were significantly associated with a loss of control over emotions and behavior in problem-solving contexts. Another study by Maccallum & Bryant (2010a) compared problem-solving flexibility between individuals with and without complicated grief. Participants were given autobiographical memory and problem-solving tasks alongside qualitative measurements. The findings demonstrated that individuals with complicated grief exhibited less effective problem-solving abilities and a lower effort to solve problems compared to those without complicated grief. Additionally, Nolen-Hoeksema (2001) reviewed the relationship between rumination and various factors in bereaved individuals, such as social relationships, stress, and goal-directed behaviors. She concluded that individuals with higher levels of rumination experience a higher negative mood, impaired problem-solving abilities, a lack of social support, and diminished motivation for daily routines. These studies collectively highlight how EFs are intricately connected to the bereavement process, underscoring the profound impact of grief on cognitive functioning.

It can be expected that taking care of an animal requires daily physical activity, remembering the needs of the companion animal, and caring about its health and these can help increase the executive functions of companion animal guardians (Ling, Kelly & Diamond, 2016). In the same study, it is stated that the reason companion animal guardians have higher executive functions is not clear but the possible reason for that could be interaction with companion animal guardians can lead to higher cognitive activity and thus, higher executive functions. Supportively a study aimed to compare executive functions

between pet owners and non-pet owners. For evaluation, researchers measured participants' inflammation in their salivary besides the Clock Drawing Test and other measurements. That study showed that there aren't any different levels of inflammation in salivary, but the levels of executive functions found in participants who are companion animal guardians are higher than in non-companion animal guardians (Branson et al., 2016). On the contrary, (Thayer & Stevens, 2022) conducted a study that aimed to examine the relationship between human-animal interaction and cognitive performance, and it was found that despite there being significantly more positive affection levels in participants who have more interacted with animals, cognitive tests results didn't differ.

When examined in the literature, companion animals have various effects on human life physically, emotionally, and psychologically. Thus, reactions to the death of companion animals are inevitable. As discussed above, humans react to companion animals' death in the same ways as their beloved human's death. However, it can be highlighted that bereaved individuals who have lost their companion animal may have more difficulties expressing their feelings to society about their loss than individuals who have lost their beloved humans. This lack of expressions can be reflected in executive functions, which are natural components of humans to sustain life adaptively and restrain the pace of life both physically and psychologically.

1.5. Purpose of This Research

Individuals who have lost their companion animals can experience their bereavement more discreetly of necessity due to a lack of social support compared with griever who have lost their beloved human. Despite the grieving processes of both losses being similar, there is a gap in the literature about how executive functions of griever who have lost companion animals are affected compared to individuals who have lost their beloved humans. Thus, the purpose of this study is to evaluate the relation between executive functions and social support which is perceived by individuals who have lost a beloved person or a companion animal.

Regarding this aim, the hypotheses of this study are:

H1. The severity of grief experienced by individuals who have lost loved ones and those who have lost companion animals is not different.

H2: Levels of executive functions are higher with individuals who have lost a beloved one or the control group who haven't experienced any loss than individuals who have lost a companion animal.

H3: Perceived social support and executive functions are positively correlated among all bereaved individuals and the control group who have not experienced any loss.

H4: The level of perceived social support at individuals who have lost a beloved one or the control group are higher than individuals who have lost a companion animal.

2. METHOD

2.1. Participants

Snowball technique and social media were employed to recruit participants, resulting in 403 individuals attending. Initially, 23 participants were excluded from incomplete questionnaires, and outliers, leaving 380 participants. The participants' age ranged from 18 to 85 years ($M = 34.35$, $SD = 12.48$). The mean age of human loss condition is 36,83 with a standard deviation of 13,9; while the mean age of CA loss condition is 31,65 with a standard deviation of 9,3. Lastly, the mean age of no loss condition is 29,93 with a standard deviation of 9,1. Of these, 294 (77.4%) were biologically female, and 86 (22.6%) were biologically male. In terms of the type of loss experienced, the largest group consisted of 218 (57.4%) participants who had lost a human. This was followed by 102 (26.8%) participants who had lost a companion animal, and finally, 60 (15.8%) participants who had not lost a human or a companion animal (Table 2.1.).

Table 2.1.

Descriptive Statistics of Participants

Variables		Participants (N)	%
Sex	Female	294	77,4
	Male	86	22,6
Education	Elementary or Middle School	25	6,6
	Highschool	53	13,9
	Bachelor's Degree or Higher	302	79,5
Type of Loss	Human loss	218	57,4
	Companion Animal Loss	102	26,8
	No Loss	60	15,8

In this study, participants mostly reported the loss of first-degree relatives (43.6%), followed by second-degree relatives (43.1%). The most common cause of death among these relatives was terminal illness, accounting for 41.5% of cases, while sudden death was the second most common cause, affecting 27.11% of participants. Regarding rituals performed after the loss, funerals were the most prevalent, observed in 58.11% of cases, followed by the distribution of halva, which occurred in 24.52% of instances. More detailed descriptive statistics concerning participants who have lost humans are provided in Table 2.2.

Table 2.2.

Descriptive Statistics of Participants Who Have Lost Human

Variables		Participants (N)	%
Sex	Female	166	76,1
	Male	52	23,9
Education	Elementary or Middle School	24	11
	Highschool	21	9,6
	Bachelor's Degree or Higher	173	79,4
Identity of Deceased Most Affected by	First Degree Relative	95	43,6
	Second Degree Relative	94	43,1
	Legal Relative	3	1,4
	Social Circle	18	8,3
	Other	8	3,7
Causation of Death	Terminal Illness	98	41,5
	Sudden Death	64	27,1
	Accident	15	6,3
	Human Induced	6	2,5
	Natural Disaster	7	2,9
	Suicide	7	2,9
	Other	39	16,5
Rituals Performed	Social Media Post	25	9,4
	Funeral	154	58,1
	To Distribute Halva	65	24,5
	Other	21	7,9
Time Since Death	2-6 Month	11	5,0
	7 Months - 1 Year	29	13,3
	2-3 Years	49	22,4
	4 Years and Longer	129	59,1

Cats were the most commonly owned companion animal, reported by 37.6% of participants, aligning with the findings of the FEDIAF report (FEDIAF, 2023). Notably, almost half of the participants (44.1%) experienced significant impact from the loss of their companion cats. The majority of participants indicated that their companion animals passed away 2-3 years ago (34.3%), and 56.9% of these participants conducted rituals following the death of their companion animals. Among these rituals, funerals were the most common, performed by 67.1% of participants, as detailed in Table 2.3.

Table 2.3.

Descriptive Statistics of Participants Who Have Lost Companion Animal

Variables		Participants (N)	%
Sex	Female	83	81,4
	Male	19	18,6
Education	Elementary or Middle School	1	1

	Highschool	27	26,5
	Bachelor's Degree or Higher	74	72,5
Type of Companion Animals Owned	Cat	79	37,6
	Dog	40	19,0
	Bird	61	29,0
	Horse	2	0,9
	Reptile	5	2,3
	Other	23	10,9
Companion Animal Most Affected by its Death	Cat	45	44,1
	Dog	27	26,5
	Bird	24	23,5
	Horse	0	0
	Reptile	1	1,0
	Other	5	4,9
Time Since Death	0-6 Days	2	2,0
	1 Week- 1 Month	5	4,9
	2-6 Month	9	8,8
	7 Months - 1 Year	34	33,3
	2-3 Years	35	34,3
	4 Years and Longer	17	16,7
Causation of Death of Companion Animal	Illness	53	46,9
	Accident	17	15,0
	Euthanised	4	3,5
	Natural	27	23,8
	Other	12	10,6
Rituals Performed	Social Media Post	17	22,3
	Funeral	51	67,1
	To Distribute Halva	1	1,3
	Other	7	9,2

According to no loss condition, 75% of participants are biologically female and 25% of participants are %15 male. When educational distribution examined it can be seen that 8,3% of participants are highschool graduates and 91,7% of participants have bachelor's or higher degree (Table 2.4.).

Table 2.4.

Descriptive Statistics of Participants According to No Loss

Variables		Participants (N)	%
Sex	Female	45	75
	Male	15	25
Education	Elementary or Middle School	0	0
	Highschool	5	8,3
	Bachelor's Degree or Higher	55	91,7

2.2. Measures

2.2.1. Informed consent form

It is a basic form that informs about this study. It is informed what this study is aiming for, and what kind of participants are needed (Appendix 1). It also includes if any participant feels down from the nature of measures of this study, there has been added contact information for referring. Finally, contact information has been added for future elucidation.

2.2.2. Demographic form

A basic demographic form which includes 29 questions includes age, sex, relationship with the deceased person or companion animal, cause of death, type of pet, whether participants have gotten professional help, and whether participants had any rituals about the deceased companion animal or beloved one. It also includes one question with 5-point Likert-type questions as expectedness of death (1: I wasn't expected at all, 5: I was waiting for that death) (Appendix 2).

2.2.3. Core Bereavement Items (CBI)

Core Bereavement Items (CBI) is a self-report inventory that evaluates the severity of grief, it was first developed by Burnett et al. in 1997. CBI has 17 items in total and has 3 dimensions. These are images and thoughts (i.e., "Do thoughts of 'x' make you feel distressed?"), acute separation (i.e., "Do you find yourself missing 'x' ?") and grief (i.e., "Do reminders of 'x' such as photos, situations, music, places, etc. cause you to feel loss of enjoyment?"). It is a 4-point Likert-type scale (0: A lot of the time, 4: Never). Eckerd, Barnett & Jett-Dias (2016) in their research about comparing human and pet loss, used CBI on both bereaved participants because sentences include X as subjects; therefore, it will be used the same in this study. The lowest achievable score in this scale is 17 and the highest score is 68.

The Turkish validity and reliability study of CBI was made in 2011 (Selvi, Öztürk, Ağargün, Beşiroğlu & Çilli, 2011). In that study, for all 17 items, the dimensions and scoring of CBI are the same as the original scale. Cronbach's alpha coefficient was found 0.94 (internal consistency coefficient was also found 0.83 for the "images and thoughts" factor, 0.89 for the "separation" factor, and 0.87 for the "grief" factor). Getting higher scores on this scale indicates the severity of grief. It takes 5-6 minutes to complete the items (Appendix 3).

2.2.4. Multidimensional Scale of Perceived Social Support (MSPSS)

The Multidimensional Scale of Perceived Social Support (MSPSS) is a 7-point Likert-type self-report scale that evaluates social support in a non-clinical sample conducted by Zimet et al. (1988). The lowest possible score on this scale is 12, while the highest is 84. There are 4 items for each three sub-groups which are “family” (examplimg, “My family really tries to help me.”), “friend” (“I can count on my friends when things go wrong.”) and “significant other” (“There is a special persons in my life who cares about my feelings.”).

MSPSS was adapted to the Turkish sample by Eker et al. (2001). 12 items and subscales were found statistically the same as the original study. The difference between this study and from original is that the sample was arranged into three groups psychiatry clinical, medical clinical, and non-clinical participants. Cronbach’s alpha coefficient was found .89 in the total sample. It was found 0.85 in the “family” subscale, .88 in the “friend” subscale, and .92 in the “significant other” subscale. There are no reverse-scored items. Scores from this scale increase meaning that individuals can reach more social support (Appendix 4).

2.2.5. Executive Function Index (EFI)

Executive Function Index (EFI) is a self-report scale that evaluates executive performance in a healthy sample on five subscales by Spinella (2005). Those five subscales include a total of 27 items in empathy (6 items) like “concern for others”, strategic planning (7 items) like “save money regularly”, organization (5 items) for example “organized person”, impulse control (5 items) like “maladaptive risk-taking” and finally motivational drive (4 items) for example “interested in new things”. It is a 5-point Likert-type scale (1: Not at all, 5: Very much). Additionally, The scale's minimum possible score is 27, and the maximum possible score is 135.

Turkish validity and reliability of this scale were studied by Kafadar and Arıcan (2022). All 27 items, dimensions, and scoring are parallel with the original scale, although three items are in different subscales. Cronbach’s alpha coefficient was found 0.76 (for the subscale of motivational drive .66, for strategic planning .54, for organization .74, the subscale of empathy .75, and for impulse control .54 were found). 13 items will be scored reversely. While scores on this scale increase, this indicates that individuals can be more enthusiastic about the future, can be more collaborative, and can make more plans and strategies for the future (Appendix 5).

