RELIGIOSITY AND DEMOGRAPHICS IN DEATH APPREHENSION—REPORT OF A REPLICATION STUDY

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BACKGROUND:

The paper describes a replication study of death anxiety correlates in an African community. In a previous study [T. Mudau, S. Moripe, & S. Mashegoane, 2011. Religiosity and demographic correlates of death anxiety in Thulamela, South Africa. *Theologia Viatorum*, **35**(2), 231-250] the association of death anxiety [L. J. Collet, & D. Lester, 1969. The fear of death and the fear of dying. *Journal of Psychology*, **72**, 179-181; D. I. Templer, 1970. The construction and validation of a death anxiety scale. *Journal of General Psychology,* **82**, 165-177] to intrinsic and extrinsic types of religiosity [R. L. Gorsuch, & S. E. McPherson, 1989. Intrinsic/extrinsic measurement: I/E revised and single-item scales. *Journal for the Scientific Study of Religion,* **28**, 348-354] and demographic variables was investigated in Thulamela, South Africa. The findings were generally consistent with observations in Western samples. Yet there were unique aspects, such as the observation that the personal dimension of extrinsic religiosity mimicked intrinsic religiosity during statistical analysis. This study is a replication aimed at observing if the findings will be replicated with a different African sample in South Africa.

Design: A descriptive, replication study, collecting data through a cross-sectional design.

Methods: Data for the study was obtained from 150 church-going, mostly charismatic church attendees and non-churchgoing participants from Emalahleni and Albert Luthuli, South Africa. Participants completed a structured, self-report questionnaire consisting of the Death Anxiety Scale (DAS), the Collett-Lester Fear of Death and Dying Scale (CLS-R) and the Intrinsic/Extrinsic Revised Scale

(I/E-R), and further supplied personal background information through a set of demographic questions. Correlation analysis was conducted between death anxiety and religiosity variables, controlling for age and gender in turn. Finally, multiple regression analysis was conducted to determine which factors would predict death anxiety.

Results: *I*, a measure of intrinsic religiosity, was negatively associated with the DAS, the CLS-R and the "Your own Death" and the "Death of Others" subscales of the CLS-R. *Es and Ep,* measures of extrinsic religiosity respectively, failed to correlate with any of the death anxiety measures. Multiple regression analysis showed that only gender and age had the capacity to predict all aspects of death anxiety in this sample. The participants' marital status and *I,* a measure of intrinsic religiosity, could each predict only one aspect of death anxiety, with the probability value of the latter's standardized regression coefficient being statistically significant only at a marginal level.

Limitations: Some demographic aspects of the sample differed in important ways from those of the initial study sample; and data were collected at one point in time, making it impossible to make any causal inferences.

Conclusions: The study represents a somewhat failed replication, suggesting that the issue of the relationship between death anxiety and religiosity among Africans remains inconclusive.

Keywords: death anxiety; intrinsic religiosity; socially-oriented extrinsic religiosity; personally-oriented extrinsic religiosity

INTRODUCTION

The omnipresence of death is palpable to all, while the associated anxiety imposes itself, in G Stanley Hall's judgment, as the "greatest fear that ever oppressed the human race" (Hall, 1915; p. 561). Thus, mankind has had to contend with the dreadful realization of impending mortality, in the process, creating the most intricate cultural and religious systems to fend off residual apprehension. In recent times, researchers are lending their insights.

A tremendous upsurge of death anxiety studies has occurred since Herman Feifel pioneered an empirical approach to the concept in the mid-1950s (Neimeyer, Wittkowski, & Moser, 2004). Since then, certain patterns of findings are evident in the literature (Ellis & Wahab, 2013). For instance, studies that have approached religiosity as a multidimensional concept, focussing on religious attitudes rather than behaviour, have found that intrinsic religiosity (*I*) tends to relate negatively with death anxiety, while extrinsic religiosity either correlates positively or is not related to it (Ardelt & Koenig, 2006; Chau, Johnson, Bowers, Darvill & Danko, 1990; Cicirelli, 2001; Cohen et al., 2005; Swanson & Byrd, 1998; Thorson & Powell, 2000). Also, there were instances when the association between religiosity and death anxiety was curvilinear, with moderate religiosity being positively associated with death anxiety (Ellis & Wahab, 2013).

