



Death Anxiety and Associated Demographic Correlates in a Sample of University Students

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ABSTRACT Demographic correlates of death anxiety (ageing anxiety, religiosity, gender and academic study year) were quantitatively examined among students in a Nigerian university. A total of 250 undergraduate students (females = 49.2%, mean age = 21.95, SD = 3.51) were conveniently surveyed using a standardized questionnaire. The questionnaire measured death anxiety, ageing anxiety, religiosity, gender and academic study year. Data were analyzed with Pearson Correlation, One-Way ANOVA and independent samples t-test. Results showed that ageing anxiety positively associated with death anxiety. Results also revealed that death anxiety was not significantly influenced by religiosity, gender and academic study year. The study recommends further research on aspects of ageing anxiety that may be linked to the fear of death to aid the design of effective interventions to reduce levels of death anxiety among university students.

INTRODUCTION

Awareness of life's finite existence can significantly impact on our thoughts, feelings, and behaviour, so that the thought of dying tend to arouse high levels of anxiety in some people (Niemic and Schulenberg 2011). However, being a younger person has been shown to be strongly associated with higher levels of death-related fear (Chopik 2017; Russac et al. 2007). Death anxiety describes the psychological condition associated with heightened fear, threat, unease and discomfort with death and dying (McKenzie and Brown 2017). It is an existential issue experienced by individuals across the various demographic groupings (Sinoff 2017).

Research that investigated why younger people report higher levels of death anxiety compared to other population cohorts have identified personal attributes including exposure to dying patients (Edo-Gual et al. 2014; Ek et al. 2014), religiosity (Chow 2017; Jong and Halberstadt 2016), gender (Asari and Lankarani 2016; Dadfar et al. 2018) and age (Krause et al. 2018) as correlates. It is noteworthy that most of these studies were conducted in countries where the citizens already enjoy higher life expectancy. But research is needed to investigate the extent to which ageing anxiety, religiosity, gender and

academic study year are related to death anxiety among university students in countries like Nigeria with a low life expectancy relative to the global average.

Death Anxiety

Conceptualizations of death anxiety vary and include fear of death of oneself; fear of death of others; fear of dying of oneself; and fear of the dying of others (Dadfar et al. 2015; Lester 1999). One theoretical perspective that has illuminated the understanding of death anxiety is Terror Management Theory (Solomon et al. 1991). The theory posits that most anxieties have their origin in the fear of death, and explains further that this fear gives rise to socially normative behaviours aimed at managing or eliminating the anxiety. On its own, anxiety may be viewed as a positive emotion; it may serve as an alarm that alerts the individual to danger and so helps to preserve life. A mild to moderate level of death anxiety is therefore considered normal and in fact, may be expected as a natural response to fears, especially of the unknown such as death and dying. An abnormally high level of death anxiety is maladaptive and has been linked to life-limiting psychological conditions including depression, hopelessness and reduced well-being (Iverach et al. 2014; Sergentanis et al. 2010; Stolorow 2015; Thiemann et al. 2015).

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Ageing Anxiety and Death Anxiety

Ageing is a developmental process associated with progressive impairment in cognitive, physical, and psychological functioning in an individual. Even though ageing is an unavoidable natural process, some people become unusually fearful and anxious about the ageing process. Ageing anxiety describes the unease that people experience as they advance in age (Lynch 2000). It has been proposed that the anxiety may be related to the anticipation of physical, mental or personal losses that accompany the ageing process (Lasher and Faulkender 1993). Included in this is the consciousness that one is gradually nearing the end of life.

Ageing anxiety has been shown to be related to death anxiety, although the findings have been bidirectional. Krause and Hayward (2014) in their study reported a negative relationship between age and death anxiety among the elderly; the finding suggested that death anxiety declined as age increased. A similar result was reported by Chopik (2017) in a longitudinal study of 9,815 senior citizens.