2.3. Procedure

After receiving approval from the Bařkent University Research Ethics Committee (Appendix 6), with permission number 17162298.600-235, data collection commenced. The measurements used in this study were made available online via Qualtrics.com. Following the completion of a consent form and a demographic form, in this sequence, participants in the no loss condition were administered the Executive Function Index and the Multidimensional Scale of Perceived Social Support in a randomized order. Participants experiencing inhuman loss or companion animal loss were provided with the Core Bereavement Items, in addition to the Executive Function Index and the Multidimensional Scale of Perceived Social Support, also in a randomized order. Completing these instruments took approximately 15 minutes. The anonymity of all participants was maintained throughout the study.

2.4. Statistical Analysis

All analyses were performed using IBM SPSS Statistics version 29.0.1.0. The analysis began with descriptive statistics, followed by a one-way ANOVA, a MANOVA, and correlation analysis. These analyses aimed to investigate the relationship between executive functions and perceived social support among individuals who have lost a beloved person or a companion animal, compared to a control group of participants who have not experienced the loss of a human or companion animal.

3. RESULTS

In this chapter, firstly descriptive statistics of measurements according to type of loss (Table 3.1.) were examined. Subsequently, correlations between measurements and demographic features were given (Table 3.2.). Finally, correlation analysis, MANOVA and ANOVAs were examined under the purpose of the study (Table 3.3., Table 3.4., Table 3.5., Table 3.6., Table 3.7., Table 3.8.).

3.1. Descriptive Analysis

Means, standard deviations, skewness, kurtosis, and minimum and maximum values of dependent variables following the independent variable were given in Table 3.1. These descriptive analyses were computed for the type of loss as an independent variable. As dependent variables, these analyses were calculated for Core Bereavement Items (CBI) and its subscales (i.e., acute separation), Multidimensional Scale of Perceived Social Support (MSPSS) and its subscales (i.e., family, friends), Executive Function Index (EFI) and its subscales (i.e., organization). As is seen in Table 3.1., all skewness and kurtosis values are within the normality limits which are from -2 to +2 as suggested by George and Mallery (2010).

Table 3.1.

Descriptive Statistics of Measurements

		Mean	SD	Skewness	Kurtosis	Min	Max
CBI	Human Loss	45,85	0,75	-0,29	-0,58	18	67
	CA Loss	44,98	1,18	-0,37	-0,61	19	67
	No Loss	-	-	-	-	-	-
IaT	Human Loss	20,19	0,27	-0,73	0,59	7	28
	CA Loss	19,47	0,43	-0,72	0,05	8	28
	No Loss	-	-	-	-	-	-
AS	Human Loss	11,58	0,27	0,11	-1,05	5	20
	CA Loss	11,32	0,42	0,15	-1,03	5	20
	No Loss	-	-	-	-	-	-
GR	Human Loss	14,07	0,28	-0,46	-0,77	5	20
	CA Loss	14,19	0,41	-0,47	-0,56	5	20
	No Loss	-	-	-	-	-	-
MSPSS	Human Loss	59,61	1,04	-0,35	-0,66	20	84
	CA Loss	56,73	1,73	-0,19	-0,70	13	84
	No Loss	57,12	1,94	-0,46	0,18	18	84
FA	Human Loss	21,70	0,39	-0,84	0,02	4	28
	CA Loss	20,29	0,68	-0,74	-0,40	4	28
	No Loss	21,42	0,74	-0,96	0,12	7	28

FR	Human Loss	20,83	0,40	-0,74	-0,32	4	28
	CA Loss	19,77	0,66	-0,51	-0,73	4	28
	No Loss	19,88	0,75	-0,62	-0,11	4	28
SO	Human Loss	17,09	0,57	-0,16	-1,37	4	28
	CA Loss	16,66	0,90	-0,09	-1,55	4	28
	No Loss	15,82	1,12	0,19	-1,55	4	28
EFI	Human Loss	96,40	0,66	-0,17	0,13	65	119
	CA Loss	96,70	1,00	0,31	-0,20	74	126
	No Loss	93,08	1,18	0,22	-0,20	75	118
MD	Human Loss	13,80	0,21	-0,30	-0,00	5	20
	CA Loss	13,39	0,29	-0,19	0,16	5	20
	No Loss	13,73	0,45	-0,42	-0,33	4	19
ORG	Human Loss	16,82	0,26	-0,40	-0,06	5	25
	CA Loss	16,83	0,37	-0,22	-0,18	8	25
	No Loss	16,18	0,41	-0,31	0,77	6	24
SP	Human Loss	24,45	0,23	-0,18	-0,17	16	32
	CA Loss	24,57	0,34	-0,20	-0,15	16	32
	No Loss	23,92	0,42	0,15	-0,68	18	32
IC	Human Loss	16,75	0,23	-0,28	0,09	7	25
	CA Loss	17,43	0,27	-0,19	-0,19	10	24
	No Loss	16,22	0,43	-0,23	-0,66	9	22
EM	Human Loss	24,58	0,21	-0,47	0,06	15	30
	CA Loss	24,47	0,32	-0,31	0,24	14	30
	No Loss	23,03	0,39	-0,41	0,70	13	30

Note: CBI = Core Bereavement Items; IaT = Subscale of CBI Images and Thoughts; AS = Subscale of CBI Acute Separation; GR = Subscale of CBI Grief; MSPSS = Multidimensional Scale of Perceived Social Support; FA = Subscale of MSPSS Family; FR = Subscale of MSPSS Friends; SO = Subscale of MSPSS Significant Other; EFI = Executive Function Index; MD = Subscale of EFI Motivational Drive; ORG = Subscale of EFI Organization; SP = Subscale of EFI Strategic Planning; IC = Subscale of EFI Impulse Control; EM = Subscale of EFI Emphaty.

3.2. Correlation Analysis

To examine correlations among demographic variables and measurements Pearson Correlation analysis was conducted. Demographic variables which were included in this analysis are, in order sex and age (Table 3.2.). It is conspicuous that CBI total score was found significantly correlated with subscales of the Executive Function Index (EFI) such as motivational drive ($r = .12$, $p < .005$), organization ($r = .15$, $p < .001$), strategic planning ($r = .15$, $p < .001$) and empathy ($r = -.21$, $p < .001$).

Table 3.2.*Correlations of Demographics and Measurements*

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
1. SEX	-															
2. AGE	,00	-														
3. IaT	,21**	,02	-													
4. AS	,21**	-,02	,72**	-												
5. GR	,25**	,06	,75**	,83**	-											
6. CBI	,24**	,02	,89**	,92**	,93**	-										
7. FA	-,04	,10*	,07	,01	,09	,06	-									
8. FR	-,15**	-,06	,06	,01	,07	,05	,46**	-								
9. SO	-,16**	-,02	-,02	,00	,03	,00	,27**	,36**	-							
10. MSPSS	-,16**	,00	,04	,01	,08	,05	,71**	,76**	,79**	-						
11. MD	,02	,22**	,09	,09	,15**	,12*	,37**	,20**	,28**	,37**	-					
12. ORG	,10*	,25**	,10	,10	,22**	,15**	,23**	,07	,02	,12*	,31**	-				
13. SP	,00	,00	,10	,08	,15**	,12*	,19**	,10	,16**	,20**	,29**	,30**	-			
14. IC	-,14**	,28**	,01	-,02	,03	,00	,122*	-,07	-,12*	-,04	-,03	,23**	,13**	-		
15. EM	-,14**	,07	-,15**	-,24**	-,21**	-,22**	,07	,15**	,12*	,15**	,15**	-,01	,19**	,16**	-	
16. EFI	-,04	,28**	,06	,01	,12*	,07	,33**	,15**	,15**	,27**	,57**	,66**	,66**	,51**	,49**	-

Note: SEX = 1 for Female, 2 for Male; IaT = Subscale of CBI Images and Thoughts; AS = Subscale of CBI Acute Separation; G = Subscale of CBI Grief; CBI = Core Bereavement Items; FA = Subscale of MSPSS Family; FR = Subscale of MSPSS Friends; SO = Subscale of MSPSS Significant Other; MSPSS = Multidimensional Scale of Perceived Social Support; MD = Subscale of EFI Motivational Drive; ORG = Subscale of EFI Organization; SP = Subscale of EFI Strategic Planning; IC = Subscale of EFI Impulse Control; EM = Subscale of EFI Emphaty; EFI = Executive Function Index; , * $p < .05$, ** $p < .001$

Multidimensional Scale of Perceived Social Support (MSPSS) was found weakly and significantly correlated with solely one demographic variable, which is sex ($r = -.16$, $p < .001$). It was found that motivational drive ($r = .37$, $p < .001$), organization ($r = .12$, $p < .005$), strategic planning ($r = .20$, $p < .001$) and empathy ($r = .15$, $p < .001$) and EFI total score ($r = .27$, $p < .001$) were correlated with MSPSS.

A correlation analysis was conducted between perceived social support and executive functions with the condition that only companion human loss was included (Table 3.3.). It was noteworthy that “family” subscale of MSPSS were found correlated with several subscales of EFI, such as motivational drive ($r = .32$, $p < .001$), organization ($r = .23$, $p < .005$), strategic planning ($r = .19$, $p < .001$), impulse control ($r = .17$, $p < .001$) and finally EFI total score itself ($r = .34$, $p < .001$). “Friends”, which is the second subscale of MSPSS were found only correlated with motivational drive ($r = .15$, $p < .005$). The last subscale of MSPSS, which is “significant other” were correlated with motivational drive ($r = .27$, $p < .001$), strategic planning ($r = .24$, $p < .001$), empathy ($r = .15$, $p < .001$) and EFI total score ($r = .21$, $p < .001$). MSPSS total scores were also found to correlate with motivational drive ($r = .33$, $p < .001$), organization ($r = .14$, $p < .005$), strategic planning ($r = .24$, $p < .001$), empathy ($r = .15$, $p < .005$) and total score of EFI ($r = .29$, $p < .001$).

Table 3.3.

Correlations Between Social Support and Executive Functions According to Human Loss

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. FA	-									
2. FR	,38**	-								
3. SO	,28**	,39**	-							
4. MSPSS	,68**	,75**		-						
5. MD	,32**	,15*	,27**	,33**	-					
6. ORG	,23**	,54	,07	,14*	,32**	-				
7. SP	,19**	,08	,24**	,24**	,36**	,29**	-			
8. IC	,17**	-,03	-,10	,00	-,03	,20**	,06	-		
9. EM	,06	,10	,15*	,15*	,12	-,04	,13	,14*	-	
10. EFI	,34**	,12	,21**	,29**	,60**	,66**	,64**	,48**	,44**	-

Note. FA = Subscale of MSPSS Family; FR = Subscale of MSPSS Friends; SO = Subscale of MSPSS Significant Other; MSPSS = Multidimensional Scale of Perceived Social Support; MD = Subscale of EFI Motivational Drive; ORG = Subscale of EFI Organization; SP = Subscale of EFI Strategic Planning; IC = Subscale of EFI Impulse Control; EM = Subscale of EFI Empathy; EFI = Executive Function Index; * $p < .05$, ** $p < .001$

Subsequently, another correlation analysis between perceived social support and executive functions examined with included only companion animal loss condition showed that Family, which is an MSPSS subscale was found significantly correlated with various EFI subscales which are motivational drive ($r = .36$, $p < .001$), organization ($r = .23$, $p < .001$), strategic planning ($r = .19$, $p < .001$), impulse control ($r = .17$, $p < .001$) and finally EFI total score ($r = .34$, $p < .001$).

.005), strategic planning ($r = .23$, $p < .005$) and total score of EFI ($r = .34$, $p < .001$) (Table 3.4.). In one of the other subscales of MSPSS, significant other was found significantly correlated with motivational drive ($r = .37$, $p < .001$). MSPSS total scores were also found to correlate with motivational drive ($r = .39$, $p < .001$), strategic planning ($r = .23$, $p < .005$), and EFI total score ($r = .27$, $p < .005$).

Table 3.4.