Regarding the association of age with death anxiety, although studies have suggested that death anxiety may actually increase with age (Schumaker, Warren & Groth-Marnat, 1991; Singh Madnawat & Singh Kachhawa, 2007; Suhail & Akram, 2002; Thorson, Powell, & Samuel, 1998), or that there is no relationship between the two variables (Harding, Flannelly, Weaver & Costa, 2005; Lester, 1985),

the common trend now is that death anxiety decreases with age (Neimeyer et al., 2004; Thorson & Powell, 1 990). For others, the relationship between death anxiety and age takes the form of curvilinearity, where death anxiety is high in young adulthood, reaches a peak in middle age and lowers and finally stabilizes in late life (Depaola, Griffin, Young, & Neimeyer, 2003; Fortner & Neimeyer, 1999). An inverse of this finding was reported by Keller, Sherry and Piotrowski (1984), who found that their middle-aged and late middle-aged participants were less anxious than the younger and older age groups when evaluating death in general terms. In Russac, Gatlif, Reece and Spottswood (2007), the association is even more complex, as women experience two points of peak for death anxiety experiences.

Gender is another of the variables that still draw the interest of researchers because of its mixed results when associated with death anxiety. Males and females did not report different levels of death anxiety in a number of studies (Fortner & Neimeyer, 1999; Wu, Tang, & Kwok, 2002). In fact, there were instances in the past where men reported elevated death anxiety scores than females (e.g., Cole, 1978-1979). Nevertheless, many other studies using both Western and non-Western samples found a gender effect, with females obtaining higher scores than males on death anxiety measures (Abdel-Khalek, 2003; Abdel-Khalek, Lester, Maltby, & Tomás-Sábado, 2008-2009; Depaola et al., 2003; Lester, Templer, & Abdel-Khalek, 2006-2007; Suhail & Akram, 2002). Considering the studies in their totality, the effect of gender in the experience of death anxiety remains an unresolved issue.

Mudau, Moripe and Mashegoane (2011) surveyed a predominantly African sample from Thulamela, South Africa

and partly confirmed the extant findings. *I* was negatively associated with death anxiety, and socially oriented extrinsic religiosity (*Es*) was positively related to it. However, personally oriented extrinsic religiosity (*Ep*) was, contrary to expectation, also positively related to death anxiety. Like its counter-part, *Es*, *Ep* is a self-serving motive. Yet it appeared as though it, at least as far as empirical evidence is concerned, acted much the same as *I* in the African context in that it too negatively correlated with death anxiety (Ellis & Wahab, 2013). Furthermore, gender generally did not play any moderating role in the experience of death anxiety. More specifically, it failed to impact the relationship between age and death anxiety and also did not seem to influence the experience of death anxiety itself. On the other hand, age was related to all forms of death anxiety, and the relationships were characterized by relatively large coefficients (ranging from r = -0.36 to -0.66). Yet, the most decreases of death anxiety tended to occur at a somewhat later age than was commonly observed in previous studies. Incidentally, age was the only variable in Mudau et al. (2011) which could predict all forms of death anxiety while gender, *Es* and *Ep* could predict none, and *I* could predict only two of the six death anxiety variables used in the study.

Although evidence to support country or culture effects regarding the correlates of death anxiety is not substantial at this stage (Ellis, & Wahab, 2013), the results of associations of death anxiety and its correlates obtained by Mudau et al. (2011) in an African sample had some unique aspects to them. The present study's objective is to repeat the initial study using a different African sample from South Africa, and observe to which extent the findings will be replicated.

METHODS

Research design

The research was a descriptive, replication study, collecting data through a cross-sectional design.

