INTRODUCTION

Death anxiety (DA) is a type of anxiety that can arise when a person thinks about death and topics related to dying. This tends to prevail among older adults (OAs). Existing studies have found that more intense DA levels affect OAs negatively. In addition, the levels of DA OAs experienced intensified during the COVID-19 pandemic, as OAs are among the most vulnerable to illnesses and COVID-19 in particular. As a result, it was especially important to enhance support for OAs most susceptible to DA in accordance with their emotion, spirituality, and educational levels during the most difficult periods of the COVID-19 pandemic. Three factors — emotional profile/background/tendencies, spirituality, and educational levels — have been pointed out by researchers as the main aspects which could significantly vary one’s DA. Therefore, this article aims to explore these three elements. It was suggested that OAs would benefit from healthy ageing including maintaining physical, psychological, and social functioning in old age. More positive emotions, stronger spirituality, and a higher level of education are some of the key contributors in order to reduce OAs’ DA levels and hence enjoy their final period of life.

POSITIVE AND NEGATIVE EMOTIONS

Positive emotions

Positive emotions, such as happiness and satisfaction with life identified in Wong (2000), is one of the major components of general well-being (Seligman, 2018). The more positivity the OAs experience, the less DA they feel (Jo & An, 2018). Jo and An (2018) engaged OA participants in a group reminiscence programme that aimed to promote death preparation. The OAs experienced lower levels of DA as they were more satisfied with their lives and recollected positive and meaningful memories after the programme. Plutchik (1980) suggested that emotions are dichotomous, proposing 4 pairs of emotions in the Wheel of Emotions, one of which was joy and sadness. According to his theory, experiencing positive emotions such as happiness can act as the motivation that moderates pessimistic feelings, including DA as OAs begin to approach the end of life (Hedtke, 2014; Lu &...
A qualitative study conducted by Nierop-van Baalen et al. (2016) further suggested that hope — the desire to have a positive life in a limited timeframe — helps senior cancer patients feel prepared for their final stage of life and reduces their DA levels.

Experiments adopting an eye-tracking paradigm (e.g., Isaacowitz et al., 2006; Leigland et al., 2004) provide some evidence of this tendency. Amongst individuals from North America, OAs generally direct their gaze toward smiles and happy faces and look away from angry and sad faces (Reed & Carstensen, 2012). Similarly, Labouvie-Vief et al. (2010) also highlighted that OAs avoided processing negative information because these stimuli tend to be more elaborate among OAs (Zebrowitz et al., 2017), which could consume more cognitive resources. In this sense, if OAs experience a positivity effect, they could view life more positively in their later lives, which could protect them from suffering the impacts of DA; however, there are inadequate studies dealing with the direct relationship between the positivity effect and DA among OAs (Vecchione et al., 2014). It is therefore valuable to conduct research that bridges this gap by exploring the direct correlation between the positivity effect and DA through regression analyses.

Research, however, found that some OAs were less likely to feel positive in their later lives, particularly those struggling with mental health issues.

### Negative emotion disturbance

#### Loneliness

Loneliness is one of the main causes of DA among OAs as it often gives rise to a sense of abandonment and uselessness (Sebea et al., 2021). It is commonly experienced as OAs move away from their own living environment and social circle, most often when moving into a care home (Pinar & Demirel, 2020). Typically, as OAs age, they encounter the problem of shrinking social circles (Nayak et al., 2019) due to the significant loss of partners and friends when living alone (Victor & Bowling, 2012). This is exemplified in the longitudinal mediation study by Santini et al. (2020), where widowed, single, or divorced bachelor OA participants, living alone, reported feeling socially isolated. This is in contrast to OAs with children and other family members who could offer them support, who tend to feel less DA (Zahedi Bigdol et al., 2020). Similar patterns were seen in divorced OAs who do not have a partner keeping them company (Keskin et al., 2018). OAs who feel lonely could have significantly higher DA levels as they tend to be less motivated to aspire for positive lifestyles (Shahidi, 2013) and suffer damage to their psychosocial health as a result (Nabavi et al., 2014).

Additionally, the deaths of friends and loved ones (Ergin et al., 2022) cause grief among OAs and shrink their emotional support network, discouraging their own fear management surrounding their own death (Jumaa, 2021). This research was extended by MacLeod et al. (2019) through a study investigating the role of loved ones in OAs’ emotional regulation. The qualitative study involved families from New Zealand. Surprisingly, they discovered that close family members did not always alleviate OAs’ DA levels, reporting instead that in an intimate family relationship providing OAs with close emotional bonding and a sense of belonging, OAs felt more worried about leaving their family behind when they died. This indirectly increased DA through the distress brought on by the anticipated impact on their families.

#### The states of melancholia

Another suggested factor associated with DA are depressive emotions, such as sadness (Torres, 2020) and pessimism (American Psychological Association, 2023a). An insufficient emotional capacity to safeguard themselves from DA and lower cognitive and physical functioning abilities (Willis et al., 2019) are thought to lead to a decreased sense of their own purpose and values in life (Maxfield et al., 2014). Therefore, depressive tendencies among OAs are directly correlated to higher levels of DA (Menzies et al., 2019); OAs who experience more negative emotions are more likely to experience anxiety about death (Woo & Bae, 2022). Philippi et al. (2018) suggest that a high level of DA could worsen depressive symptoms — such as rumination and self-focussed thought — which intensifies DA and, in turn, creates a vicious cycle between depressive feelings and DA.

Future research might benefit from assessing DA levels in OAs diagnosed with clinical depression, as there is a lack of studies exploring the relationship between DA and psychiatric conditions (Eaton et al., 2000). If OAs with clinically diagnosed depression are found to be at heightened risk of experiencing severe DA, this could cause serious outcomes, including suicidal thoughts (Ramsey et al., 2021). Conejero et al. (2018) suggest that suicidal ideation may be a defence mechanism against the sense of helplessness brought by DA. Therefore, further exploration of the correlation between depression and DA would provide useful information on alleviating DA to communities and professionals caring for OAs.