Correlations Between Social Support and Executive Functions According to CA Loss

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. FA	-									
2. FR	,53**	-								
3. SO	,28**	,37**	-							
4. MSPSS	,74**	,78**	,77**	-						
5. MD	,36**	,15	,37**	,39**	-					
6. ORG	,23*	,02	-,02	,09	,29**	-				
7. SP	,23*	,14	,15	,23*	,22*	,29**	-			
8. IC	,18	-,05	-,03	,03	,08	,39**	,30**	-		
9. EM	,04	,12	,09	,116	,17	,02	,32**	,22**	-	
10. EFI	,34**	,12	,17	,27**	,56**	,67**	,70**	,62**	,54**	-

Note. FA = Subscale of MSPSS Family; FR = Subscale of MSPSS Friends; SO = Subscale of MSPSS Significant Other; MSPSS = Multidimensional Scale of Perceived Social Support; MD = Subscale of EFI Motivational Drive; ORG = Subscale of EFI Organization; SP = Subscale of EFI Strategic Planning; IC = Subscale of EFI Impulse Control; EM = Subscale of EFI Emphaty; EFI = Executive Function Index; * $p < .05$, ** $p < .001$

Lastly, in the light of the condition of no loss, the family subscale was also found to correlate with motivational drive ($r = .56$, $p < .001$) and EFI total score ($r = .36$, $p < .001$). The subscale, which is friends was found positively correlated with motivational drive ($r = .42$, $p < .001$), empathy ($r = .35$, $p < .005$), negatively correlated with impulse control ($r = -.26$, $p < .005$) and EFI total score itself ($r = .29$, $p < .005$). In no loss condition, significant other subscale was found negatively correlated with impulse control ($r = -.38$, $p < .005$). Finally, MSPSS total score was found to be correlated with motivational drive ($r = .33$, $p < .001$), organization ($r = .14$, $p < .005$), strategic planning ($r = .24$, $p < .001$), empathy ($r = .15$, $p < .005$) and EFI total score ($r = .29$, $p < .001$). Given such results, it can be said that Hypothesis 3 was confirmed partially (Table 3.5.)

Table 3.5.*Correlations Between Social Support and Executive Functions According to No Loss*

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. FA	-									
2. FR	,55**	-								
3. SO	,24	,22	-							
4. MSPSS	,74**	,72**	,75**	-						
5. MD	,56**	,42**	,18	,48**	-					
6. ORG	,22	,23	-,15	,08	,35**	-				
7. SP	,12	,06	-,10	,01	,14	,34**	-			
8. IC	-,10	-,26*	-,38**	-,36**	-,16	,11	,13	-		
9. EM	,17	,35**	,00	,20	,21	-,09	,15	,14	-	
10. EFI	,36**	,29*	-,15	,16	,57**	,62**	,63**	,43**	,50**	-

Note. FA = Subscale of MSPSS Family; FR = Subscale of MSPSS Friends; SO = Subscale of MSPSS Significant Other; MSPSS = Multidimensional Scale of Perceived Social Support; MD = Subscale of EFI Motivational Drive; ORG = Subscale of EFI Organization; SP = Subscale of EFI Strategic Planning; IC = Subscale of EFI Impulse Control; EM = Subscale of EFI Emphaty; EFI = Executive Function Index; * $p < .05$, ** $p < .001$

3.3. Analysis of Variance (ANOVA) and Multivariate Analysis of Variance (MANOVA)

A series of ANOVAs and MANOVAs were conducted with one independent variable and three dependent variables. The independent variable which is the type of loss has three levels “human loss”, “companion animal loss” and “no loss”. Three dependent variables and their various components were included which are Core Bereavement Items (“images and thoughts”, “acute separation” and “grief”), Multidimensional Scale of Perceived Social Support (“family”, “friends” and “significant other”) and Executive Function Index (“motivational drive”, “organization”, “strategic planning”, “impulse control” and “empathy”). These variables were used to test the hypothesis, aligning the research design with theoretical predictions.

To examine the first hypothesis, a one-way ANOVA was conducted to examine whether there is a difference in grief severity due to the type of loss (Table 3.6.). For this, the skewness value was found -,466, and the kurtosis value was found -,714. These values of skewness and kurtosis were found between -2 and +2, thus normality was provided (George and Mallery; 2010). Findings revealed that experiencing grief was not significantly different in type of loss. Hypothesis 1 which was experience of grief severity is not different between human loss and companion animal loss was confirmed.

Table 3.6.*One-Way ANOVA Statistics for Type of Loss and Grief Severity*

Predictor	Sum of Squares	df	Mean Square	F	p	Partial η^2
Intercept	55493,335	1	55493,335	3181,747	<,001	,909
Human Loss*CA Loss	,885	2	,885	,051	,822	,000
Error	5546,286	318	17,441			

Note. $N = 320$

A MANOVA was conducted to examine whether executive function levels are higher in the loss group than in other groups which are human loss and companion animal loss. For EFI and its subscales the following skewness and kurtosis values were revealed under the headings type of loss: For “motivational drive” skewness was reported at -,298, with kurtosis of -,057; for “organization” skewness was reported at -,324, with a kurtosis of -,033; for “strategic planning” skewness was found at -,135, with a kurtosis of -,283; “impulse control” skewness was calculated at -,306, with kurtosis of ,013; “empathy” skewness was found at -,391, with kurtosis of ,122 and finally, for EFI total score skewness was calculated at ,038, with kurtosis of -,050. Subsequently, Box’s M test provided homogeneity of variances ($\alpha = 33,587$, $p > .05$). Results showed non-violation, therefore MANOVA conducted. Type of loss was found significant on EM [$F(2,377) = 5,61$; $p = ,004$; *partial $\eta^2 = .029$*] and total score of EFI [$F(2,377) = 3,06$; $p = ,048$; *partial $\eta^2 = .016$*]. Bonferroni correction, a post hoc test, was calculated to examine the differences between loss types. It was revealed that individuals who have lost a loved human had higher empathy than individuals who haven’t lost anyone ($M = 1.54$, $SE = 0.003$), and similarly, losing a companion animal revealed more empathy than losing neither a person nor a companion animal ($M = 1.44$, $SE = 0.019$). Bonferroni correction between human loss and CA loss showed non-significance ($M = 0,11$, $SE = 1,000$). Type of loss was found non-significant on motivational drive, organization, strategic planning, and impulse control (Table 3.7.) (Figure 1.). Hypothesis 2 was partly confirmed.

Table 3.7.*MANOVA for Type of Loss and Executive Functions*

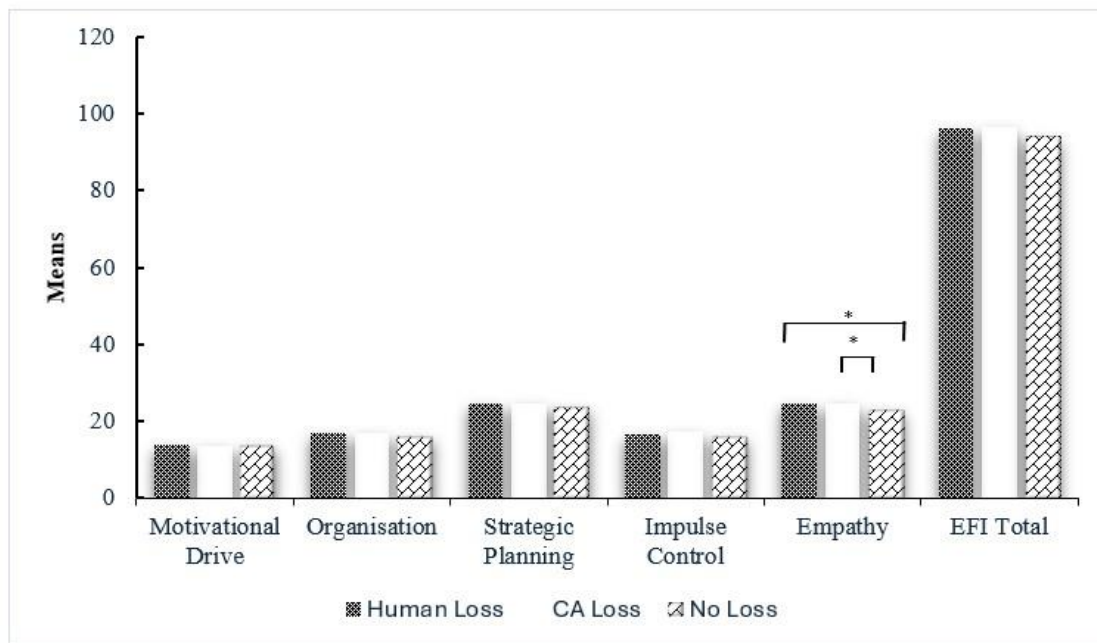
Variable	Wilk’s Λ	Multi F	Multi Df	Multi sig.	Multi η_p^2
Type of Loss	,951	1,89	10	,043	,025
MD		,589	2	,556	,003
ORG		,720	2	,488	,004

SP	,745	2	,475	,004
IC	2,83	2	,060	,015
EM	5,61	2	,004*	,029
EFI	3,06	2	,048*	,016

Note. MD = Subscale of EFI Motivational Drive; ORG = Subscale of EFI Organization; SP = Subscale of EFI Strategic Planning; IC = Subscale of EFI Impulse Control; EM = Subscale of EFI Emphaty; EFI = Executive Function Index; η_p^2 = Partial Eta Squared; * $p < .05$, ** $p < .001$.

Figure 1.

Mean Values of EFI According to the Type of Loss



Note. * $p < .05$

One-way ANOVA was conducted to test hypothesis 4, which was aimed to examine differences of type of loss differs on social support levels. The skewness value of the social support total score was found $-.328$ with a kurtosis value of $-.555$; thus, normality values were provided (George and Mallery; 2010). Social support levels have not significantly differed according to the type of loss, thus hypothesis 4 was not confirmed (Table 3.8.) (Figure 2).

Table 3.8.

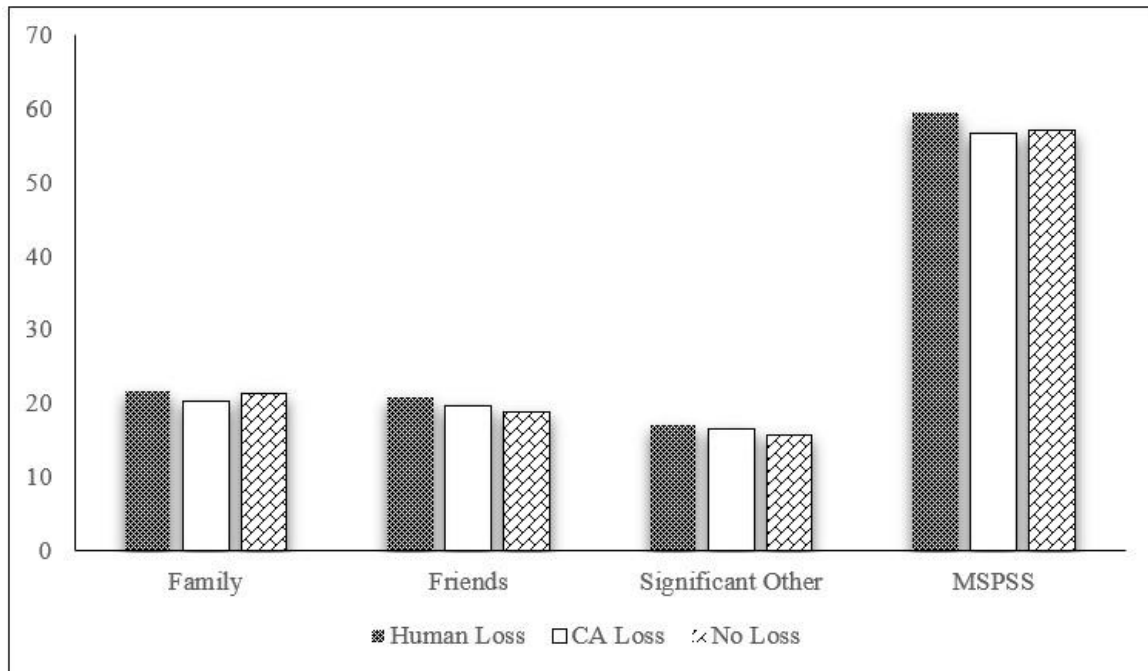
One Way ANOVA Statistics for Type of Loss and Social Support

Predictor	Sum of Squares	df	Mean Square	F	p	Partial η^2
Intercept	968752,710	1	968752,710	3811,355	<,001	,910
Human Loss*CA Loss*No Loss	705,709	2	352,855	1,388	,251	,007
Error	9584,130	377	254,175			

Note. $N = 380$

Figure 2

Mean Values of MSPSS According to the Type of Loss



Note. $*p < .05$

4. DISCUSSION

Giving reactions to the death of a human is a natural response. Similarly, reactions to the loss of a companion animal, which hold a wide place in many human lives, can be expected. When observed closely, bereaved people who have lost companion animals can face additional difficulties in society. Despite these difficulties, they must continue to pursue their daily lives and responsibilities. Therefore, this study aimed to investigate the potential differences between human loss and companion animal loss in terms of perceived social support (e.g., from family, friends) and cognitive functions (e.g., organisation, empathy).

This section aimed to examine closer inspection of hypotheses, results, and interpretation of the results of this study. This chapter begins with the discussion of significant correlations between main variables and demographic variables. Subsequently, the statistical differences between the independent variable, which is the type of loss, and the dependent variables, which are grief severity, executive functions, and perceived social support, were examined.