Participants

One hundred and fifty participants were recruited from church-going (local Catholic, Dutch, Zion Christian Church [ZCC] and charismatic churches) and non-churchgoing residents of Emalahleni and Albert Luthuli local municipalities in the Mpumalanga province, South Africa. Non-churchgoing participants were individuals who did not attend church services on the days that the data was collected. Participants were treated in accordance with the code of ethics of the Research Ethics Committee of the Faculty of Humanities, University of Pretoria the structure that reviewed and approved the survey format. For instance, participation in the study was voluntary, while confidentiality and anonymity were guaranteed. All participants consented (orally and in written form) to participation in the study. Questionnaires for church-attendees were disseminated after the church. Volunteers completed them at home and then returned them in the following church service for collection by the researchers. Non-churchgoing participants were recruited in their homes and at institutions of learning. One of the researchers entered houses randomly and solicited participation from one of the available occupants. Learners were students in a small size computer college, and two classes in a public school. All of them completed the questionnaires on their own and returned them to their respective schools where a research assistant collected them. Those who agreed to participate were either assisted by one of the researchers to complete the questionnaires

on the spot, or completed them on their own and one of the researchers collected them later.

The final sample comprised of 92 (61%) females and 58 (39%) males, with an average age of 21.1 years (SD = 10.08, range = 13-67 yrs.). Sixteen participants were married, 126 were single, 4 were widowed, and 1 was cohabiting, respectively. Forty one (27%) of the participants had children while 109 (73%) did not. Those who had children had an average of 2.0 (SD = 1.44, range = 1—6 children) of them. Sixty one (42%) of the participants resided in urban areas/townships and 86 (59%) came from rural areas/villages. Of all the participants, 12 (8%) were Catholic, 10 (7%) were Dutch, 4 (3%) were Lutheran, 24 (16%) were ZCC, 3 (2%) were Methodist, 10 (7%) were Traditionalist, 4 (3%) were Baptist, while 1 (0.7%) was Shembe and 79 (54%) were charismatic. Seven (5%) of the participants never attended church, 16 (12%) attended church once to twice a year, 30 (22%) attended church thrice to ten times yearly, while 20 (15%) attended twice a month and 61 (46%) attended church once a week. Eighty (56%) of the participants reported that they were born-again Christians while 62 (44%) were not.

Instruments

Demographic data

Demographic information consisting of age, gender, marital status, religious affiliation, church attendance and number of children was solicited from participants.

Intrinsic/Extrinsic Revised scale

The Intrinsic/Extrinsic Revised scale (I/E-R; Gorsuch & McPherson, 1989) was used to measure religiosity. The fourteen (14) age-universal items of the measure are divid-

ed into three sub-scales, as follows: a 3-item *Es* subscale, a 3-item *Ep* subscale, and an 8-item *I* subscale. Responses are chosen on a five-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). Gorsuch and McPherson (1989) reported reliability levels of 0.58 for the *Es*, 0.57 for the *Ep* and 0.83 for the *I*. Reliability coefficients for the current study were $\alpha = 0.52$ for *Es*, $\alpha = 0.42$ for *Ep* and a poor estimate at $\alpha = 0.30$ for *I*. Item-to-total correlation analysis was conducted to improve the reliability of Ep. The removal of the item, "What religion offers me most is comfort", improved reliability to $\alpha = 0.50$. Item-to-total correlation analysis was also conducted to improve the reliability of *I*. It turned out that all the negatively worded items (It doesn't much matter what I believe as long as I am good; Although I am religious I don't let it affect my daily life; and Although I believe in my religion, many other things are important in life) were the ones that were problematic, and their removal improved the reliability of *I* to $\alpha = 0.47$. I correlated with Ep at $r = 0.335$ ($p < 0.001$), and was not associated to Es ($r = -0.073$, $p = 0.378$). The relation between *Es* and *Ep* did not reach statistical significance ($r = 0.009$, $p = ns$).

Death Anxiety Scale

The death anxiety scale (DAS, Templer, 1970) was used to measure death anxiety in this study. The 15-items comprising the DAS are answered using a binary, true-false scale. The reliability of the scale in this study was $\alpha = 0.66$. Convergent validity for the DAS, and in turn the CLS-R and its subscales, was demonstrated by the association between the two scales. The DAS correlated with the CLS-R full-scale ($r = 0.615$, $p = 0.001$) and all its subscales (rs = -0.512—-0.587).