#### COVID-19 AND OTHER MAJOR EVENTS

During the COVID-19 pandemic, governments imposed a series of regulations, including social distancing and self-isolation (Vahia et al., 2020). During this period, researchers (e.g., Mukhtar, 2020) claimed OAs were prone to more negative emotions, such as increased feelings of loneliness and more severe depression. A meta-analysis of 17 cross-sectional studies found that 37% of OA participants experienced moderate levels of DA due to COVID-19 (Safari et al., 2020). Increased DA in OAs was found to be common to other life-threatening events besides COVID-19, such as the Severe Acute Respiratory Syndrome (SARS) in Hong Kong in 2003 and after the September 11 attacks (Fung & Carstensen, 2006). The study (Fung & Carstensen, 2006) applied TMT to the salient high mortality rates of both events. Another study conducted by Garrow and Walker (2001) exemplified the importance of hope in countering DA. In their study, one of the participants shared that his depression levels were exacerbated as he could no longer feel hopeful about life, reporting a sense of helplessness after the 9/11 attack. This participant did not experience the positivity effect and experienced more intense DA as a result. In the context of SARS, the perception of “time as limited” primed individuals’ DA due to the high infection and mortality rate (Fung & Carstensen, 2006). “SARSophobia” (Cheng, 2004, p. 74), a common term during the height of the SARS epidemic in Hong Kong, described people’s panic and anxiety about the fatal consequences of SARS (Person et al., 2004). At the time, reading or watching news reports about the SARS outbreak was shown to have contributed to intensified DA levels (Cheng, 2004); the same effect was observed during the COVID-19 pandemic. It is argued that these heightened DA levels may have been due to the high consumption of distressing mass media reports. For example, reports of the high mortality rates from COVID-19 among OAs may have induced widespread anxiety about dying from COVID-19 amongst OAs (Menzies et al., 2020; Erbesler & Demir, 2022). However, differing conclusions were drawn from studies in the Middle East (e.g., Mukhtar, 2020; Menzies et al., 2020), which may not be directly comparable. For example, in contrast to the conclusions drawn from these Middle Eastern studies, the Centres for Disease Control and Prevention in the United States (Vahia et al., 2020) declared that OAs aged 65 or above were significantly less anxious about COVID-19 than other age groups in a survey report. It is important to note that these statistics were presented 2 months after the official outbreak of COVID-19 — on 24–30, June 2019 — which could explain these inconsistencies; however, even though anxiety over the pandemic was found to be correlated to DA levels, the direct effects of COVID-19 on DA in OAs were not addressed. At that time, OAs might not have been as aware of the risks of COVID-19 as they would be later on in the pandemic. To date, there are still comparatively few studies investigating the change in DA levels, specifically among OAs in the US population, as opposed to across age groups. It is difficult to conclude whether OAs in the US were more or less prone to DA in tough times (Vahia et al., 2020); their resilience in the face of the distress caused by COVID-19 remains unknown.

To conclude this section on emotions and COVID-19, previous theoretical and empirical observations showed that a positivity effect among OAs can act as a protective factor for maintaining low levels of DA. It is not guaranteed that all OAs experience positive emotions in their later lives. There are adequate grounds for concluding that certain...
negative emotions, such as loneliness and depression, can hinder OAs from feeling low levels of DA in their final stages of life.

SPIRITUALITY

Spirituality is defined as an aspect of the human inclination to feel connected with objects beyond themselves, such as following a religion (Soriano & Calong, 2022). It may enhance the process of seeking meaning and purpose in life for individuals (Ferlenza & Vallada, 2018) and offer an individual a sense of peace and internal healing (Rosmarin & Leidl, 2020).

A strong spirituality — such as having a firm belief about the afterlife (MacLeod et al., 2019) — is believed to be beneficial for OAs as they age, especially when coping with and facing death. Many empirical studies support the hypothesis that spirituality negatively correlates with DA (e.g., Henrie & Patrick, 2014). A possible explanation for this might be that spirituality can provide a sense of connectedness and mental resilience to deal with distress and hardship in their later lives (Saleem & Khan, 2015), which could strengthen OAs’ well-being in general (Choudhary et al., 2022). This is associated with positive mental and emotional health (Scott, 2023) and minimises DA.

RELIGIOSITY

Religiosity refers to an individual’s participation in the beliefs and practices associated with their religion (Ho & Ho, 2007). Religion is often an important source of spiritual support to OA in terms of building their sense of purpose in life. This echoes the concept of ego integrity, the last stage of psychosocial development proposed by Erikson (1955/1993), described as a state of mind in which a person believes that they have lived a meaningful and worthy life. Attaining ego integrity is an essential step before death, as it allows OAs to accept the inevitability of mortality and to approach death with a minimal level of DA (Hui & Coleman, 2013). Wong (2000) points out that religious belief has a measurable effect on the capacity to maintain a positive approach to death and dying.

Indeed, Choobari et al. (2019) demonstrate that for religious OAs a belief in the afterlife could alleviate DA (Choobari et al., 2019). Jeon et al. (2015) recruited OAs with different religious beliefs, including Protestant, Catholic, Buddhist and Confucian. They found that devoted OAs who hold firm religious beliefs had lower levels of DA and tended to maintain a stronger and more consistent sense of meaning in their lives. This is exemplified in some studies focussing on Abrahamic theologies, typically Christian and Muslim, which promise life beyond death if followers are accepted by God (Soleimani et al., 2020). This core belief in an afterlife is thought to reduce fear of the unknown after death (Krause, 2005), which is a fundamental category of DA (Cicirelli, 2005). Religious OAs may find it easier to achieve ego integrity, which may make them more resistant to DA (Woo & Bae, 2022); however, Pandya and Kathuria (2012) challenge these reviews on the basis of their focus on Western culture, which may not be generalisable to religions across the globe. Future studies should also take Asian beliefs such as Buddhism into account, as well as indigenous religions centred around ancestor worship, animism, and spiritual connection to nature in order to establish whether the positive effect of religiosity on DA measured in Western-oriented studies might be present in the rest of the world.