4.1. Relations Among Variables

Hypothesis 3 was aimed to ask whether correlations between perceived social support and executive functions are positively significant. It was suggested that the social support levels of three subgroups of the independent variable were increased, while components of executive functions were also increased. In line with this purpose, three correlation analyses between subgroups of social support and executive functions were conducted, each focusing on a different type of loss condition: human loss, companion animal loss, and no-loss conditions. It can be said that hypothesis 3 was confirmed partially.

A correlation analysis found that higher levels of motivational drive, organization, planning skills, and impulse control were positively correlated with perceived social support. This aligns with previous research demonstrating that social support influences various mental and psychological aspects, including rumination, impulse control, problem-solving, geriatric depression, and potentially executive functions (Cacciatore et al., 2021; Van der Houwen et al., 2010; Nolen-Hoeksema, 2001; Pillemer & Holtzer, 2016; Sims et al., 2011). Notably, activities like daily planning, goal pursuit, and self-regulation seem to benefit more from stronger social support.

Interestingly, the connection between motivational drive and social support remains significant regardless of experiencing a loss. This implies that social support plays a crucial role in both grief and non-grief situations. It is arrestive that higher motivational drive is related to higher social support on both loss conditions and no-loss conditions. When a person loses someone, the internal and external systems of a human will certainly be affected by that loss mentally, emotionally, physically, and behaviorally. Thus, while reactions to loss are sustaining and a bereaved person is coping with the support of his/her sources, it can be said that it is an important to role of social support. Giving importance to being mentally active or seeking new stimuli is increasing with the brace of other people in every condition, like experiencing loss or not. As social animals, the effect of social support in every aspect of human life is inevitable and in daily life, whether the status of humans, it is important to receive support to sustain life more integrative way.

Organization and planning, which are components of EFs, provide to receive and transfer the stimulus for processing (Sohlberg & Mateer, 2001) were found positively correlated with social support in human loss but in CA loss, only strategic planning was found positively correlated. It can be related to planning a funeral and after funeral rituals; deciding actions to be taken with the belongings of the deceased person or companion animal can be effective on social relationships. Bereaved individuals may seek help to arrange these adjustments, thus supporting a bereaved person with helping with these arrangements can improve that relationship. Additively, the act of sharing emotions and experiences of the death of a human or companion animal can provide a gathering with other people (Dyregrov, 2006; Kaniasty, 2012). Consequently, planning a gathering and/or a memorial events for the deceased can increase socialization and support.

Among goal-directed behaviors, impulse control was positively correlated with human loss and negatively correlated with no-loss conditions. As a result of a lack of inhibition, impulsivity can increase (Bari & Robbins, 2013). In comparison with the literature, lack of inhibition can have a negative impact on daily life (Delespaulx & Zech, 2015; Saldinger & Cain, 2005; Schmeichel, 2007). It is possible to guide bereaved individuals on how to behave after loss, how to cope with loss, and how to observe the socially expected rituals after loss. Having such a social mechanism in place can be effective in controlling behavior and, therefore, make it easier to control behavior. From another point of view, social support can be related to more socially expected behaviors and provided support from the inner or outer circle can decrease if the bereaved person doesn't behave

coherently. This may prompt behave bereaved person more desired course. Addition to that, age distribution of participants with no loss condition are slightly younger than other loss conditions. In literature, the relationship between impulse control and age appears to predominantly exhibit a negative trend (Steinberg et al., 2008). Therefore, in this study, it may be concluded that age and impulse control ability could affect each other through these results.

In this study, empathy was found significantly related to receiving social support from significant others in the human loss condition. Compared with literature, empathy is a way to communicate and socialize through sharing emotions and situations which can be seen in various ways like in mourning (Decety, 2013; Yoshiike et al., 2023). In human loss, it was expected that receiving empathy from the inner social circle, thus getting social support from family and friends can be normalized by bereaved ones but anticipating support from significant others may not be expected, therefore meaning of support can differ for bereaved ones. Additively, it needed further examination to understand possible inferences as to why losing a companion animal wasn't related to social support.

4.2. Relationships Between Type of Loss on Grief Severity

For Hypothesis 1, the results indicated that the levels of grief experienced for humans and companion animals did not differ significantly. This suggests that the severity of grief does not differ regardless of the type of loss, and bereaved individuals who have lost a human or CA suffer equally from the loss. Hypothesis 1 confirmed through statistical analysis. This finding is supported by existing literature, such as a study by Brown and Symons (2016), which found no difference in attachment to deceased humans or companion animals. Similarly, research by Lavorgna and Hutton (2019) demonstrated that the severity of grief experienced after the loss of a human or a companion animal did not vary significantly between bereaved individuals. This underscores the idea that the emotional bond and significance of the relationship with the deceased are comparable, whether it be a human or a companion animal. Consequently, the relationship with the deceased appears to be more influential than the specific type of living being, highlighting the universality of grief experiences across different types of loss.

Numerous studies have highlighted the diverse emotional, behavioral, and cognitive reactions that individuals may experience following the loss of a companion animal (Adams, Bonnett & Meek, 2000; Archer & Winchester, 1994; Rémillard et al., 2017; Rujoiu &

Rujoiu, 2014). Additionally, the social roles attributed to companion animals can significantly influence the nature of the relationship (Cowling et al., 2020). Anthropomorphically, assigning human-like characteristics to companion animals, such as viewing them as babies, close friends, or roommates, can blur the distinction between human and animal relationships. Similarly, the significance attributed to companion animals in individuals' lives may not differ significantly from that of humans. Therefore, in a loss situation, given reactions can be similar in both loss conditions.

4.3. Relationships Between Type of Loss on Executive Functions

Hypotesis 2 was aimed to evaluate how executive functions are related to bereaved participants who have lost a human or CA. Results showed for hypotesis 2 that losing companion animal or human related with empathy, which is a component of executive functions compared to no-loss condition. However, type of loss wasn't found related with other components of executive functions which are motivational drive, organization, strategic planning, and impulse control. Hypotesis 2 was partly confirmed.

When compared with literature, empathy levels towards bereaved individuals can effect severity of grief (Yoshiike et al., 2023). Additionally, companion animal guardians stated that lack of empathy and sensitivity through death of companion animals may lead disenfranchised grief (Packman et al., 2014). This result of the study was consistent with the literature. It was expected that showing empathy towards to bereaved person who have lost someone or companion animal. Empathy can be describe as understanding situations and conditions of others (Decety, 2013). Therefore, result of how losing someone or a companion animal to death may influence social support can be related with thinking about conditions him/herself, reviving emotions and thoughts about losses happened before and imagining possible losses and how might it feel in the future. Former losses and possible losses can be more effective on individuals who have been lost a person or a companion animal because of familiar feelings and thoughts of situation of loss. However, it is important to note that individuals who have never experienced the loss of a loved one or a companion animal may find it challenging to display empathy due to their lack of personal experience.

In this study, the type of loss wasn't found significantly related with motivational drive, organization, strategic planning, and impulse control. However, it is worth noting that significant correlations were found among executive functions (EFs) and the type of loss, as hypothesized in Hypothesis 3. Interestingly, in Hypothesis 2, the type of loss and

motivational drive were not significantly related. One possible explanation for this result could be the analysis of multi-domain variables involved in the study. While the analysis included five subtypes of EFs in a multivariate analysis of variance (MANOVA), correlations between EFs and the type of loss were examined individually. This difference in analytical approach may have influenced the observed outcomes.

From another point of view, when compared with literature, there are studies indicating that being in a negative mood may not affect EFs (Mitchell & Phillips, 2007), artificial and virtual negative conditions can influence EFs neutrally or positively (Gabel & McAuley, 2017; Perry, 2014; Thayer & Stevens, 2022). In light of these findings, it can be said that negative life conditions can have a positive effect on purposeful behaviors, planning following phases in life, and motive to behave consistent with the plan. In another aspect, a balance of giving and receiving social support can be challenging, and thus, the cognitive load can affect the performance of EFs (Sims et al., 2014). When giving or receiving support, cultural factors like what to say, and when to call may influence how to behave toward bereaved individuals. In summary, various factors affect how to act whether in a loss condition or not. Unmeasured variables in this study need to be further examined.

4.4. Relationships Between Type of Loss on Perceived Social Support

For Hypothesis 4, the aim was to evaluate whether a relationship exists between the type of loss and perceived social support. It was claimed that perceived social support is higher in cases of human loss and in the non-loss group than in cases of companion animal loss. However, the results showed no significant differences in perceived social support levels among the different types of loss groups. Therefore, Hypothesis 4 was not confirmed.

When compared with literature, this outcome of the study is in conflict with literature (Dyregrov, 2006; Kaniasty, 2012; Uchino, 2009; Scheidt et al., 2012; Vanderwerker & Prigerson, 2004). One potential explanation for why the expected result was not achieved could be that the manner in which individuals receive social support may not differ significantly from person to person. Logan et al. (2018) found that the intention to provide social support and the experience of grief are not significantly related. Additionally, in the same study it was indicated that bereaved individuals and individuals who haven't lost anyone recently didn't differ on providing social support. Therefore, in the present study, perceived social support levels of participants in three types of loss conditions can be close with each other.

According to literature, culture differences to receive social support can be affective on seeking social support such as receiving a social support in collectivist Eastern cultures can be related with guilt and shame more than individualistic Western cultures (Ishii et al., 2017; Kim et al., 2008). In this study, it was found that a possible determinant for the lack of difference in seeking social support under both loss conditions (loss of a human or a companion animal) could be that participants from a collectivist culture might withdraw their efforts to seek social support. This withdrawal could be due to cultural views that discourage the expression of emotions.

Another potential explanation for this outcome could be the educational background distribution of the sample, with 79.5% having a postsecondary education level. Studies have shown that individuals with higher educational levels are more likely to seek help (Drapeau et al., 2016; Hunsley et al., 1999). If the sample size had been more balanced in terms of educational background, the outcome of this hypothesis could potentially have aligned more closely with the anticipated context of the study.

4.5. Recommendations, Limitations and Implications of Study

While grieving for human loss was initiated in the 1940s by Lindemann (1944), it can be seen that grieving for companion animals was started investigated after 40 years in the 1980s by Quackenbush & Glickman (1984). In Türkiye, there are limited studies investigated grieving for companion animals (Demirci, 2022; Karasu & Alkar, 2020) and since approximately 18 million companion animals are being adopted in households in Türkiye (FEDIAF, 2023), giving reactions to the death of a companion animal comes into prominence. In the existing literature, various studies support there are no differences in reactions between human loss and companion loss (Adams, Bonnett & Meek, 2000; Archer & Winchester, 1994; Brown & Symons, 2016; Gerwolls & Labott, 1994; Lavorgna & Hutton, 2019; Rujoiu & Rujoiu, 2014). Therefore, there is a gap in the literature in Türkiye regarding studies on grieving after the loss of a companion animal. This study is the first known quantitative research in Türkiye which compared similarities of human loss and companion animal loss. Companion animals play a significant role in human lives, and clinicians may need to exercise greater caution regarding these losses, understanding how the bereaved feel and identifying the areas impacted by this loss. Consequently, this awareness can enable clinicians to work with clients in a more effective manner.

After a human loss, several studies have explored how executive functions are impaired (Maccallum & Bryant, 2010a; Maccallum & Bryant, 2010b; Nolen-Hoeksema, 2001; Reid & Dixon, 2000). However, research examining changes in executive functions following the loss of a companion animal is limited (Branson et al., 2016; Thayer & Stevens, 2022). In Türkiye, this study represents the first known quantitative research that investigates the correlations among human loss, companion animal loss, and executive functions in the existing literature. Although this study has provided answers to certain questions, it has also unveiled new questions that necessitate further investigation.

As previously discussed, bereaved individuals exhibit various reactions, including emotional, behavioral, and mental responses (Carmassi et al., 2018; Liu et al., 2021; Shear, 2015; Strada, 2015; Stroebe et al., 2014). In this current study, specific executive functions of the bereaved were measured and found that empathy levels were higher in the group that experienced loss compared to the group that did not. One clinical implication of this study is that it enables clinicians to be more aware of the difficulties bereaved individuals face in daily life. This includes challenges in planning or organizing activities after the death of a loved one or a companion animal. Clinicians can provide their support by considering the client's specific vulnerabilities, such as difficulties in managing daily routines or scheduling work meetings. Besides that, as discussed earlier, grief severity and reactions to death can be similar between human loss and companion animal loss, but there are distinct differences. For example, in companion animal loss, the guardians may experience their mourning process more privately due to societal reactions (Lavorgna & Hutton, 2019). With this knowledge, clinicians can inquire more about the experience of companion animal loss and try to understand if the guardians felt the need to conceal their emotions or behaviors from society. Thus, clinicians can take on a more helpful and understanding role, which can improve therapeutic relationship with clients.