Collett-Lester Fear of Death and Dying Scale

The 28-item version of the Collett-Lester fear of death and dying scale (CLS-R; Lester & Abdel-Khalek, 2003) was also utilized to evaluate death anxiety. This measure was geared towards four different types of mortality fears, namely: "Your own Death", "Your own Dying", "Death of Others", and "Dying of Others", although a full-scale score is also calculated. A five-point Likert-type response format was used in this study, ranging from 1 (very afraid) to 5 (not afraid). The scoring was reverse scored for purposes of analysis, so that a high score would indicate elevated death anxiety experiences. In this study, the reliability of the full-scale CLS-R was $\alpha = 0.91$. The reliability for "Your own Death" was $\alpha = 0.75$, for "Your own Dying" was $\alpha = 0.73$, for "Death of Others" was $\alpha = 0.75$, and for "Dying of Others" was $\alpha = 0.80$.

Data analysis

Data analysis involved using correlation analysis to determine the association between death anxiety and religiosity. Subsequently, the correlation between death anxiety and age was investigated, while controlling for gender. Gender was controlled to rule out its effect and establish if the association was independent. Additionally, factorial ANOVA was conducted to enhance the understanding of the relationship between age and death anxiety. Lastly, multiple regression analysis was conducted to determine which factors could predict death anxiety. The marital status was simplified by incorporating the four widowed participants into the singles category and the one cohabiting participant with the married category.

Results

Correlation analysis was conducted to examine the association between intrinsic and extrinsic religiosity factors (*I*, *Ep* and *Es*) and the varieties of death anxiety (DAS, full-scale CLS-R, and the four subscales of "Your own Death", "Your own Dying", "Death of Others" and the "Dying of Others"). The correlation analysis results (two-tailed) as presented in table 1 indicate that intrinsic religiosity correlated with the full-scale CLS-R and the CLS-R subscales of "Your own Death" and the "Death of Others". It however failed to correlate with the DAS, "Your own Dying" and the "Dying of Others" death anxiety variants. *Ep* and *Es* were not related to any of the death anxiety variants measured in this study ($ps > 0.05$).

Table 1: Association between intrinsic and extrinsic religiosity factors and death anxiety (N = 150)

Religiosity	DAS[1]	CLS-R[2]	CLS-R subscale			
			Your Own Death	Your Own Dying	Death of Others	Dying of Others
I[3]	-0.046 (ns)	-0.162*	-0.199*	-0.067 (ns)	-0.167*	-0.103 (ns)
Ep[4]	-0.107 (ns)	-0.067 (ns)	-0.052 (ns)	-0.027 (ns)	-0.057 (ns)	-0.089 (ns)
Es[5]	0.012 (ns)	-0.014 (ns)	-0.007 (ns)	0.005 (ns)	0.009 (ns)	-0.053 (ns)

Note: [1]DAS = Death Anxiety Scale; [2]CLS-R = Collett-Lester Fear of Death and Dying Scale; [3]I = Intrinsic Religiosity; [4]Ep = Socially-Oriented Extrinsic Religiosity; [5]Es = Personally-Oriented Extrinsic Religiosity

*p = 0.05

Following the analytic strategy in Mudau et al. (2011), a partial correlation analysis was conducted between age and the death anxiety measures (i.e., DAS, full-scale CLS-R, and the subscales of the CLS-R), controlling for gender. They show that age correlates negatively with all the death anxiety measures (rs = -0.252—-0.584, ps = 0.01—0.001)(table 2a). Moreover, a standard correlation analysis between age and death anxiety measures was computed. A bird's eye-view of the results found positive improvement

of all coefficients obtained using partial correlation analysis (prs = 0.223—0.550, ps = 0.001). Therefore, controlling for gender had an effect on the association between age and death anxiety. Important to note, DAS had the lowest correlation with age relative to the CLS-R and its subscales, when gender was controlled for and when a standard correlation analysis was conducted.