COVID-19: A CLOSER ANALYSIS

During the peak of the pandemic, some social and religious activities were suspended due to social distancing and lockdown (Dein et al., 2020), negatively affecting OAs with religious faith (Dekhordi et al., 2020) as they were unable to physically access religious places to seek comfort during COVID-19 (Yezi & Khan, 2021). Both qualitative and quantitative studies have revealed higher levels of spiritual regression (a weakened sense of religious identity) in OAs during the pandemic (Ekici, 2020; Erbesler & Demir, 2022). COVID-19 has been identified as an obstacle to OAs’ capacity to cope with distress through religion, which could otherwise have forestalled the psychosocial impact of the pandemic and alleviated DA (Vishkin & Tamir, 2020). Researchers have illustrated the benefits of adopting positive religious coping strategies during the COVID-19 pandemic (e.g., Rababa et al., 2021), encouraging religious behaviours that allow a person to turn to god to seek support and comfort (Bryan et al., 2016), including prayer (H along, 2020). Religious coping may bring stress relief and other mental health benefits to OAs. As a result, religious coping could be considered a moderator for general mental health and the levels of DA among OAs (Zahedi Bidgol et al., 2020). The study outlines that OAs were also restricted from building up a religious buffer against DA during the COVID-19 pandemic (Vishkin & Tamir, 2020) and that OAs may have experienced increased religious doubt and even mistrust of their gods. This is typically exacerbated by the loss of loved ones to COVID-19 (Pirutinsky et al., 2020). In other words, as COVID-19 shook religious faith and hindered attempts to find peace through their gods, religious OAs' mental health may have suffered as a consequence, resulting in higher levels of DA; however, with the introduction of alternative ways of conducting religious activities, including online masses and religious services, OAs’ capacity to alleviate DA through religious coping was supported throughout the time of COVID-19 (Brooke & Jackson, 2020).

These findings, in general, suggest that spirituality and religiosity are important factors in protecting OAs from DA and that the outbreak of COVID-19 disturbed OAs’ regular religious practice and thereby increased DA among religious OAs; however, the observed effects of the COVID-19 pandemic on DA among religious OAs may not necessarily extend to non-pandemic situations, raising concerns about the longer-term ecological validity of these findings. The specific context of the pandemic could be influencing the observed effects of religiosity on DA, making it essential to consider the potential application of these results beyond the pandemic.

EDUCATION LEVEL

A higher level of education is associated with lower DA (Bastani et al., 2016). On the whole, OAs with a higher level of education tend to have lower levels of DA. OAs with a high school education and above have been found to experience less DA than illiterate OAs (Pinar & Demirel, 2020); this might be explained by greater awareness among educated OAs of the features of a healthy lifestyle, such as not smoking and maintaining a healthy diet (Habibi et al., 2006). In turn, this awareness demystifies death and dying for educated OAs, giving them a clearer sense of the causes of sickness and death and the importance of daily decisions affecting general health (Bevan et al., 2014). This echoes the potential role of health awareness in TMT by Bevan et al. (2014), in which conscious maintenance of a healthy lifestyle can alleviate DA by encouraging a grounded, realistic and high-agency approach to life and death (Bevan et al., 2014).

EDUCATION AND COVID-19

During the COVID-19 pandemic, higher levels of DA were reported among less-educated OAs (LEOAs) in particular. Erbesler and Demir (2022) found that the LEOA population generally feels more anxious about death. A possible explanation is put forward by Shojaei & Masoumi (2020), suggesting that LEOAs were generally less informed about the nature of COVID-19 (Shojaei & Masoumi, 2020), including transmission, variants, and how to avoid infection. Considering LEOAs’ resultant susceptibility to misinformation about COVID-19 (Roozenbeek et al., 2020) and to reduced immunity among OAs in general (Mueller et al., 2020), LEOAs were at higher risk of contracting the virus. These findings cohered with the study conducted by Özer et al. (2022), which explored the predictors of DA during COVID-19; this study showed that LEOAs appeared to experience higher levels of anxiety in response to the high mortality rates from COVID-19 among OAs, which was found to increase their anxiety surrounding mortality in general.

SOCIOECONOMIC STATUS (SES)

Socioeconomic status (SES) describes an individual’s position on the SES spectrum in accordance with their social, educational, and economic background (American Psychological Association, 2023b). In general, higher education is to correlate positively with higher SES (American Psychological Association, 2017). Zajacova and Lawrence (2018) state that being more educated may lead to more stable and higher-paid
employment, ultimately allowing educated individuals to accumulate more savings for later life. Some studies have indicated that employed OAs experience less DA (e.g., Seba et al., 2021), potentially explained by the fact that their occupations leave less time to consider the issues of death (Şahan et al., 2018). This claim has been reinforced by Soleimani et al. (2020), who demonstrated that OAs from lower or middle SES have a higher possibility of experiencing more severe DA, whilst more-educated OAs (MEOAs) generally enjoy higher SES, which gives them the financial capacity to access high-quality healthcare even in cases of very severe and potentially fatal illness. This trend was also evident in a Polish study, which demonstrated the correlation of higher savings/income to better physical health and increased longevity through facilitating access to better medical care (Zaleskiewicz et al., 2013) and concluded that LEOAs are more anxious about death than MEOAs, with less financial support, they may be in closer proximity to the end of life. On the other hand, Khoshi et al. (2017) found that OAs of higher SES tended to be more unsatisfied even with a higher life expectancy due to their tendency to struggle to accept unavoidable personal loss; this was found to intensify their DA. Yet, there is still a need to explore the DA levels of MEOAs and LEOAs in countries with high economic disparities.