It was discussed earlier, social support is a crucial factor both in bereavement and daily life (Dyregrov, 2006; Kaniasty, 2012; Kaunonen et al., 1999). This finding has practical implications in clinical settings, as it enhances understanding of what bereaved individuals endure emotionally within their social circles. It suggests a valuable area of research focusing on the responses of the social circle to the bereaved and how these individuals emotionally react and regulate their emotions, which could inform clinical interventions by clinicians. Similar to everyday life, certain behaviors stemming from a lack of inhibition, such as bursts of rage triggered by loss, may not be accepted by the social environment of the bereaved.

Therefore, clinicians should be attentive to the vulnerable areas in their clients' experiences to address them effectively.

This study has contributed several answers to the literature, nevertheless, there are some limitations of this study. While human loss and companion animal loss reactions were compared, individuals who have lost both human and companion animals were not evaluated separately. There wasn't any evaluation that broached both losses while the continuation of this study. Therefore, to interpret decomposing which individual reacted to which loss will need further examination. It is recommended that future studies determine whether the losses are cumulative and whether cumulative losses are effective or not.

The severity of mourning may vary depending on the identity of the deceased (Middleton, Raphael, Burnett ve Martinek, 1998; Shear, 2012). In this study, all categories of human loss (e.g., mother, friend, colleague) are evaluated using the same analytical method. Therefore, the dependent variables of this study could be affected by these potential differences. In future studies, it is recommended to differentiate between loss categories for more clear evaluation.

In this study, executive functions and social support levels were measured only after the death of a human or a companion animal. The study did not evaluate the levels of executive functions and social support prior to the experience of grief due to its design. As a result, interpretations of this study's findings should be confined to the post-grief experience. Future research should aim to include repeated measurements both before and after the loss to provide a more comprehensive understanding. In addition to this, in this study, there was no comparison between time since death and time passed since death can be less effective on executive functions. Thus, this can be effective in the non-significant results of this study. In the future, researchers can be aware of comparison to time differences.

Attachment styles are as important in general life as it is in the context of grief (Wijngaards-de Meij; 2007). In literature, attachment levels to deceased companion animal and human weren't differ (Brown & Symons, 2016). Existing literature indicates that attachment levels to a deceased companion animal and to a human do not differ (Brown & Symons, 2016). A limitation of this study is that it did not assess the attachment styles of participants within its framework. However, it is recommended that future studies consider evaluating attachment styles to gain further insights.

4.6. Conclusion

This study aimed to draw attention and awareness towards CA guardians and their grief to their CA's. With the purpose of this aim, primary objective of this study was to compare human loss and companion animal loss with different variables like the severity of grief reactions. In literature, former studies have mostly shown that there were no differences between human loss and companion animal loss in severity of grief. The present research showed also there were no differences between losing a CA or a human as consistent with previous literature. Another aim was to compare executive functions levels between losses. When examining the literature, it can be seen that there are consistent results that correlations between subtypes of executive functions, human loss, and companion animal loss. The last objective of this study was to compare perceived social support among losses. Inconsistently, a limited relationship was found on social support. When inspected, results of relationship between type of loss and social support show controversial conclusions with literature. Probable factors were discussed in the discussion section.

This study presented an awareness through grief to CA loss and its reactions. With this study, it was concluded once again that grief related to the loss of a CA or a human does not differ. Thus, the emotions and adaptations of CA guardians after a loss can be more pronounced in various aspects of both personal and professional life, such as organizing daily activities, controlling oneself, and expressing emotions

This study anticipated that clinicians could approach CA guardians with the understanding that their grief is as significant as that from human loss. Consequently, the reactions can be similar, and adapting to daily life may take as much time as it does with human loss. While working with bereaved CA guardians on any issue, clinicians should keep the reactions to loss in mind, which can lead to more productive counseling or therapy sessions.

In conjunction, there weren't any differences between the severity of losses between humans and companion animals, there were found contradictive differences in executive functions between loss types and there weren't found any differences on social support likewise. In Türkiye, it was observed a gap in the literature about companion animal loss, and this study aimed to draw attention to a gap of companion animal loss.

REFERENCES

- Adams, C. L., Bonnett, B. N., & Meek, A. H. (2000). Predictors of owner response to companion animal death in 177 clients from 14 practices in Ontario. *Journal of the American Veterinary Medical Association*, 217(9), 1303-1309.
- Adrian, J. A. L., Deliramich, A. N., & Frueh, B. C. (2009). Complicated grief and posttraumatic stress disorder in humans' response to the death of pets/animals. *Bulletin of the Menninger Clinic*, 73(3), 176.
- Aksoz-Efe, I., Erdur-Baker, O., & Servaty-Seib, H. (2018). Death rituals, religious beliefs, and grief of Turkish women. *Death Studies*, 42(9), 579-592.
- Alvarez, J. A., & Emory, E. (2006). Executive function and the frontal lobes: A meta-analytic review. *Neuropsychology review*, 16(1), 17-42.
- Angantyr, M., Eklund, J., & Hansen, E. M. (2011). A comparison of empathy for humans and empathy for animals. *Anthrozoös*, 24(4), 369-377.
- Archer, J., & Winchester, G. (1994). Bereavement following death of a pet. *British Journal of Psychology*, 85(2), 259-271.
- Babacan Yıldız, G. (2020). Yürütücü ve yönetsel işlevler. In O. Tanrıdağ (Ed.), *Davranış Nörolojisi* (pp. 107-113). Nobel Tıp Kitabevleri.
- Bao, K. J., & Schreer, G. (2016). Pets and happiness: Examining the association between pet ownership and wellbeing. *Anthrozoös*, 29(2), 283-296.
- Bari, A., & Robbins, T. W. (2013). Inhibition and impulsivity: behavioral and neural basis of response control. *Progress in Neurobiology*, 108, 44-79.
- Barnard-Nguyen, S., Breit, M., Anderson, K. A., & Nielsen, J. (2016). Pet loss and grief: Identifying at-risk pet owners during the euthanasia process. *Anthrozoös*, 29(3), 421-430.
- Bonanno, G. A., & Kaltman, S. (2001). The varieties of grief experience. *Clinical Psychology Review*, 21(5), 705-734.
- Bonanno, G. A., Wortman, C. B., Lehman, D. R., Tweed, R. G., Haring, M., Sonnega, J., . . . Nesse, R. M. (2002). Resilience to loss and chronic grief: A prospective study

- from preloss to 18-months postloss. *Journal of Personality and Social Psychology*, 83(5), 1150-1164. Doi: 10.1037/0022-3514.83.5.1150
- Bowlby, J. (1960). Grief and Mourning in Infancy and Early Childhood. *The psychoanalytic study of the child*, 15(1), 9-52.
- Branson, S., Boss, L., Cron, S., & Kang, D. H. (2016). Examining differences between homebound older adult pet owners and non-pet owners in depression, systemic inflammation, and executive function. *Anthrozoös*, 29(2), 323-334.
- Brown, O. K., & Symons, D. K. (2016). “My pet has passed”: Relations of adult attachment styles and current feelings of grief and trauma after the event. *Death Studies*, 40(4), 247-255.
- Burnett, P., Middleton, W., Raphael, B., & Martinek, N. (1997). Measuring core bereavement phenomena. *Psychological medicine*, 27(1), 49-57.
- Bussolari, C., Habarth, J. M., Phillips, S., Katz, R., & Packman, W. (2021). Self-compassion, social constraints, and psychosocial outcomes in a pet bereavement sample. *Journal of Death and Dying*, 82(3), 389-408.
- Cacciatore, J., Thieleman, K., Fretts, R., & Jackson, L. B. (2021). What is good grief support? Exploring the actors and actions in social support after traumatic grief. *PloS one*, 16(5), e0252324.
- Cimete, G., & Kuğuoglu, S. (2006). Grief responses of Turkish families after the death of their children from cancer. *Journal of Loss and Trauma*, 11, 31–51.
doi:10.1080/15325020500194455
- Cristofori, I., Cohen-Zimmerman, S., & Grafman, J. (2019). Executive functions. *Handbook of clinical neurology*, 163, 197-219.
- Carmassi, C., Bertelloni, C. A. & Dell’Osso, L. (2018). Grief reactions in diagnostic classifications of mental disorders. In E. Bui (Ed), *Clinical Handbook of Bereavement and Grief Reactions* (Current Clinical Psychiatry). Humana Press.
https://doi.org/10.1007/978-3-319-65241-2_5
- Cobb, S. (1976). Social support as a moderator of life stress. *Psychosomatic Medicine*, 38(5), 300-314.

- Cohen, S. P. (2002). Can pets function as family members? *Western Journal of Nursing Research*, 24(6), 621-638.
- Cowling, D. M., Isenstein, S. G., & Schneider, M. S. (2020). When the bond breaks: Variables associated with grief following companion animal loss. *Anthrozoös*, 33(6), 693-708.
- Davis, R. N., & Nolen-Hoeksema, S. (2000). Cognitive inflexibility among ruminators and nonruminators. *Cognitive Therapy and Research*, 24, 699-711.
- Decety, J. (2013). The neuroevolution of empathy and caring for others: Why it matters for morality. *New Frontiers in Social Neuroscience* (pp.127-151). Springer International Publishing.
- Delespaulx, E., & Zech, E. (2015). Why do bereaved partners experience interfering rumination?: Evidence for deficits in cognitive inhibition. *Death Studies*, 39(8), 463-472.
- Demirci, Ö. (2022). *The grief experience of people who lost their pets: Mediating role of social constraints, perceived social support, and attachment* (Unpublished master's thesis). İzmir University of Economics.
- De Lissnyder, E., Koster, E. H., & De Raedt, R. (2012). Emotional interference in working memory is related to rumination. *Cognitive Therapy and Research*, 36, 348-357.
- Drapeau, C. W., Cerel, J., & Moore, M. (2016). How personality, coping styles, and perceived closeness influence help-seeking attitudes in suicide-bereaved adults. *Death Studies*, 40(3), 165-171.
- Dyregrov, K. (2006). Experiences of social networks supporting traumatically bereaved. *Journal of Death and Dying*, 52(4), 339-358.
- Eckerd, L. M., Barnett, J. E., & Jett-Dias, L. (2016). Grief following pet and human loss: Closeness is key. *Death Studies*, 40(5), 275-282.
- Eker, D., Arkar, H., & Yıldız, H. (2001). Çok boyutlu algılanan sosyal destek ölçeğinin gözden geçirilmiş formunun faktör yapısı, geçerlik ve güvenirliği. *Türk PsikiyatriDergisi*, 12, 17-25.

- FEDIAF. (2023). *Annual Report 2023*. Retrieved from https://europeanpetfood.org/wp-content/uploads/2023/07/FEDIAF_Annual-Report_2023.pdf
- Field, N. P., & Bonanno, G. A. (2001). The role of blame in adaptation in the first 5 years following the death of a spouse. *American Behavioral Scientist*, 44(5), 764-781.
- Freud, S. (1917). Mourning and melancholia. In J. Strachey (Ed. & Trans.), *The standard edition of the complete psychological works of Sigmund Freud* (Vol. 14, pp. 237-258). Hogarth Press. (Original work published 1917)
- Gabel, M. S., & McAuley, T. (2018). Does mood help or hinder executive functions? Reactivity may be the key. *Personality and Individual Differences*, 128, 94-99.
- Gerwolls, M. K., & Labott, S. M. (1994). Adjustment to the death of a companion animal. *Anthrozoös*, 7(3), 172-187.
- Green, C., Kangas, M., & Fairholm, I. (2018). Investigating the emotion regulation strategies implemented by adults grieving the death of a pet in Australia and the UK. *Journal of Loss and Trauma*, 23(6), 484-501.
- Harris, R. (2019). *In skin, meaning, and symbolism in et memorials: Tattoos, taxidermy, and trinkets*. England: Emerald Publishing Limited.
- Hill, K. (2020). Tattoo narratives: Insights into multispecies kinship and griefwork. *Anthrozoös*, 33(6), 709-726.
- House, J. S., Umberson, D., & Landis, K. R. (1988). Structures and processes of social support. *Annual Review of Sociology*, 14(1), 293-318.
- Hunsley, J., Lee, C. M., & Aubry, T. (1999). Who uses psychological services in Canada?. *Canadian Psychology/Psychologie Canadienne*, 40(3), 232-240.
- Ishii, K., Mojaverian, T., Masuno, K., & Kim, H. S. (2017). Cultural differences in motivation for seeking social support and the emotional consequences of receiving support: The role of influence and adjustment goals. *Journal of Cross-Cultural Psychology*, 48(9), 1442-1456.