Table 2a: Correlation analysis between age and death anxiety: controlling for gender, standard analysis, and separate analysis for males and females (N = 150)

			CLS-R subscale			
	DAS[1]	**CLS-R**[2]	"Your Own Death"	"Your Own Dying"	"Death of Others"	"Dying of Others"
partial r	-0.252**	-0.538***	-0.355***	-0.415***	-0.584***	-0.448***
r	-0.223**	-0.500***	-0.329***	-0.386***	-0.550***	-0.416***

Note: [1]DAS = Death Anxiety Scale, [2]CLS-R = Collett-Lester Fear Of Death And Dying Scale.

** p = 0.01, ***p = 0.001

Seeing that gender had an impact on the association between age and death anxiety, a 2 X 3 (gender X age group) analysis-of-variance was conducted to gain an even clearer understanding of how death anxiety would spread across the age groups, when gen-

der is factored in. Three age groups were formed, namely, the under 19 year olds (n = 86), 19—24 year olds (n = 26) and the over 25 year olds (n = 35). The formation of the first two groups was influenced by developmental considerations, that 18 years is more-or-less the end of middle adolescence and roughly 19 to 23 or 24 years of age is late adolescence. The break down at the upper end of age was limited to one group since there were relatively fewer respondents at that level.

The results of ANOVA, based on the death anxiety mean scores in table 2b, show that there were no main or interaction effects which could be attributed to gender in almost all the analyses, except for the "Death of Others" subscale. Only the main effects attributable to age were observed with regards DAS, $F_{(2, 143)} = 5.915$, $p = 0.003$, partial $\eta^2 = 0.077$, CLS-R, $F_{(2, 143)} = 18.360$, $p = 0.001$, partial $\eta^2 = 0.207$, "Your own Death", $F_{(2, 143)} = 11.934$, $p = 0.001$, partial $\eta^2 = 0.145$, "Your own Dying", $F_{[2, 143]} = 4.847$, $p = 0.009$, partial $\eta^2 = 0.064$ and the "Death of Others", $F_{[2, 143]} = 25.186$, $p = 0.001$, partial $\eta^2 = 0.263$; according to the results, the effects were statistically significant and had medium to large partial η^2. In all cases, the over 25 years-olds, the oldest age group, obtained comparatively low death anxiety average scores ($p < 0.05$; see table 2b). The "Dying of Others" subscale had a main effect of age, $F_{(1, 141)} = 14.012$, $p = 0.001$, partial $\eta^2 = 0.263$ and gender, $F_{(1, 141)} = 5.214$, $p = 0.024$, partial $\eta^2 = 0.036$; there was no age and gender interaction ($p > 0.05$, partial $\eta^2 = 0.007$). On the variant of death anx-

iety measured by the "Dying of Others" subscale, the younger age groups scored relatively high, on the average, compared to the oldest age group ($p < 0.05$). However, the gender of the respondent tended to influence the amounts of death anxiety reported. Yet the pattern remained, that females scored higher than males at all age levels on the "Dying of Others" variant of death anxiety.

Table 2b: Mean scores of age-groups on death anxiety (N = 150)

	Age-group		
	≤ 18 yrs. old (n = 86)	19—24 yrs. old (n = 26)	≥ 25 yrs. old (n = 35)
Death Anxiety	$\bar{X}$(SD)	$\bar{X}$(SD)	$\bar{X}$(SD)
DAS*	8.99 (2.399)[a]	9.77 (2.1471)[a]	7.69 (3.385)[b]
CLS-R**	110.45 (16.187)[a]	110.12 (21.866)[a]	86.00 (28.654)[b]
"Your own Death" †	24.72 (6.593)[a]	26.50 (6.451)[a]	18.97 (8.068)[b]
"Your own Dying" †	26.35 (5.579)[a]	26.23 (7.987)[ab]	21.83 (8.403)[b]
"Death of Others" †	29.19 (4.717)[a]	28.38 (4.243)[a]	21.26 (8.382)[b]
"Dying of Others" †	30.20 (4.737)[a]	29.00 (6.125)[a]	23.94 (8.990)[b]

Note: Means on a row not sharing a similar superscript are not equivalent.