One major drawback of these conclusions is that they relied on a self-reporting method vulnerable to introducing biases; for example, respondents might misinterpret the appropriate measurement, and the results may have been distorted by social desirability bias, where respondents might misinterpret the appropriate measurement, and the results have been shown to be inaccurate in an effort to appear socially respectable (Rosenman et al., 2011). In this area, it is important to be cautious, as there are no clear, consistent guidelines for categorising individuals by SES.

DEATH EDUCATION PROGRAMMES

Education is not limited to academic knowledge acquired in schools, tertiary education, and workplaces; it also pertains to information obtained throughout life and across sources, including communities as well as formal institutions. By participating in death education programmes (DEPs), OAs are involved in a range of educational activities aiming to develop their knowledge about death. An example of a recent DEP in Hong Kong was delivered by Nan et al. (2020), where OAs participating in a train journey, which represented different phases of life before reaching a final destination representing death. Through DEPs like this, OAs are encouraged to think about death with their family and caregivers and report lower DA (Chen et al., 2020). This is supported by Jeon et al. (2015) as they found that as OAs were guided through a DEP’s curriculum, they tended to overcome their resistance to discussing death openly and felt more prepared for its approach.

Based on the TMT proposed by Greenberg et al. (1997), participants are driven to find ways of coping with the internal conflicts between their desire to remain alive and the inevitability of death. Therefore, in DEPs’ use of death-related prompts, these programmes encourage OAs to manage their feelings on the subject consciously (Lei et al., 2022), thus strengthening their capacity to cope with DA (MacLeod et al., 2019) and giving them the tools to resolve the internal conflicts between self-preservation instinct and accepting the inevitability of death. It is shown that death education shifts OAs’ attitude towards death from avoidance to acceptance, significantly lowering DA among OAs (Chen et al., 2020). It is important to note that some studies indeed recommended that DEP is beneficial for educated OAs in particular (e.g., Zhao et al., 2018) due to their comparatively extensive existing knowledge about death (Şahan et al., 2018); future research is needed to justify the reasoning behind this.

These studies have raised debates about the relationship between education level and DA among OAs. On the one hand, research has found high levels of DA in MEOAs when also considering SES. In contrast, they were shown to feel less anxious during COVID-19 and when receiving DEP. Nevertheless, across research into SES and DEPs, current findings seem to point to the conclusion that higher education and higher SES tend to protect OAs from suffering DA.

CONCLUSION

DA is a form of psychological distress affecting various groups of OAs to various degrees. It can be exacerbated or alleviated by a range of factors across emotional stability and outlook, spirituality, and education levels, with measurable further effects observed resulting from the interactions between these three factors. As a result, working to foster more positive emotions, stronger spirituality, and more education about death is likely to minimise DA levels among OAs.

DA tends to be relieved by the positivity effect, which allows them to feel more positive about death. By contrast, negative feelings tend to exacerbate DA, in particular when OAs are facing mental ill-health. A similar effect has been demonstrated in OAs with high levels of spirituality and firm religious beliefs, though spirituality and religiosity — particularly belief in an afterlife — have been shown to provide a buffer from DA. Insufficient research has been conducted into the capacity of animist, polytheistic, and other non-Abramcic religions to alleviate DA. In countries with ageing populations, such as the UK (Storey, 2022), the growing population of OAs has necessitated more studies on DA, its causes and the factors that affect its intensity. Many have shown that the level of formal education in OAs affects DA, but a definitive conclusion is yet to be drawn on its specific effects. Notably, through engaging in DEP, OAs can become better informed about death, which has been shown to reduce DA (Chen et al., 2020).

In recent years, COVID-19 has presented a major challenge to safeguarding OAs from DA. The pandemic’s disruption of ordinary daily activities decreased OAs’ capacity to find solace in routine as well as social, religious, and professional communities, thereby exacerbating boredom, loneliness, depression and helplessness; its high mortality rate led to more bereavement, as well as provoking high levels of rumination on death. Overall, DA levels increased significantly across the board due to COVID-19’s detrimental effects on a huge range of factors affecting DA, from social life and religious practice to media consumption and emotional hygiene. Current conclusions on the effects of religiosity and DEPs are supported by theoretical approaches such as ego integrity and TMT; however, there are still discrepancies between studies which are yet to be resolved, likely arising from the high reliance on self-reporting, as well as the difficulties in assessing the generalisability of localised studies and addressing research biases. As such, further research aiming to resolve these issues is still necessary for understanding DA in later life, supporting OAs suffering from it, and helping to protect OAs from its effects. More broadly, though this essay has focussed exclusively on OAs, DA may not be fully understood until future research has investigated the changes in DA levels across the lifespans of individuals.
Death anxiety, religiosity, and the functionalist strain: An ethnographic case study

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The author discusses how death anxiety among older adults may be reduced by appealing to religious practices or general spirituality, particularly when it affords the comfort of the possibility of an afterlife. Whilst social anthropology has often sought to move beyond the antiquated functionalist understanding of religion as a mere anxiety-reducing cultural artefact, I cautiously re-attend to this important facet of religious/spiritual practices, appealing to my own ethnographic fieldwork with a contemporary spiritual ritual: Family Constellation Therapy (FCT; Chidichimo, 2022).