- Jordan, A. H., & Litz, B. T. (2014). Prolonged grief disorder: diagnostic, assessment, and treatment considerations. *Professional Psychology: Research and Practice*, 45(3), 180.
- Kafadar, H., & Arıcan, H. (2022). Yürütücü İşlev Ölçeği: Bir Ölçek Uyarlama Çalışması. *Abant Tıp Dergisi*, 11(2), 207-222.
- Kahokehr, A., Siegert, R. J., & Weatherall, M. (2004). The frequency of executive cognitive impairment in elderly rehabilitation inpatients. *Journal of Geriatric Psychiatry and Neurology*, 17(2), 68-72.
- Kaniasty, K. (2012). Predicting social psychological well-being following trauma: The role of postdisaster social support. *Psychological Trauma: Theory, Research, Practice, and Policy*, 4(1), 22.
- Kaplan, B. H., Cassel, J. C., & Gore, S. (1977). Social support and health. *Medical Care*, 15(5), 47-58.
- Karasu, S., & Alkar, Ö. Y. (2020). Evcil hayvanını kaybeden bireylerin yaşadıkları yas süreci ile ilgili bir nitel araştırma. *Veteriner Hekimler Derneği Dergisi*, 91(2), 86-97.
- Kaunonen, M., Tarkka, M. T., Paunonen, M., & Laippala, P. (1999). Grief and social support after the death of a spouse. *Journal of Advanced Nursing*, 30(6), 1304-1311.
- Keil, K., & Kaszniak, A. W. (2002). Examining executive function in individuals with brain injury: A review. *Aphasiology*, 16(3), 305-335.
- Kim, H. S., Sherman, D. K., & Taylor, S. E. (2008). Culture and social support. *American psychologist*, 63(6), 518.
- King, J. S. (2020). Sad mood, emotion regulation, and response inhibition. *Journal of Cognitive Psychology*, 32(5-6), 573-579.
- Klein, K., & Boals, A. (2001). The relationship of life event stress and working memory capacity. *Applied Cognitive Psychology: The Official Journal of the Society for Applied Research in Memory and Cognition*, 15(5), 565-579.
- Kübler-Ross, E. (1981). *Living with death and dying*. Simon and Schuster.

- Laing, M., & Maylea, C. (2018). "They burn brightly, but only for a short time": The role of social workers in companion animal grief and loss. *Anthrozoös*, 31(2), 221-232.
- Lavorgna, B. F., & Hutton, V. E. (2019). Grief severity: A comparison between human and companion animal death. *Death studies*, 43(8), 521-526.
- Lezak, M. D. (1982). The problem of assessing executive functions. *International journal of Psychology*, 17(1-4), 281-297.
- Lindemann, E. (1944). Symptomatology and management of acute grief. *The American Journal of Psychiatry*, 101, 141–148. <https://doi.org/10.1176/ajp.101.2.141>
- Ling, D. S., Kelly, M., & Diamond, A. (2016). Human-animal interaction and the development of executive functions. In L. Freund, J. Griffin, S. McCune, PMcCardle, L. Esposito (Eds.), *The Social neuroscience of human-animal interaction* (pp. 51-72). American Psychological Association.
- Liu, J. J., Taillefer, S. E., Tassone, A., & Vickers, K. (2021). The importance of bereavement cognitions on grief symptoms: Applications of cognitive processing therapy. *Death Studies*, 45(7), 552-562.
- Logan, E. L., Thornton, J. A., Kane, R. T., & Breen, L. J. (2018). Social support following bereavement: The role of beliefs, expectations, and support intentions. *Death Studies*, 42(8), 471-482.
- Luria A (1973). *The working brain: An introduction to neuropsychology*. Penguin Books.
- Maccallum, F., & Bryant, R. A. (2010a). Social problem solving in complicated grief. *British Journal of Clinical Psychology*, 49(4), 577-590.
- Maccallum, F., & Bryant, R. A. (2010b). Attentional bias in complicated grief. *Journal of affective disorders*, 125(1-3), 316-322.
- McConnell, A. R., Brown, C. M., Shoda, T. M., Stayton, L. E., & Martin, C. E. (2011). Friends with benefits: On the positive consequences of pet ownership. *Journal of Personality and Social Psychology*, 101(6), 1239-1252. doi:10.1037/a0024506

- Mechanic, D. (1976). Stress, illness, and illness behavior. *Journal of Human Stress*, 2(2), 2-6.
- Middleton, W., Raphael, B., Burnett, P. ve Martinek, N. (1998). A longitudinal study comparing bereavement phenomena in recently bereaved spouses, adult children and parents. *Australian and New Zealand Journal of Psychiatry*, 32(2), 235-241.
- Mitchell, R. L., & Phillips, L. H. (2007). The psychological, neurochemical and functional neuroanatomical mediators of the effects of positive and negative mood on executive functions. *Neuropsychologia*, 45(4), 617-629.
- Mitima-Verloop, H. B., Mooren, T. T., & Boelen, P. A. (2021). Facilitating grief: An exploration of the function of funerals and rituals in relation to grief reactions. *Death Studies*, 45(9), 735-745.
- Nolen-Hoeksema, S. (1991). Responses to depression and their effects on the duration of depressive episodes. *Journal of Abnormal Psychology*, 100(4), 569.
- Nolen-Hoeksema, S. (2001). Ruminative coping and adjustment to bereavement. In M. S. Stroebe, R. O. Hansson, W. Stroebe, & H. Schut (Eds.), *Handbook of bereavement research: Consequences, coping, and care* (pp. 545–562). American Psychological Association. <https://doi.org/10.1037/10436-023>
- Packman, W., Carmack, B. J., Katz, R., Carlos, F., Field, N. P., & Landers, C. (2014). Online survey as empathic bridging for the disenfranchised grief of pet loss. *Journal of Death and Dying*, 69(4), 333-356.
- Packman, W., Field, N. P., Carmack, B. J., & Ronen, R. (2011). Continuing bonds and psychosocial adjustment in pet loss. *Journal of Loss and Trauma*, 16(4), 341-357.
- Packman, W., Kelley, E., Rudolph, B., Long, J., Wallace, J., Hsu, M., ... & Field, N. (2017). Projective drawings of individuals grieving the loss of a pet. *Art Therapy*, 34(1), 29-37.
- Perry, E. (2014). *An investigation on the effects of virtual social support on working memory and stress* (Unpublished master's thesis). University of Maine.

- Pillemer, S. C., & Holtzer, R. (2016). The differential relationships of dimensions of perceived social support with cognitive function among older adults. *Aging & Mental Health*, 20(7), 727-735.
- Portero, C. F., & Oliva, A. (2007). Social support, psychological well-being, and health among the elderly. *Educational Gerontology*, 33(12), 1053-1068.
- Reeves, N. C. (2011). Death acceptance through ritual. *Death Studies*, 35(5), 408-419.
- Reid, J. K., & Dixon, W. A. (2000). The relationships among grief experience, problem-solving appraisal, and depression: An exploratory study. *Journal of Personal & Interpersonal Loss*, 5(1), 77-93.
- Rémillard, L. W., Meehan, M. P., Kelton, D. F., & Coe, J. B. (2017). Exploring the grief experience among callers to a pet loss support hotline. *Anthrozoös*, 30(1), 149-161.
- Rennard, J., Greening, L., & Williams, J. M. (2019). In praise of dead pets: an investigation into the content and function of human-style pet eulogies. *Anthrozoös*, 32(6), 769-783.
- Rubin, S. S. (1999). The two-track model of bereavement: Overview, retrospect, and prospect. *Death Studies*, 23(8), 681-714.
- Rujoiu, O., & Rujoiu, V. (2014). Pet loss and human emotion: Romanian students' reflections on pet loss. *Journal of Loss and Trauma*, 19(5), 474-483.
- Quackenbush, J. E., & Glickman, L. (1984). Helping people adjust to the death of a pet. *Health & Social Work*, 9(1), 42-48. <https://doi.org/10.1093/hsw/9.1.42>
- Saldinger, A., & Cain, A. C. (2004). Deromanticizing anticipated death: Denial, disbelief, and disconnection in bereaved spouses. *Journal of Psychosocial Oncology*, 22(3), 69-92.
- Selvi, Y., Öztürk, R. İ., Ağargün, M. Y., Beşiroğlu, L., & Çilli, A. S. (2011). Temel yas unsurları ölçeği Türkçe formunun geçerlik ve güvenirlik çalışması. *Nöropsikiyatri Arşivi*.
- Scheidt, C. E., Hasenburger, A., Kunze, M., Waller, E., Pfeifer, R., Zimmermann, P., ... & Waller, N. (2012). Are individual differences of attachment predicting bereavement

- outcome after perinatal loss? A prospective cohort study. *Journal of Psychosomatic Research*, 73(5), 375-382.
- Schmeichel, B. J. (2007). Attention control, memory updating, and emotion regulation temporarily reduce the capacity for executive control. *Journal of Experimental Psychology: General*, 136(2), 241.
- Schmeichel, B. J., & Demaree, H. A. (2010). Working memory capacity and spontaneous emotion regulation: high capacity predicts self-enhancement in response to negative feedback. *Emotion*, 10(5), 739.
- Shear, M. K. (2012). Grief and mourning gone awry: pathway and course of complicated grief. *Dialogues in clinical neuroscience*, 14(2), 119.
- Shear, M. K. (2015). Complicated grief. *New England Journal of Medicine*, 372(2), 153-160.
- Simon, N. M. (2013). Treating complicated grief. *Jama*, 310(4), 416-423.
- Sims, R. C., Hosey, M., Levy, S. A., Whitfield, K. E., Katzel, L. I., & Waldstein, S. R. (2014). Distinct functions of social support and cognitive function among older adults. *Experimental Aging Research*, 40(1), 40-59.
- Sims, R. C., Levy, S. A., Mwendwa, D. T., Callender, C. O., & Campbell Jr, A. L. (2011). The influence of functional social support on executive functioning in middle-aged African Americans. *Aging, Neuropsychology, and Cognition*, 18(4), 414-431.
- Sohlberg, M. M., & Mateer, C. A. (Eds.). (2001). *Cognitive rehabilitation: An integrative neuropsychological approach*. Guilford Press.
- Spain, B., O'Dwyer, L., & Moston, S. (2019). Pet loss: Understanding disenfranchised grief, memorial use, and posttraumatic growth. *Anthrozoös*, 32(4), 555-568.
- Spinella, M. (2005). Self-rated executive function: Development of the executive function index. *International Journal of Neuroscience*, 115(5), 649-667.
- Strada, E. A. (2015). Grief reactions. In B. R. Ferrell, T. Smith, S. Ragan, & M. Glajchen. (Eds.). *Textbook of palliative care communication*. Oxford University Press.

- Steinberg, L., Albert, D., Cauffman, E., Banich, M., Graham, S., & Woolard, J. (2008). Age differences in sensation seeking and impulsivity as indexed by behavior and self-report: evidence for a dual systems model. *Developmental psychology*, 44(6), 1764.
- Stroebe, M., & Schut, M. S. H. (1999). The dual process model of coping with bereavement: Rationale and description. *Death studies*, 23(3), 197-224.
- Stroebe, M., Stroebe, W., Van De Schoot, R., Schut, H., Abakoumkin, G., & Li, J. (2014). Guilt in bereavement: The role of self-blame and regret in coping with loss. *PLoS One*, 9(5), e96606.
- Swann-Thomas, B., Fleming, S., & Buckley, E. (2022). Etched in the skin: grief on a living canvas memorial tattoo as expressions of grief. *Mortality*, 27(3), 351-368.
- Taylor, N., & Signal, T. D. (2005). Empathy and attitudes to animals. *Anthrozoös*, 18(1), 18-27.
- Testoni, I., De Cataldo, L., Ronconi, L., & Zamperini, A. (2017). Pet loss and representations of death, attachment, depression, and euthanasia. *Anthrozoös*, 30(1), 135-148.
- Thayer, E. R., & Stevens, J. R. (2022). Effects of human-animal interactions on affect and cognition. *Human-Animal Interaction Bulletin*, 1-18.
- O'Rourke, T., Spitzberg, B. H., & Hannawa, A. F. (2011). The good funeral: Toward an understanding of funeral participation and satisfaction. *Death Studies*, 35(8), 729-750.
- Uchino, B. N. (2009). Understanding the links between social support and physical health: A life-span perspective with emphasis on the separability of perceived and received support. *Perspectives on Psychological Science*, 4(3), 236-255.
- Wang, J., Mann, F., Lloyd-Evans, B., Ma, R., & Johnson, S. (2018). Associations between loneliness and perceived social support and outcomes of mental health problems: a systematic review. *BMC Psychiatry*, 18(1), 1-16.
- Wells, D. L. (2009). The effects of animals on human health and well-being. *Journal of Social Issues*, 65(3), 523-543.