It is reasoned that a progressive decline in levels of death anxiety in the elderly may indicate that, over time, as a person is ageing, they eventually accept the reality of the inevitability of death as the end stage of life (De Raedt et al. 2013). In addition, as argued by Kishita et al. (2015), it might be that older people experience less death anxiety because they tend to have a more positive attitude towards ageing. Nonetheless, these findings are contradicted by recent studies that reported a positive relationship between ageing and death anxiety in a mixed sample of respondents.

In a study by Krause et al. (2018) with participants comprised of younger, middle-aged and older adults, it was found that younger and middle-aged participants reported higher levels of death anxiety compared to older participants. This result supported findings by Russac et al. (2007), who observed higher levels of death anxiety in younger persons, specifically those in their 20s. They explained that the outcome may be accounted for by existential concerns of young adulthood such as whether one would be able to raise a family before death comes. Ageing is associated with declines in physical,

mental or personal losses (Lasher and Faulkender 1993) which may elicit a negative attitude towards ageing in younger people. However, younger persons may develop a negative stereotype to ageing because it reminds them of what to expect in later life (Cuddy and Fiske 2002; Cummings et al. 2000). Consistent with previous studies, the researchers propose in this study that the fear of ageing will be positively associated with death anxiety among university students in Nigeria.

Religiosity and Death Anxiety

Researchers from multidisciplinary backgrounds postulate that the fear of death is an existential challenge that may explain why people profess religious beliefs, as it is thought that these beliefs give meaning to life which help to mollify the fear of death. There is no generally accepted definition of religiosity in the literature, however, the term is widely associated with religious practices, beliefs, rituals, and the importance of religion in a person's life (Knox et al. 1998; Wink and Scott 2005). Perhaps, based on the understanding that religiosity may influence critical aspects of the personality including attitude and behaviour, Ens and Bond (2007) describe religiosity as comprising a set of sacred beliefs, commitment, and behaviors (such as gathering together for religious meetings, reading religious literature, and making supplication or prayer); in Ens and Bond's (2007) view, regular attendance at a place of worship would be seen as a form of religiosity. Research has found religiosity to be associated with both lower and higher levels of death anxiety in a number of previous studies that sought to establish the relationship between both variables (Krause and Hayward 2014).

In an experimental study that tested the protective effect of religiosity against death anxiety, Jackson et al. (2018) found that religious belief is associated with lessened implicit death anxiety among study participants. The finding showed that religiosity is negatively related to death anxiety, meaning that individuals who reported higher levels of religiosity also reported experiencing lower levels of death anxiety (Saleem and Saleem 2019). In a study by Chow (2017) on the relationship between religiosity and death

anxiety among university students, it was found that levels of death anxiety was higher among less religious students. In all, the findings provide support for Jong and Halberstadt's (2016) proposition that religion is a cultural worldview that can help to buffer against the unease brought about by the fear of death that some individuals experience. Notwithstanding the significant relationship reported in the studies cited, research has equally reported findings that showed there is no correlation between religiosity and death anxiety (Ellis and Wahab 2013; Jong et al. 2016; Rasmussen and Johnson 1994), leading some authors to even conclude that the relationship is ambiguous (Neimeyer and Van Brunt 1995). The inconclusive findings reported in these previous studies justify more research to try to better understand the dynamic and relationships between religiosity and death anxiety, especially among university students.

Gender and Death Anxiety

Several empirical findings suggest that gender is a strong correlate of death anxiety. In a majority of these studies, death anxiety has been shown to be higher among women than men. In a study by Momtaz et al. (2015) that investigated gender differences in spousal death anxiety in a sample of couples aged 50 years and over in Malaysia, findings showed that compared to men, women reported significantly higher levels of spousal death anxiety. It is possible that perhaps, women aged 50 or older experience greater difficulty in their circumstances, particularly financially, in lower income countries or countries with no social support, following the death of a husband than men do following the death of a wife. Contrasting this is the finding of a study by Dadfar et al. (2018) which compared 453 youths, middle adults, and late adult Muslim Iranians on death anxiety, and found that men had higher death anxiety than women in the study sample. However, the result of studies conducted in the US and China among senior citizens suggest that gender is not a correlate of death anxiety (Asari and Lankarani 2016; Wu et al. 2002).