Approaching and engaging religion and spirituality

When exploring the function of religions and general spiritual dispositions, theorists in various domains have often rendered religion as an anxiety-relieving social structure (evolutionarily; Blume, 2009; sociologically, Bartkowski et al., 2017; psychologically, Shreve-Neiger & Edelstein, 2004; and ethnographically for political structure, Buyandelger, 2013). By promising an afterlife and the permanence of one’s soul or essence when they enter such afterlife (often through an “ontic shift”; see Ladwig, 2012), the terror of death is somewhat mitigated or re-narrativised such that one may feel less fearful of death or even accept it as a necessary and fulfilling aspect of life. Here, there is a decidedly Durkheimian outlook: social functions for social ends. Religion’s social function is to reduce anxiety or offer comfort, a distinct functionalist framework. In short, this framework explores how — in a Malinowskian strain — cultural technologies and practices function to satisfy “(the individual’s) primary biological needs” (Malinowski, 1954, p. 202) and — in a Durkheimian (1912) sociology of religion strain — maintain the cohesion of the social system (see also Parsons, 1975; Layton, 1998); however, anthropologists are now acutely aware that these perspectives may easily render societies as static, bounded units which are somewhat impenetrable and conservative in their beliefs and practices. More than this, some beliefs (in supernatural entities, for example) may even be understood as dysfunctional (Goldschmidt, 1996).

The biggest concern with this theoretical project is that it may quickly slip into a positivist, functionalist attitude — one particularly associated with Auguste Comte. Namely, Comte (1853/2009) suggested a law of three stages in the development of society: from the more primitive theological stage (religion) to metaphysical (abstraction) to the modern positivist (science). Inevitably, this presents a problematic evolutionist and linear rendering of social transformation, particularly when functionalist accounts fail to provide proximate and ultimate explanations of particular functional properties of a society. In any case, in these renderings, biology is the discipline to be privileged in explaining and producing models for social life and even the social sciences (Giddens, 1986). Whilst addressing fundamental questions — for example when and how institutionalised religions entered human history and questions pertaining to their adaptive benefit in various societal milieus — has often depended on biological principles (Dunbar, 2022), one should not reduce its exploration to its purported “functional” basis, where biological science is championed as the supreme epistemology of religion.

More than this, the functionalist framework often overstates the function of religion, which not only homogenises all religions based on their capacity to relieve anxiety — which holds only partially: one need only think of the induced threat of eternal hell in many Christian denominations — but can also easily overstate the sheer richness and diversity of religious practices which may not pertain to death or the afterlife at all. Indeed, from an emic perspective — i.e., from the religionist’s personal or phenomenological perspective — their motivations to pursue or engage in religious practices and beliefs may not be solely driven by a need to reduce death anxiety, whether ethnographically recounted or subconsciously suggested.

Instead, as I have suggested elsewhere (Chidichimo, 2022), it is likely that, very generally, gene–culture coevolution and our evolutionary history more broadly may have paved the path for religious and psychological proclivities (see also Lindenfors & Svensson, 2021), variably manifested across the world, best explored ethnographically. One example of these psychological mechanisms includes the (hyper)sensitiv- ity and ability to detect and attribute agency to non-human objects and events (i.e., the rustle of a bush, storms, misfortune) with causal explanations tied to supernatural spirits and ancestors (Barrett, 2004; Barrett & Lamman, 2008). In another domain concerning anxiety relief, behaving in synchrony with others (e.g., singing, dancing, marching, etc.) strongly bonds those who are engaged (Tarr et al., 2015; Launay et al., 2016; Hoebel et al., 2021). More than this, it also creates a predictable and in-group environment (Hove & Risen, 2009), reducing cortisol and ultimately subduing anxiety (Pouligny et al., 2021, p. 38) that, in turn, was likely induced by a highly unpredictable and assumedly unsafe environment (particularly in the late Pleistocene; Davies et al., 2003; van Andel et al., 2003). In this view, we might be better off looking at specific spiritual practices such as synchronous movement in rituals, (in-)group activities, and spirit appeasement (e.g., shamanism; Buyandelger, 2013), and their capacity to reduce anxiety rather than “becoming religious” per se. This would involve understanding both the somewhat universal psychological mechanisms that underpin certain religious/spiritual practices that are coloured and contoured by cultural scripts and idiosyncrasies.

In all, then, we should not reduce religion to its functional capacity to reduce anxiety (which poses its own corollaries), but rather equally attend to other religious aspects of behaviours, beliefs, and practices that may more faithfully illuminate the dynamics and intricacies of religious social life. We might do this by combining experiential and interpretive approaches (cf. Calabrese, 2013, p. 57) to engage these practices more seriously (Chidichimo, 2022). For the purposes of this commentary, I engage a personal ethnographic example to understand how death anxiety may be reduced by engaging in a spiritual and psychotherapeutic ritual, Family Constellation Therapy (FCT) in northern Italy.

Family Constellation Therapy

FCT, briefly, is a group practice in which strangers are selected to “represent” and enact the family dynamics of a chosen “constellant” (cf. “patient” or “client”) with very minimal knowledge of the constellant’s family. Guided by a facilitator, “representants” [rappresentanti] move around and announce spontaneous feelings and thoughts embodying their designated representand (ancestor, dynamic, etc.). The facilitator, after some time, halts the scene and brings the constellant (who has remained silent thus far) into the scene. Now, the facilitator creates short, pithy statements that both summarise the proceedings of the practice and offers a new perspective of the constellant’s family that the constellant should repeat verbally — these are called “words of healing” [parole di guarigione].