*DAS = Death Anxiety Scale, **CLS-R = Collett-Lester Fear of Death and Dying Scale, † = CLS-R

subscale.

A partial correlation analysis was also conducted between gender and death anxiety, controlling for age. Gender correlated with all the death anxiety measures (table 2c; rs = -0.186—-0.275). Nevertheless, when a Spearman rho was conducted between gender and death anxiety measures, gender significantly associated with the full-scale CLS-R only, and the associations with the "Your own Dying" and the "Death of Others" subscales were only marginal.

Table 2c: Correlation analysis between gender and death anxiety scales, controlling for age (N = 150)

			CLS-R subscale			
	DAS[1]	**CLS-R**[2]	"Your Own Death"	"Your Own Dying"	"Death of Others"	"Dying of Others"
Partial r	-0.186*	-0.275***	-0.186*	-0.207**	-0.271***	-0.226**
Spearman rho	-0.134	-0.185*	-0.129	-0.158†	-0.149†	-0.116

Note: Ω = Female was coded as 0 and male was coded as 1

[1]DAS = Death Anxiety Scale, [2]CLS-R = Collett-Lester Fear of Death and Dying Scale.

† = 0.10, * = 0.05, ** = 0.01, *** = 0.001

Demographic and religiosity predictors of death anxiety were also examined. Multiple regression analysis was used for the purpose. Among the independent variables, gender and age were entered first, followed by marital status, the number of children participants' had and the religiosity variables of I, Es and Ep. The DAS, together with the CLS-R and its subscales of "Your Own Death", "Your Own Dying", "Death of Others" and the "Dying of Others", were alternately used as the predictor variable. According to table 3, age was the best predictor of the full-scale CLS-R and its subscales, with regression coefficients ranging from -0.238—-0.551 (ps = 0.001—0.028). Gender was also a better predictor of death anxiety. It recorded regression coefficients between β = -0.151—-0.242 and probability values in the p = 0.001—0.071 range. Marital status was a predictor of one variant of death anxiety, namely, the DAS, β = -0.232, p = 0.014; intrinsic religiosity was a predictor for the "Your own Death" subscale, but the probability value was only marginal, β = 0.145, p = 0.093.

In all, DAS was predicted by three variables, namely, gender, age and marital status, $F_{[7, 137]} = 3.148$, p = 0.004, and the model explained 9.5% of the variance in the scores of the scale. Another variable that was predicted by three variables is the "Your own Death" subscale, which was predicted by gender, age and intrinsic religiosity, $F_{[7, 137]} = 3.707$, p = 0.001, and the model explained 11.6% of the variance in the scale's scores. The remaining variables were each predicted by two variables only. The full-scale CLS-R was pre-

dicted by both age and gender, $F_{[7, 137]} = 10.133$, $p = 0.001$, and the model explained 30.7% of the variance in the scale's scores. The "Your own Dying" subscale was also predicted by the age and gender of the participants, $F_{[7, 137]} = 4.595$, $p = 0.001$. The independent variables explained 14.9% of the variance in the subscale's scores. The participants' age and gender predicted the "Death of Others", $F_{[7, 137]} = 11.136$, $p = 0.001$, with the independent variables explaining 33.0% of the variance in the subscale's scores. Finally, the "Dying of Others" subscale was predicted by age and gender, $F_{[7, 137]} = 5.988$, $p = 0.001$. The independent variables explained 19.5% of the variance in the subscale's scores. The direction (negative sign) of the regression coefficients of age implies that as the participants' age increases, they are more likely to report less fear pertaining to the dying of others. For gender, females were scored as "0" and males were "1". Therefore the direction of the regression coefficients mean that being male increases the likelihood of reporting relatively less rates of death anxiety. Marital status was also reduced to a binary variable, being single keyed as "0" and being married as "1". Thus, a married status was associated with lesser rates of death anxiety. Ep and Es did not play any significant role in the prediction of all forms of death anxiety in this study ($p > 0.05$).