One explanation for the observed greater death anxiety in women concerns their socialization. Success and achievement are empha-

sized in the socialization of men, which in turn may create the illusion of immortality when they achieve success (Schumaker et al. 1988). This illusion of immortality may induce a feeling in men that one has overcome death. On the other hand, women are believed to be more emotionally expressive than men (Fortner and Neimeyer 1999), thereby making it easier for them to report their fear of death. It is noteworthy however that studies in which females reported higher level of death anxiety than males are those where samples were drawn among adolescent and young adult populations (Cicirelli 1998; Henrie and Patrick 2014). Thus, it is hypothesized in this study that females will score significantly higher on death anxiety than their male counterpart.

Year of Academic Study and Death Anxiety

Another factor that may play a role in determining the level of death anxiety of university students is academic study year. In a study that investigated death anxiety among nursing students, it was found that academic study year positively predicted death anxiety. The findings showed that students in higher classes reported higher levels of death anxiety than those in lower classes (Gurdogan et al. 2019; Mondragón-Sánchez et al. 2015). However, these findings were contradicted by Chung et al. (2015) who surveyed Korean nursing students and found no relationship between academic study year and death anxiety in the study participants.

Goal of the Study

Data from the World Health Organization reveal that the total life expectancy in Nigeria is 55.2 years compared to the global average of 71.5 years (United Nations World Population Prospects 2015 Revision). This places Nigeria in 178th position on the World Life Expectancy ranking (World Health Organization 2018). It can be safely assumed that with this very low life expectancy figure of 55.2 years at birth, most young adults (people in their 20s and 30s) in Nigeria may perceive life as very brief, which may exacerbate their levels of death anxiety. The level of death anxiety experienced may also be influenced by personal factors that include ageing anxiety, religiosity, gender and academic study year. This

is because previous studies have associated these variables to death anxiety in younger populations in other settings. Therefore, research is needed to investigate the contributions of ageing anxiety, religiosity, gender and academic study year to death anxiety among university students who constitute the bulk of younger persons in Nigeria.

This study aims to answer these questions:

- ♦ What is the relationship between ageing anxiety and death anxiety among university students in Nigeria?
- ♦ Will religiosity, gender and academic study year influence levels of death anxiety of university students in Nigeria?

Study Hypotheses

- ♦ There will be a significant positive relationship between ageing anxiety and death anxiety of university students.
- ♦ There will be significant positive influence of levels of religiosity, gender and academic study year on death anxiety of university students.

METHODOLOGY

Participants and Setting

Participants in the current study were 250 undergraduate students who were studying full-time at a public university in Nigeria (see Table 1

Table 1: Participants' socio-demographic characteristics

<i>Variable</i>	<i>Frequency</i>	<i>%</i>
<i>Age</i>		
<i>M = 21.95, SD = 3.51</i>		
<i>Gender</i>		
Male	127	50.8
Female	123	49.2
<i>Academic Study Year</i>		
Year 1	65	26
Year 2	57	22.8
Year 3	54	21.6
Year 4	57	22.8
Year 5	17	6.8
<i>Level of Religiosity</i>		
Not at all	29	11.6
Moderate	37	14.8
High	184	73.6
<i>Religious Affiliation</i>		
Christian	172	68.8
Islam	57	22.8
Other	21	8.4

for summary of demographic information). Respondents were selected using convenient sampling technique. Participants completed a self-report questionnaire that measured demographic information (religious affiliation, level of religiosity, gender and academic study year), and included death anxiety, and anxiety about ageing scales. Descriptive statistics show that the sample was 127 (50.8%) males, and 123 (49.2%) females, with age range of 15 to 38 years (mean age = 21.95, sd = 3.51). The majority of the participants indicated their religious affiliation as Christian (68.8%), while 22.8 percent were Muslims, and 8.4 percent identified as 'Other'. To the question: Indicate your level of religiosity, one hundred and eighty-four (73.6%) participants indicated 'Highly religious', fourteen percent indicated 'Moderately religious', and 11.6 percent 'Not religious'. It took an average of 10 minutes to respond to all items so that completed questionnaires were retrieved a short while after they were given out to the participants.