Giancarlo’s constellation

Giancarlo, a middle- to older-aged man, sits with a nonchalant and disengaged posture. He occasionally, but politely, interjects with disbelief...
and asks “the point of it all”, incredulous to how FCT could possibly work. Giancarlo asks how it was that strangers could know how to represent and re-enact the emotions and behaviours of somebody’s ancestor with minimal to no prior knowledge. The facilitator, instead of merely explaining, invites Giancarlo to enter the centre of the group in order to experience the workings of FCT. Giancarlo becomes the constellant and he selects persons to represent himself, his father, and his mother. Giancarlo reveals no information about his family. (Usually, however, constellants would at least announce whether certain members were alive, divorced, imprisoned, etc.) The representant that Giancarlo chose to represent himself immediately embraces “his mother”, and remains tethered. He then looks to “his father” who remains still with a cold, stern expression, ignoring “Giancarlo”’s attempt to reach out for “his father”. Giancarlo’s representant calls out to “the father”, but “the father” coldly dismisses him (Figure 1). Giancarlo’s representant retreats further into his mother’s embrace. Immediately, Giancarlo himself (who has silently watched the scene unfold) is moved to heavy tears, struggling to catch his breath. The facilitator encourages him to repeat some “words of healing” to help finalise and present a new perspective on his relationship with — what was subsequently revealed as — his recently deceased father.

The lesson for Giancarlo was thus: FCT need not “work” for him, but it was he who must be ready to confront the ritual scene and it was he who must “work” to “put himself into play” [mettersi in gioco].

**FCT and its affordances**

FCT, then, is a performative, narrative, and ritual site of healing concerned with recognising the self as a repository of “unresolved” familial histories and traumas, where participants are invited to use their bodies to “represent”, enact, and symbolically resolve these tensions and entanglements (Chidichimo, 2023; see also Pritzker & Duncan, 2019). Facilitators also later construct “words of healing” that participants are invited to deploy, suggesting that these “therapeutic emplotments” of events synthesise both the participants’ bodily-felt experiences and an ethical story of sorts (Mattingly, 1994). This may have multiple consequences for one’s death anxiety. As for Giancarlo, certain familial dynamics were brought to the fore, pressing him to address his current and past relationships with a new outlook in hopes of pursuing a more ethical life. For Giancarlo, FCT became simultaneously unsettling but cathartic. Not only was his disbelief confronted, but he was invited to watch his family’s story before him, which, despite being performed by strangers, became so affectively powerful, it left him with what he described as a “completely new perspective”. His relationship with his deceased father was re-enacted and he was invited to recognise his daily ailments as being rooted in the previously frosty relationship that he had until then left unaddressed. In some ways, FCT afforded a renewed meaning and purpose for Giancarlo to pursue for the rest of his life.

Whilst the practice does not suggest that Giancarlo’s father, for example, is “still around” (in whatever ontic form) nor that there exists an afterlife, there often comes an immense comfort in re-performing one’s family dynamics and watching it play out, seeking an embodied and symbolic resolution. Indeed, my interlocutors often reported that some representants would speak like their family members, adopting the same linguistic style and even intonation. Importantly, for many, death brings the impossibility of redefining or ameliorating relationships. Indeed, to leave close ones with an unresolved conflict can be difficult for the remaining party who may reckon with feelings of regret and even guilt, as did Giancarlo. Providing a domain in which one can address and affectively engage in their troubling familial dynamics can offer constellants the closure they sought.

The practice and particularly the “words of healing” also afford an ethical path that one should embark upon, being conscious not to repeat such familial frictions and traumas with their own offspring or extended family. On this ethical point, as with most religions and spiritual practices, one must commit themselves to their practices and beliefs, cultivating a particular religious disposition. In other words, it is insufficient to merely state that one believes in God in the hopes that they are guaranteed an entrance into heaven. With the embodied and committed practices and beliefs that often define “religions”, there comes an ethical affordance (cf. Keane, 2016) that one must take forward with them. Here, FCT offers an ethical affordance that is distinctly and powerfully imbued with intense affective experiences, where the commitment to “words of healing” is achieved by “putting oneself into play”. In this way, what remained important for my interlocutors was that these experiential and narrative affordances offer only a healing potential. Healing was said to occur when one could commit to these affordances and “puts oneself into play” in everyday life.

**Conclusion**

In all, religious and spiritual practices go beyond the ability to reduce anxiety, a type of explanation that functionalist accounts have often recurred to or prioritised. Despite their limitations, functionalist accounts may still be a necessary tool for understanding the evolution of religious and spiritual practices and beliefs (Whitehouse, 2011); however, ethnography — particularly embodied and interpretive approaches that I have offered here — can offer deeper explorations of the different manifestations of these practices and how they offer various affordances — ethical, affective, and experiential — that may help people to reorient their own lives, including their fear and anxiety of death.

**Notes**

1. On the point of spirit appeasement in Shamanism, particularly in contemporary Mongolian practices, “shamans are cast as translators of the unseen and are themselves sites of anxiety in a very real world, a world filled with encounters across lines of gender, class, and colonial incursions often defined by race” (Buyandelger, 2013, p. 11).

2. Giancarlo is a pseudonym.
Embracing mortality: A path to a meaningful life

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Death is inevitable. This fact has been theorised to be the root of our unconscious anxieties in the Terror Management Theory (TMT) (Solomon et al., 1991). As the risk of mortality increases with advancing age (Ebeling et al., 2021), the fear of death can be observed in both the young and the old. This commentary explores how acknowledging our mortality and addressing common regrets can lead to a more purposeful and satisfying life.

Working definition of death

Death can have several definitions and meanings based on the philosophical and legal assumptions behind the concept. For example, clinical death refers to the total cessation of vital functions such as cardiac activity and respiration (Kastenbaum, 2006), whereas brain death is diagnosed through a flat reading on an electroencephalogram and a lack of blood circulation in the brain that indicates “no discernible central nervous system activity” (Center for Bioethics: Harvard Medical School, 2018, p. 4). The first definition explains the mechanics of death in the physical body, yet can be challenged in the case of patients that require resuscitation and temporarily exhibit the signs of bodily death. The latter definition emphasises the importance of brain activity, as even a functioning biological body is deemed to be dead without the ability of its owner to interact with the outside world. Notably, the discussion so far has used dualistic discourse to highlight a perceived difference between the mind and the body. There are significant cultural and religious differences in how death, the mind, and the body are perceived. For example, the yearly Mexican festival Day of the Dead involves people leaving physical nourishments and ofrendas for their deceased relatives from the 1st–2nd November with the intention that the souls of the departed can smell, hear and feel the essence of these gifts.