- Welsh, M. (2002). Developmental and clinical variations in executive functions. In D. L. Molfese & V. J. Molfese (Eds.), *Developmental variations in learning: Applications to social, executive function, language, and reading skills* (pp. 139–185). Lawrence Erlbaum Associates.
- Whitmer, A. J., & Banich, M. T. (2007). Inhibition versus switching deficits in different forms of rumination. *Psychological Science*, 18(6), 546-553.
- Wijngaards-de Meij, L., Stroebe, M., Schut, H., Stroebe, W., van den Bout, J., van der Heijden, P. G., & Dijkstra, I. (2007). Patterns of attachment and parents' adjustment to the death of their child. *Personality and Social Psychology Bulletin*, 33(4), 537-548.
- Worden, J. W. (2018). *Grief counseling and grief therapy: A handbook for the mental health practitioner*. Springer Publishing.
- World Health Organization. (2017). *Clinical criteria for the determination of death: WHO technical expert consultation, WHO headquarters, Geneva, Switzerland, 22-23 September 2014* (No. WHO/HIS/SDS/2017.5). World Health Organization.
- Vanderwerker, L. C., & Prigerson, H. G. (2004). Social support and technological connectedness as protective factors in bereavement. *Journal of Loss and Trauma*, 9(1), 45-57.
- Van der Houwen, K., Stroebe, M., Schut, H., Stroebe, W., & Van den Bout, J. (2010). Mediating processes in bereavement: The role of rumination, threatening grief interpretations, and deliberate grief avoidance. *Social Science & Medicine*, 71(9), 1669-1676.
- Yanardağ, M. Z., Budak, F., & Özer, Ö. (2022). Psychological flourishing and social support in young Syrian adults: a study on psychosocial health. *Journal of Human Behavior in the Social Environment*, 32(4), 501-518.
- Ybarra, O., Burnstein, E., Winkielman, P., Keller, M. C., Manis, M., Chan, E., & Rodriguez, J. (2008). Mental exercising through simple socializing: Social interaction promotes general cognitive functioning. *Personality and Social Psychology Bulletin*, 34(2), 248-259.

- Yoshiike, T., Benedetti, F., Moriguchi, Y., Vai, B., Aggio, V., Asano, K., ... & Kuriyama, K. (2023). Exploring the role of empathy in prolonged grief reactions to bereavement. *Scientific Reports*, 13(1), 7596.
- Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, 52(1), 30-41.

APPENDICES

APPENDIX 1: INFORMED CONSENT FORM

Onam Formu

Bu çalışma Başkent Üniversitesi Sosyal Bilimler Enstitüsü Klinik Psikoloji Tezli Yüksek Lisans Programı öğrencisi olan Psk. Zeynep Emel Öztürk tarafından Doç. Dr. Elvin Doğutepe danışmanlığında yürütülmektedir. Çalışmanın amacı, evcil hayvanını veya sevdiği bir insanı ölüme bağlı olarak kaybetmiş bireylerin bilişsel süreçlerini incelemektir. Bu doğrultuda 18 yaşından büyük olan ve evcil hayvanını veya sevdiği bir insanı ölüme bağlı olarak kaybetmiş olan veya bugüne kadar hiçbir kayıp yaşamamış olan bireylerin katılımına ihtiyaç duyulmaktadır.

Katılımcılardan beklenen soruları tek tek ve dikkatli biçimde okuyup kendilerine en yakın gelen seçeneği işaretlemeleridir.

Çalışmaya katılım isteğe bağlıdır. Katılımcılar, istedikleri anda çalışmayı yarıda bırakabilirler. Çalışmadaki her kişiye ait bilgi özeldir ve sadece bu çalışma kapsamında anonim olarak kullanılacaktır; üçüncü kişilerle paylaşılmayacaktır. Çalışma sonrasında formlar, etik kodlara uygun bir biçimde ve zamanda imha edilecektir.

Bu çalışma, araştırılan konunun doğası gereği kişiyi rahatsız edici sorular içerebilir. Eğer bu çalışmayı yaparken rahatsız hissederseniz ve psikolojik desteğe ihtiyaç duyarsanız p***@gmail.com adresinden, psikolojik desteğe yönlendirilmek amacıyla ulaşabilirsiniz.

Çalışma hakkında daha fazla bilgi edinmek için p***@gmail.com adresinden araştırmacıya ulaşabilirsiniz.

Çalışmaya katılmayı kabul ediyorum:

Evet

Hayır

APPENDIX 2: DEMOGRAPHIC FORM

Demografik Bilgi Formu

1. Biyolojik Cinsiyetiniz:

☐ Kadın ☐ Erkek

2. Doğum yılınız:

3. En son mezun olduğunuz okul veya okumaya devam ediyorsanız okuduğunuz okul derecesi nedir?

☐ İlkokul-ortaokul

☐ Lise

☐ Lisans-Lisansüstü

4. Ölüme bağlı kaybınızdan önce profesyonel bir yardım aldınız mı? (Psikolog, psikiyatr gibi)

☐ Evet ☐ Hayır

5. Ölüme bağlı kaybınızdan sonra profesyonel bir yardım aldınız mı? (Psikolog, psikiyatr gibi)

☐ Evet ☐ Hayır

6. Daha önce ölüme bağlı olarak bir kişiyi (kişileri) veya evcil hayvanınızı kaybettiniz mi? (Bundan sonraki soruları sadece birine göre yanıtlamanız rica edilmektedir.)

☐ Daha önce ölüme bağlı olarak sevdiğim bir insanı veya insanları kaybettim.
(7. sorudan devam edebilirsiniz)

☐ Daha önce ölüme bağlı olarak evcil hayvanımı kaybettim. (16. sorudan devam edebilirsiniz)

☐ Daha önce ölüme bağlı olarak bir evcil hayvanımı veya sevdiğim bir insanı kaybetmedim. (. sorudan devam edebilirsiniz)

7. Ölüme bağlı olarak kaybettiğiniz kişi veya kişilerle yakınlık dereceniz nedir?
(Birden çok seçenek işaretleyebilirsiniz)

- ☐ Birinci dereceden akraba (anne, baba, kardeş, çocuk)
- ☐ İkinci dereceden akraba (dede, nene, kuzen, teyze, yeğen vb)
- ☐ Yasal akraba (görümce, kayınpeder, gelin vb)
- ☐ Yakın sosyal çevre (arkadaş, iş arkadaşı, komşu b)
- ☐ Diğer (.....)

8. Ölümüne bağlı olarak kaybettiğiniz ve ölümüyle sizi en çok etkileyen kişiyle yakınlık dereceniz nedir? (Lütfen tek bir seçenek işaretleyiniz.)

- ☐ Birinci dereceden akraba (anne, baba, kardeş, çocuk)
- ☐ İkinci dereceden akraba (dede, nene, kuzen, teyze, yeğen vb)
- ☐ Yasal akraba (görümce, kayınpeder, gelin vb)
- ☐ Yakın sosyal çevre (arkadaş, iş arkadaşı, komşu b)
- ☐ Diğer (.....)

9. Ölümüyle sizi en çok etkileyen kişiyi ne kadar süre önce kaybettiniz? (Ay olarak belirtiniz.)

.....

10. Ölümüyle sizi en çok etkileyen kişinin ölüm sebebi nedir?

- ☐ Ölümcül hastalık (Kanser gibi)
- ☐ Beklenmedik, ani ölüm (Kalp krizi gibi)
- ☐ Kaza (Trafik, iş gibi)
- ☐ İnsan kaynaklı ölüm (Cinayet gibi)
- ☐ Doğal afet kaynaklı ölüm
- ☐ İntihar
- ☐ Diğer:

11. Yaşadığınız ölümüne bağlı kaybın beklenme durumunu 1 (“Hiç beklediğim bir durum değildi”) ile 5 (“Ölüm haberini bekliyordum”) arasında değerlendiriniz.

- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

12. Ölüme bağlı kaybınızdan sonra kaybettiğiniz kişiyle olan ilişkinizin sizde yarattığı boşluğu 1 (“Hiç boşluk yaratmadı”) ile 5 (“Her şey bomboş geldi”) arasında değerlendiriniz.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

13. Ölümüyle sizi en çok etkileyen kişinin ölümünden sonra ölümle ilgili ritüeliniz oldu mu? /Ölümüyle ilgili bir ritüel yaptınız mı?

☐ Evet ☐ Hayır

14. Evet ise ritüel olarak ne yaptınız?

- ☐ Sosyal medya paylaşımı
- ☐ Cenaze/Defin töreni
- ☐ Helva/Lokum dağıtmak
- ☐ Diğer:

15. Yaptığınız veya yapmadığınız ritüelin yas sürecine etkisini 1 (“Rüteli gerçekleştirmek/gerçekleştirmemek hiç iyi gelmedi”) ile 5 (“Rüteli gerçekleştirmek/gerçekleştirmemek çok iyi geldi”) arasında değerlendiriniz.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

16. Şimdiye kadar kaç tane evcil hayvanınız oldu?

☐ 1-3 ☐ 4-6 ☐ 7-9 ☐ 10-12

17. Şimdiye kadar edindiğiniz evcil hayvan(lar)ınızın türü/türleri neydi? (Birden çok seçenek işaretlenebilir.)

☐ Kedi ☐ Köpek ☐ Kuş ☐ At ☐ Sürüngen ☐ Diğer:

18. Ölüme bağlı olarak kaybettiğiniz ve kaybı sizi en çok etkileyen evcil hayvanınızın türü neydi?

☐ Kedi ☐ Köpek ☐ Kuş ☐ At ☐ Sürüngen ☐ Diğer:

19. Ölümüyle sizi en çok etkileyen evcil hayvanınızı ne kadar süre önce kaybettiniz? (Ay olarak belirtiniz.)

.....
20. Ölümüyle sizi en çok etkileyen evcil hayvanınız ile kaç aydır/yıldır birlikteydiniz?

..... ayyıl

21. Ölüme bağlı olarak kaybettiğiniz evcil hayvanınızla birlikte başka bir evcil hayvanınız var mı?

☐ Evet ☐ Hayır

22. Ölümüyle sizi en çok etkileyen evcil hayvanınızın ölüm sebebi nedir? (Birden çok seçenek işaretlenebilir.)

☐ Hastalık

☐ Kaza

☐ Uyutma

☐ Doğal ölüm

☐ Diğer:

23. Ölüme bağlı yaşadığınız kaybın beklenme durumunu 1 (“Hiç beklediğim bir durum değildi”) ile 5 (“Ölüm haberini bekliyordum”) arasında değerlendiriniz.

☐ 1

☐ 2

☐ 3

☐ 4

☐ 5

24. Ölüme bağlı kaybınızdan sonra kaybettiğiniz evcil hayvanınızla olan ilişkinizin sizde yarattığı boşluğu 1 (“Hiç boşluk yaratmadı”) ile 5 (“Her şey bomboş geldi”) arasında değerlendiriniz.

☐ 1

☐ 2

☐ 3

☐ 4

☐ 5

25. Evcil hayvanınızın ölümünden sonra başka bir evcil hayvan beslediniz mi?

☐ Evet

☐ Hayır

26. Evcil hayvanınızın ölümünden sonra beslediğiniz hayvanınızın türü neydi?

☐ Kedi

☐ Köpek

☐ Kuş

☐ At

☐ Sürüngen

☐ Diğer:

27. Evcil hayvanınızın ölümünden sonra ölümüyle ilgili bir ritüeliniz oldu mu?

☐ Evet

☐ Hayır

28. Ölümüyle sizi en çok etkileyen evcil hayvanınızın ölümünden sonra nasıl bir ritüel yaptınız? (Birden çok seçenek işaretlenebilir.)

- ☐ Sosyal medya paylaşımı
- ☐ Cenaze/Defin töreni
- ☐ Helva/Lokum dağıtmak
- ☐ Diğer:

29. Yaptığınız veya yapmadığınız ritüelin yas sürecine etkisini 1 (“Rüteli gerçekleştirmek/gerçekleştirmemek hiç iyi gelmedi”) ile 5 (“Rüteli gerçekleştirmek/gerçekleştirmemek çok iyi geldi”) arasında değerlendiriniz.

- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

APPENDIX 3: CORE BEREAVEMENT ITEMS

Temel Yas Unsurları Ölçeği

Aşağıdaki sorular bir süre önce kaybetmiş olduğunuz sevdiğiniz bir kişiyle alakalı olarak yaşadıklarınız ve hissettikleriniz hakkındadır. Kaybettiğiniz kişi sorularda “O” ile belirtilmiştir.