Measures

Death anxiety was measured using the DAQ - Death Anxiety Questionnaire (Conte et al. 1982). It is a 15-item, well-validated scale that measures various aspects of death. Responses were rated on a 3-point Likert-type scale that ranged from 0 (Not At All), 1 (Somewhat), to 2 (Very Much). Sample items on the scale are: 'Do you worry about dying?' 'Does the thought of leaving loved ones behind when you die disturb you?' In their study, Conte et al. (1982) reported a coefficient alpha of .83 (n = 230) and test-retest reliability of .87 (n = 30). A Cronbach alpha coefficient of .84 was reported for the sample in the current study.

Ageing anxiety was measured using the Anxiety About Ageing Scale (Lasher and Faulkender 1993). The scale is a robust research tool for determining the level of anxiety about ageing in the general population. It is a 20-item scale that measures four dimensions of anxiety related to ageing; the subscales are - fear of old people, psychological concern about ageing, concern about physical appearance, and fear of losses. Responses are rated on a 5-point Likert-type scale with scores that range from 1 (strongly disagree) to 5 (strongly agree). In the present study, the scores on the sub-dimensions were calculated to give a composite AAAS score. The

scores are interpreted so that lower scores indicate less anxiety about ageing. The Cronbach alpha coefficient of .83 was reported with the present sample.

Data Collection Procedure and Ethical Consideration

Convenience sampling was used to select undergraduate students spread across five years of academic study in a public university in Nigeria. Participants were recruited at the University's Students' Relaxation Center – a spot on campus where students can socialize and refresh between lectures. This venue was chosen because it afforded the researchers the opportunity to sample a large number of undergraduate students. In line with ethical requirements, issues pertaining to the study and its objectives were explained to get informed consent from participants. Participants' right to withdraw from the study at any stage should they feel uncomfortable continuing was explained to them, although full participation was encouraged. This step was taken to ensure that participation was voluntary. While the risk of harm in the study was determined to be minimal, however, psychological counseling was to be made available to any participant who showed signs of distress. Each participant was given a set of the study questionnaire to complete. They were encouraged to respond truthfully to each statement. Data collection lasted six weeks.

Data Analyses

IBM SPSS version 25.0 was employed to analyze data collected. Data were analyzed using both descriptive and inferential statistics. Descriptive analysis included simple counts, simple percentages, mean, and standard deviation. Inferential statistics, including t-test of independent samples, One-Way ANOVA and multiple regression analyses were performed to test the hypotheses of the study.

RESULTS

Table 2 showed significant but weak positive correlation between ageing anxiety and death anxiety, $r = .04$, $p < .01$. There was a nonsignificant positive correlation of .05 ($p > .05$) be-

tween level of religiosity and death anxiety. Academic study year had no correlation with death anxiety. The result showed that only ageing anxiety positively correlated with death anxiety among university students.

Table 2: Summary of inter-correlations among academic study year, level of religiosity, ageing anxiety and death anxiety

	Academic study year	Level of religiosity	Ageing anxiety	Death anxiety
Academic study year	-			
Level of religiosity	-0.039	-		
Ageing anxiety	0.054	0.075	-	
Death anxiety	0.000	0.050	.042**	1

** $p < .01$

Table 3 indicates there is no statistically significant influence of level of religiosity on death anxiety, $F(2,249) = .96$, $p > .05$. The result means that there is no significant difference in the levels of death anxiety among highly religious, moderately religious, and non-religious university students.

Table 3: One-way analysis of variance of death anxiety by level of religiosity

Source	DF	SS	MS	F	P
Between groups	2	88.35	44.17	0.96	0.38
Within groups	247	11289.99	45.7		
Total	249	11378.35			

Table 4 shows that there is no statistically significant mean difference in death anxiety of male and female university students $t(248) = .12$, $p > .05$. This suggest that male and female university students were comparable on levels of death anxiety.