I will discuss death and its psychological significance with the agnostic assumption that the existence and agency of the human mind relies on the health of the physical body, but that the physical body is considered dead without mental capacity to act in the world. This is because permanently lacking the ability to interact with the world as oneself, arguably takes away the very essence of the person, despite the biological viability of one's organs. If a mind is completely incapacitated to direct its corresponding biological organism to perform the basic functions necessary to allow for survival, then it will be considered dead for the purpose of this argument (Gomez-Marin & Ghazanfar, 2019). The auxiliary agnostic assumption in this argument will be that once a mind cannot direct its corresponding organism to act in the world, that mind can no longer have any access to the memories and desires of the individual. Thus, with the onset of death, an individual ceases to exist and can no longer have any access to the memories and desires of the individual. This commentary will tackle the anxiety associated with death as viewed in this manner, which may not represent the feelings of those who have alternative religious beliefs.

Memento mori

The Latin phrase memento mori translates to “remember you must die” (Ostberg, 2023), highlighting the inevitability of death in the times of Ancient Rome. The Stoic devotee Marcus Aurelius (ca. 161–180 AD/2003) famously addressed this topic in his work Meditations. In Meditations, Aurelius muses over the impermanence of human beings and their desires. In more modern times, authors such as Ryan Holiday and Stephen Hanselman (2016) repurpose the old Stoic teachings to draw attention to the common undue assumption that one is certain to wake up tomorrow. Reflecting on death ought to help frame one's perspective about what is truly important, implying the sorts of things that one would not regret on their deathbed; for example, Warren (2012) lists five common regrets that aggregate to:

1. Regret at having conformed to other’s expectations at the expense of one’s own
2. Regret at having let important relationships fade, and
3. The desire to have been happier.

Some people choose to use physical reminders of the memento mori phrase. For example, jewellery depicting skulls and bones may serve to bring the typically repressed awareness of death to a more conscious level (Solomon et al., 1991). This may help certain individuals to make more calculated decisions about how they choose to spend their time. Interestingly, although happiness is listed as a common goal in life, seeking it directly may be counterintuitive. Some suggest that happiness is instead a by-product of living a life in accordance with personal values, suggesting a myriad of life pathways in which happiness can be achieved (Frankl, 1946/2006); however, the psychological commonalities found among those who experience happiness are wildly different across material and social circumstances. For example, gratitude, defined as “the appreciation of what is valuable and meaningful to oneself” (Sansonne & Sansone, 2010, p. 18), has, across ages and cultures, experimentally been found to have one of the most robust associations with happiness and wellbeing. For example, Chen (2013) found that gratitude was positively correlated with Taiwanese student athletes’ wellbeing, a relationship mediated by perceived coach and teammate support. This suggests that gratitude is partially dependent on the social context in which one finds themselves in, but can have a significant positive effect on wellbeing. Similar findings are reported for older adults (Wood et al., 2008) and in longitudinal experiments on American students (Dikerhoof, 2007).

Gratitude may be helpfully seen as a skill, which can be practised daily in the form of journalling or meditating on things we are thankful for. The key is undisturbed thinking about the feeling of thankfulness, to truly foster the benefits of the practice. After all, it is unlikely that one can do it all before they die, and greed for more experiences may lead to a lack of satisfaction with the wonderful things already within one's grasp.

Suffering offers a uniquely bold perspective on living

For some, gratitude for mere existence may be a last line of defence against the terror of death. Viktor Frankl (1946/2006) describes the gut-wrenching experience of being a prisoner in a Nazi concentration camp with immense dignity, strength, and wisdom, and describes some of the mental strategies that helped him survive the ordeal. One of the most important concepts of Frankl’s poignant work Man’s Search for Meaning is that having a purpose gives one enough determination to see a task through at immense, almost infinite personal cost. It describes the quality of strength to continue to live up to one's unique vocation even in the face of the most adverse conditions, which in some cases may instil an individual with the terror of death. This vocation is purportedly accessed through self-transcendence, and dedication to a goal larger than oneself (Frankl, 1946/2006). For this, one must take responsibility for their own self-actualisation, with the knowledge that the opportunity to do so is finite.

When considering death anxiety from the perspective that with the death of the body, the mind and the person is lost, the feeling may predominantly stem from the pressure to make this life count; however, if the person is lost in the event of death, what is left is in the world is no longer under their control, and any recollection or pride of one's life events are impossible. Furthermore, the results of one's past good deeds are vulnerable to neglect or destruction by others. Thus, one may ask about the incentive of living under such imposing orders. The answer lies in the perspective that one cannot control what others do, but only what judgements we choose to make. As Shakespeare (1603/2012) wrote in Hamlet, “there is nothing either good or bad, but thinking makes it
The path to enlightenment
Accountability of our own actions or inactions can be challenging enough, so arguably we should direct our attention to only that which we can control. This practice can help on multiple fronts: firstly, we reduce the judgement that we unduly and perhaps automatically attribute to other’s intentions and behaviours. Research into the fundamental attribution error shows that sometimes, this judgement is erroneous and self-serving (Ross, 1977).