1. O’nun vefatına ilişkin olaylarla ilgili hayaller zihninizde canlanıyor mu?

() Sürekli () Çoğunlukla () Bazen () Hiçbir zaman

2. O’nunla ilgili düşünceler isterseniz de istemeseniz de aklınıza geliyor mu?

() Sürekli () Çoğunlukla () Bazen () Hiçbir zaman

3. O’nunla ilgili düşünceler sizde huzursuzluğa neden oluyor mu?

() Daima () Çoğunlukla () Bazen () Hiçbir zaman

4. O’nun hakkında düşünüyor musunuz?

() Sürekli () Çoğunlukla () Bazen () Hiçbir zaman

5. O’nunla ilgili hayallerin zihninizde canlanması sizde huzursuzluğa neden oluyor mu?

() Daima () Çoğunlukla () Bazen () Hiçbir zaman

6. O’nunla ilgili hayaller veya hatıralarla yoğun bir şekilde meşgul oluyor musunuz?

() Sürekli () Çoğunlukla () Bazen () Hiçbir zaman

7. O’nun tekrar yanınızda bulunduğunu ya da tekrar bir araya geldiğinizi düşündüğünüz oluyor mu?

() Daima () Çoğunlukla () Bazen () Hiçbir zaman

8. O’nu özleyiyor musunuz?

() Daima () Çoğunlukla () Bazen () Hiçbir zaman

9. O’na ait bilinen eşyalar (fotoğrafları, odası gibi) size O’nu hatırlatıyor mu?

() Her defasında () Çoğunlukla () Bazen () Hiçbir zaman

10. O'na karşı aşırı bir hasret çekiyor musunuz?

() Daima () Çoğunlukla () Bazen () Hiçbir zaman

11. Tanıdık yerlerde O'nu arayıp da bulmayı arzuladığınız oluyor mu?

() Her defasında () Çoğunlukla () Bazen () Hiçbir zaman

12. Herhangi bir sebepten dolayı O'nun artık geri gelmeyeceği gerçeği ile yüzleştüğünüzde acı çekiyor musunuz?

() Her defasında () Çoğunlukla () Bazen () Hiçbir zaman

13. Fotoğraf, müzik, bazı yerler ve durumlar gibi O'nu hatırlatan şeyler O'nu aşırı özlemenize neden oluyor mu?

() Her defasında () Çoğunlukla () Bazen () Hiçbir zaman

14. Fotoğraf, müzik, bazı yerler ve durumlar gibi O'nu hatırlatan şeyler kendinizi yalnız hissetmenize neden oluyor mu?

() Her defasında () Çoğunlukla () Bazen () Hiçbir zaman

15. Fotoğraf, müzik, bazı yerler ve durumlar gibi O'nu hatırlatan şeyler O'nun için ağlamanıza neden oluyor mu?

() Her defasında () Çoğunlukla () Bazen () Hiçbir zaman

16. Fotoğraf, müzik, bazı yerler ve durumlar gibi O'nu hatırlatan şeyler size keder veriyor mu?

() Her defasında () Çoğunlukla () Bazen () Hiçbir zaman

17. Fotoğraf, müzik, bazı yerler ve durumlar gibi O'nu hatırlatan şeyler hayattan yeterince zevk alamamanıza neden oluyor mu?

() Her defasında () Çoğunlukla () Bazen () Hiçbir zaman

APPENDIX 4: MULTIDIMENSIONAL SCALE OF SOCIAL SUPPORT

Çok Boyutlu Algılanan Sosyal Destek Ölçeği

Aşağıda 12 cümle ve her bir cümle altında da cevaplarınızı işaretlemek için 1'den 7'ye kadar rakamlar verilmiştir. Her cümlede söylenenin sizin için ne kadar çok doğru olduğunu veya olmadığını belirtmek için o cümle altındaki rakamlardan yalnız bir tanesini işaretleyiniz. Bu şekilde 12 cümlenin her birine bir işaret koyarak cevaplarınızı veriniz.

Lütfen hiçbir cümleyi cevapsız bırakmayınız. Sizce doğruya en yakın olan rakamı işaretleyiniz.

1. Ailem (örneğin, annem, babam, eşim, çocuklarım, kardeşlerim) bana yardımcı olmaya çalışır.
Kesinlikle hayır 1 2 3 4 5 6 7 Kesinlikle evet
2. İhtiyacım olan duygusal yardım ve desteği ailemden (örneğin, annem, babam, eşim, çocuklarım, kardeşlerim) alırım.
Kesinlikle hayır 1 2 3 4 5 6 7 Kesinlikle evet
3. Arkadaşlarım bana gerçekten yardımcı olmaya çalışırlar.
Kesinlikle hayır 1 2 3 4 5 6 7 Kesinlikle evet
4. İşler kötü gittiğinde arkadaşlarıma güvenebilirim.
Kesinlikle hayır 1 2 3 4 5 6 7 Kesinlikle evet
5. Ailem ve arkadaşlarım dışında olan ve ihtiyacım olduğunda yanımda olan bir insan (örneğin, flört, nişanlı, sözlü, akraba, komşu, doktor) var.
Kesinlikle hayır 1 2 3 4 5 6 7 Kesinlikle evet
6. Ailem ve arkadaşlarım dışında olan ve sevinç ve kederlerimi paylaşabileceğim bir insan (örneğin, flört, nişanlı, sözlü, akraba, komşu, doktor) var.
Kesinlikle hayır 1 2 3 4 5 6 7 Kesinlikle evet
7. Sorunlarımı ailemle (örneğin, annem, babam, eşim, çocuklarım, kardeşlerim) konuşabilirim.
Kesinlikle hayır 1 2 3 4 5 6 7 Kesinlikle evet
8. Sevinç ve kederlerimi paylaşabileceğim arkadaşlarım var.
Kesinlikle hayır 1 2 3 4 5 6 7 Kesinlikle evet
9. Ailem ve arkadaşlarım dışında olan ve duygularıma önem veren bir insan (örneğin, flört, nişanlı, sözlü, akraba, komşu, doktor) var.
Kesinlikle hayır 1 2 3 4 5 6 7 Kesinlikle evet
10. Kararlarımı vermede ailem (örneğin, annem, babam, eşim, çocuklarım, kardeşlerim) bana yardımcı olmaya isteklidir.
Kesinlikle hayır 1 2 3 4 5 6 7 Kesinlikle evet
11. Ailem ve arkadaşlarım dışında olan ve beni gerçekten rahatlatan bir insan (örneğin, flört, nişanlı, sözlü, akraba, komşu, doktor) var.
Kesinlikle hayır 1 2 3 4 5 6 7 Kesinlikle evet
12. Sorunlarımı arkadaşlarımla konuşabilirim.
Kesinlikle hayır 1 2 3 4 5 6 7 Kesinlikle evet

APPENDIX 5: EXECUTIVE FUNCTIONS INDEX

YÜRÜTÜCÜ İŞLEVLER ÖLÇEĞİ

Aşağıdaki ifadelerin her birinin sizi ne kadar iyi tanımladığını değerlendirin.

	Kesinlikle Katılmıyorum	Katılmıyorum	Kısmen katılıyorum	Katılıyorum	Tamamen Katılıyorum
1 Bir şeyler yapmak için çok hevesliyim.	1	2	3	4	5
2 Arka arkaya birkaç şey yaparken, sıralarını karıştırırım.*	1	2	3	4	5
3 Gelecek için plan yapmaya çalışırım.	1	2	3	4	5
4 Hiçbir şey yapmadan saatlerce oturabilirim.*	1	2	3	4	5
5 Bazen eğlenmek için risk alırım.*	1	2	3	4	5
6 Aynı anda iki şey yaparken sorun yaşıyorum.*	1	2	3	4	5
7 Yeni şeyler yapmakla ilgilenirim.	1	2	3	4	5
8 Başkalarının iyiliğini çok önemserim.	1	2	3	4	5
9 Düzenli/ tertipli bir insanım.	1	2	3	4	5
10 Düzenli olarak para biriktirim.	1	2	3	4	5
11 Başkalarının utanç verici bulduğu şeyleri söylerim veya yaparım.*	1	2	3	4	5
12 Kendisinden yararlanılacak kadar aptal olan insanlar bunu hak eder.*	1	2	3	4	5
13 Hatalardan ders çıkarmak için bir kez hata yapmak yeterlidir.*	1	2	3	4	5
14 Enerjik bir insan olma eğilimindeyim.	1	2	3	4	5
15 Yakışksız cinsel yaklaşımlar sergilerim ya da yakışksız müstehcen yorumlar yaparım.*	1	2	3	4	5
16 Birinin başı dertte olduğunda ona yardım etme ihtiyacı duyarım.	1	2	3	4	5
17 Bazen yapmakta olduğum işi takip edemiyorum.*	1	2	3	4	5
18 Kendisine kötü davranılan bir arkadaşına karşı koruyucu olurum.	1	2	3	4	5
19 Bir davranışı yapmadan önce sonuçlarını düşünürüm.	1	2	3	4	5
20 Üzüldüğüm zaman öfkelenirim.*	1	2	3	4	5
21 Bir şey yaparken başkalarının duygularını göz önünde bulundururum.	1	2	3	4	5
22 Karar vermek için bilgileri toplamakta güçlük çekerim.*	1	2	3	4	5
23 Bir şeyleri yapmaya başlarım ama sonra ilgimi kaybedip farklı bir şey yaparım.*	1	2	3	4	5
24 Küfrederim/Müstehcen sözler kullanırım.*	1	2	3	4	5
25 Davranışlarımın veya sözlerimin başka birini incitmesinden hoşlanmam.	1	2	3	4	5
26 Bir şeyleri hatırlamak için stratejiler kullanırım.	1	2	3	4	5

APPENDIX 6: ETHICAL APPROVAL

Evrak Tarih ve Sayısı: 07.11.2023-284080



1993

BAŞKENT ÜNİVERSİTESİ
Akademik Değerlendirme Koordinatörlüğü

Sayı : E-62310886-605.99-284080
Konu : Zeynep Emel Öztürk'ün Etik Kurul
Onayı Hk.

07.11.2023

SOSYAL BİLİMLER ENSTİTÜSÜ MÜDÜRLÜĞÜNE

İlgi : 12.10.2023 tarih ve 276196 sayılı yazınız.

Enstitümüz Psikoloji Ana Bilim Dalı Klinik Psikoloji (Tezli) Yüksek Lisans Programı öğrencisi Zeynep Emel Öztürk tarafından, Doç. Dr. Öğr. Üyesi Elvin Doğutepe'nin danışmanlığında yürütülecek olan "İnsan ve Hayvan Kaybeden Bireylerin Algıladıkları Sosyal Destek ile Yürütücü İşlevlerinin Karşılaştırılması (Comparison of Perceived Social Support and Executive Functions of Individuals Who Have Lost a Beloved Person or Companion Animal)" adlı çalışma değerlendirilmiş ve bilgilerinize ekte sunulmuştur.

Prof. Dr. Mehmet Abdülkadir VAROĞLU
Kurul Başkanı

Ek: Değerlendirme Formu

Sayı : 17162298.600-235
Konu : Bilimsel Çalışma

23 Ekim 2023

İlgili Makama

Üniversitemiz Sosyal Bilimler Enstitüsü Psikoloji Ana Bilim Dalı Klinik Psikoloji (Tezli) Yüksek Lisans Programı öğrencisi Zeynep Emel Öztürk tarafından, Doç. Dr. Öğr. Üyesi Elvin Doğutepe'nin danışmanlığında yürütülecek olan "İnsan ve Hayvan Kaybeden Bireylerin Algıladıkları Sosyal Destek ile Yürütücü İşlevlerinin Karşılaştırılması (Comparison of Perceived Social Support and Executive Functions of Individuals Who Have Lost a Beloved Person or Companion Animal)" adlı çalışma değerlendirilmiş ve yapılmasında bir sakınca olmadığı tespit edilmiştir. Bilgilerinize saygılarımızla sunarız.

Başkent Üniversitesi Sosyal ve Beşeri Bilimler ve Sanat Araştırma Kurulu

Ad, Soyad	Değerlendirme	İmza
Prof. Dr. M. Abdülkadir Varoğlu	Olumlu/ Olumsuz	
Prof. Dr. Gözen Güner Aktaş	Olumlu/ Olumsuz	
Prof. Dr. Sadegül Akbaba Altun	Olumlu/ Olumsuz	
Prof. Dr. Hasan Tahsin Fendoğlu	Olumlu/ Olumsuz	
Prof. Dr. Filiz Kalelioğlu	Olumlu/ Olumsuz	
Prof. Dr. Hidayet Hale Künuçen	Olumlu/ Olumsuz	
Prof. Dr. Özcan Yağcı	Olumlu/Olumsuz	