Table 5: One-way analysis of variance of death anxiety by academic study year

Source	DF	SS	MS	F	P
Between groups	4	110.28	27.57	.59	.66
Within groups	245	11268.07	45.99		
Total	249	11378.35			

Table 5 reveals that there is no statistically significant mean difference in death anxiety across academic study year, $F(4,249) = .59$, p

Table 4: Summary of t-test of independent samples for death anxiety by gender

	Gender						95% CI for Mean Difference	t	df
	Male			Female					
	M	SD	N	M	SD	N			
Death anxiety	12.53	6.66	127	12.42	6.88	123	-1.58, 1.79	0.12	248

>.05. In other words, participants reported comparable level of death anxiety irrespective of their current academic study year in the university.

DISCUSSION

The study investigated ageing anxiety, religiosity, gender and academic study year as correlates of death anxiety using data from students in a public university in Nigeria. The main finding that emerged from this study indicated a positive relationship between ageing anxiety and death anxiety among university students. The finding showed that death anxiety tends to increase as ageing anxiety increased also. The finding suggests that ageing anxiety has important implications for managing death anxiety among university students in Nigeria.

Ageing anxiety, as the key factor that predicted death anxiety in this study, supported findings from most previous studies, that the level of death anxiety is higher in younger persons reporting high levels of ageing anxiety (Krause et al. 2018; Russac et al. 2007). The finding suggests that perhaps, in view of the prevailing low life expectancy, most university students in Nigeria may be more concerned about whether they will be able to start a family, or leave behind a legacy that symbolizes they ever existed when they die.

In this study, religiosity was not a significant correlate of death anxiety. The result showed that death anxiety score was the same across the three levels of religiosity explored in the study. The finding align with some previous studies that reported the same outcome (Ellis and Wahab 2013; Jong et al. 2016; Rasmussen and Johnson 1994). It may be that university students in the present study may not have considered religiosity as an important part of living despite their claims of being religious or otherwise. More important still, the finding indicates

that death anxiety may be a universal phenomenon experienced by all without recourse to self-rated level of religiosity.

The hypothesis that presumed that gender would influence death anxiety was not supported. The result showed that male and female students were not different in their levels of death anxiety. The finding contradicted past research that suggested females reported higher levels of death anxiety than males (Henrie and Patrick 2014; Momtaz et al. 2015). However, the findings corresponded with Asari and Lankarani (2016) and Wu et al. (2002) that gender was not related to death anxiety. There is a plausible cultural explanation of the finding in the present study. In Nigeria, open discussions of death and dying is by tradition, frowned upon, especially among younger persons, meaning that male and female university students in this study may not have disclosed their true feelings about fear of death due to this cultural restraint.

In the present study, academic study year had no significant influence on death anxiety of university students. The finding corroborated the study by Chung et al. (2015) who reported that the levels of death anxiety did not vary with academic study year in a study of nursing students. It may be that university students at each of the five levels of academic that constituted the sample may have comprised individuals with comparable levels of exposure to actual death situations or the dying process through personal or vicarious experience.

CONCLUSION

Death anxiety is prevalent among university students. The findings in this study revealed that ageing anxiety and death anxiety are positively related. They also indicated that religiosity, gender and academic study year had no significant influence on death anxiety.

RECOMMENDATIONS

Both ageing and death are recognized as existential realities that elicit high levels of anxiety in some individuals. This study showed that ageing anxiety correlated positively with death anxiety among university students. The finding underscores the importance of targeted interventions to improve identification and treatment of 'death-anxious' university students by stakeholders including university administrators, school counsellors and relevant education agencies.

LIMITATIONS OF THE STUDY

Whereas this research may have contributed to death anxiety literature, as it highlighted its demographic correlates in a sample of university students in Nigeria, there are however three shortcomings with the study. First, due to the cross-sectional nature of the research, it is difficult making distinctions in the effects of ageing anxiety, religiosity, gender and academic study year. In other words, the use of cross-sectional data precludes interpretation of causality. The second limitation is that the research was conducted on a convenience sample of university students selected at only one public university in Nigeria and so the findings cannot be generalized to the population of university students in Nigeria. Third, data was collected through a self-report questionnaire, which is notorious for social desirability bias and might affect the reliability of the findings.

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