Secondly, focusing on controlling one’s thoughts quickly demonstrates that this is a fickle task. For example, in some guided mindfulness practices, the mind is likened to a sky, and thoughts as clouds moving. Thinking of thoughts as temporary sensations of the mind, rather than of an objective reality that exists in the world, can release us from the burden of acting and feeling what these thoughts dictate. What guarantee do we have that the thoughts we have are accurate representations of reality? If we never take steps back to notice their biased and fleeting nature. Entire therapeutic programs, such as cognitive behavioural therapy, are based on the principle of examining the veracity of one’s thoughts, and not blindly trusting them. This can be incorporated into a daily routine, for example through guided meditation, which can focus our energy into curiosity about our minds and bodies. The path to enlightenment is thus not very different from forming good habits in general. One must trust that the consistent, mindful practice of observing our minds and bodies can do wonders for mental health, and that this can enhance the pleasure achieved from mundane events.

Conclusion
Death anxiety is a common feeling, and can manifest differently depending on a person’s beliefs. With agnostic assumptions in mind, this commentary argued that we only get one chance to live. To make the most of it, awareness of the inevitability and unpredictability of death can be a useful perspective to help one avoid common regrets on one’s deathbed. Gratitude is shown to be a useful, practical skill that helps us cherish lived experiences. Focusing on solely what one can control (i.e., our judgement of events) can give us more insight into our minds, and inhibit the terror of no longer existing and of not having made an impact.

The neurological processes surrounding death anxiety: A field of study with significant under-tapped potential
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The above study weaves together emotional patterns, familial expectations, religion, and degree of education to provide a comprehensive explanation of death anxiety from a psychological perspective. This commentary aims to expand on the investigation from the standpoint of the biological sciences. This commentary will discuss the correlation between contemplation of mortality and heightened neural activity in specific regions of the brain, in contrast to responses triggered by other forms of threats. Also, further discussion is carried out to differentiate between death anxiety when associated with the “self” and with “others”. It is argued that further research is necessary to establish the interconnectedness among existing works.

Introduction
Death anxiety is a unique and near-ubiquitous phenomenon that sits at the intersection of psychology, biology, and sociology, such that it cannot be fully understood without considering all three aspects. With the taboo associated with the subject, work on the biological elements underpinning death anxiety remains limited. Here, we will explore the literature on the neurological basis of death anxiety using three neurological studies.

The biological responses and activated brain regions
Quirin et al. (2011) examined the neural activation patterns in response to the threat of mortality in a group of 17 male participants using fMRI. In order to elicit the perception of mortality as a threat, participants were presented with a series of trial blocks consisting of questions associated with the fear of death and the process of dying. In the control condition, participants were tasked with responding to inquiries regarding their apprehension towards experiencing dental pain (Quirin et al., 2011).

The results of the study indicate that thinking about death caused a much stronger response in certain areas of the brain compared to thinking about dental pain (Quirin et al., 2011). Specifically, the right amygdala and the left rostral anterior cingulate cortex showed significantly higher levels of activity in response to death-related thoughts. Furthermore, the study revealed a noteworthy augmentation in neural activity within a specific cluster encompassing the posterior region of the right caudate nucleus, inclusive of the dorsomedial thalamic nucleus; however, the reversed contrast did not yield any noteworthy activations. There was no significant difference in the ratio of parameter responses to the fear statements between the death and pain conditions as found in the study (Quirin et al., 2011). It is worth noting that this study has a limited sample size consisting exclusively of individuals with German ancestry who self-identified as male, limiting the generalisability of the conclusions from this study.

A later study by Dor-Ziderman et al. (2019) aimed to provide an explanation for how the mind protects itself from thoughts of mortality. They investigated how mechanisms based on prediction play a role in shielding the self from the existential threat of death. Magnetoencephalography was employed in the study to evaluate how the brain’s automatic prediction system responds to information related to the self and others in the setting of an existential threat. The researchers used a visual mismatch paradigm in two sub-experiments.

They discovered that when participants were exposed to an existential threat, the brain’s prediction function, as tested by a biologically-relevant visual mismatch response paradigm, was ineffective in predicting self-related information (Dor-Ziderman et al., 2019); however, when presented with the same hazardous setting, the prediction system was still able to accurately forecast other related information. This implies that there is a mismatch between bottom-up visual information about the self (such as a self-face image) and top-down expectations about death priming. In other words, when confronted with an existential threat, the brain’s automatic prediction system struggles to reconcile these two forms of information (Dor-Ziderman et al., 2019).

Further, the study showed that there is a negative relationship between how we predict our own experiences and how we predict the experiences of others’ deaths when considering the concept of mortality. The magnitude of the visual mismatch response (vMMR) effect exhibited variability based on the specific combination of causes of death. In particular, when examining the combination of self–death, the impact was less pronounced. In the case of the other–death combination, the effect was stronger. The results of this study indicate that the phenomenon of death denial is connected to an individual’s self-perception, particularly in terms of their altered capacity to anticipate and discern distinctions between themselves and others (Dor-Ziderman et al., 2019).

When considering the studies conducted by Quirin et al. (2011) and Dor-Ziderman et al. (2019) collectively, it becomes evident that distinct reactions are elicited in response to various types of threats, and these reactions differ when directed towards oneself versus others. A study conducted by Hirano et al. (2021) is, methodologically speaking, somewhat similar to research conducted by Dor-Ziderman et al.
Conclusion
Although the studies mentioned in this commentary were limited in number and conducted on relatively small samples, the research cited in this commentary has made important strides in extracting the neurological responses that underpin death anxiety. That said, more studies are required to draw more robust and meaningful conclusions on the neurological substrates that underpin death anxiety and identify valuable Daniels and nuanced between the studies discussed.

Article references


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I found it interesting to note how many older adults are affected by death anxiety. This is particularly concerning in light of the pandemic and the increased focus on end-of-life care. It is important that healthcare providers are aware of this phenomenon and take steps to address it.


Commentary references