Table 3: Prediction of death anxiety from gender, age, marital status, the number of children a participant has, and intrinsic and extrinsic religiosity factors (N = 150)∞

			CLS-R subscale			
Predictors	**DAS[1]**	**CLS-R[2]**	"Your own Death"	"Your own Dying"	"Death of Others"	"Dying of Others"
Gender[Ω]	-0.151†	-0.242***	-0.156†	-0.203**	-0.226**	-0.212**
Age	-0.238*	-0.511***	-0.335**	-0.365***	-0.551***	-0.413***
Marital Status[ΩΩ]	-0.232*					
Have children						
I[3]			-0.145†			
Es[4]						
Ep[5]						
R	0.372	0.584	0.399	0.436	0.602	0.484
Final model $R^2_{adj.}$	0.095	0.307	0.116	0.149	0.330	0.195

Note: ∞Only statistically significant standardized regression coefficients (βs) are shown. Their respective t-values, not shown in the table, are also statistically significant and above the -1.96 cut-off point.

Ω = Female was coded as 0 and male was coded as 1; ΩΩ = single was coded as 0 and married was coded as 1.

[1]DAS = Death Anxiety Scale; [2]CLS-R = Collett-Lester Fear of Death and Dying Scale; [3]I = Intrinsic Religiosity; [4]Es = Socially-Oriented Extrinsic Religiosity; [5]Ep = Personally-Oriented Extrinsic Religiosity.

† = 0.10, * = 0.05, ** = 0.01, *** = 0.001

Discussion

The present study sought to replicate an initial study of death anxiety conducted among African church-goers and non-attendees in Thulamela, South Africa. That study affirmed some of the findings pertaining to correlates of death anxiety. However, unique observations were made, prompting the present study in Emalahleni and Albert Luthuli, other African communities in South Africa.

A relationship was established between I and some variants of death anxiety, namely, the full-scale CLS-R, the "Your own Death" and the "Death of Others" subscales; but there was no relationship between I and the DAS. Furthermore, the extrinsic variants of religiosity (Ep and Es) were not associated at all with death anxiety. The results are complicated, in that they do not completely support the buffering hypothesis, or the views which state that death anxiety and religiosity will be positively related (Falkenhain & Handal, 2003) or not related at all (Ens & Bond, 2007). However, Suhail and Akram (2002) found more or less similar results as ours, using both the DAS and CLS-R to measure death anxiety. In Suhail and Akram's study, religiosity was related to some scales of the CLS-R, but the negative association between the DAS and a measure of religiosity was only marginal. Our present results, supported by studies such as Suhail and Akram (2002), put to doubt the findings of Mudau et al. (2011) since in the latter there was a

clear relationship between death anxiety as measured by the DAS, and religiosity.

We also found no association between extrinsic religiosity measures and all variants of death anxiety. Whereas the results are in line with Hui and Fung (2009), they did not support Mudau et al. (2011). Moreover, Mudau et al.'s findings were unique, in that Es was positively associated with death anxiety, while Ep was negatively related to it. At least theoretically, Es and Ep are expected to be positively related to each other and to death anxiety (Swanson & Byrd, 1998). And this does not seem to be the case in the African context, where Mudau et al. (2011) found that Ep mimics I regarding its relations to death anxiety.[1] The present study did not even find any association between any of the extrinsic religiosity variables and I. Moreover, the power of extrinsic religiosity factors to predict death was non-existent in both Mudau et al. and the present study. In both instances, only I had any role in predicting death anxiety, and none of the extrinsic religiosity measures did. In the present study, the predictive capacity of I was accepted at a marginal level of statistical significance. Using strict statistical terms, it means that none of the religiosity factors would have featured as predictors of death anxiety in this study, same as in Ens and Bond (2007).

[1] Interestingly, at least one other study, Ens and Bond (2007), found a positive association between *Ep* and *I* among students from a private high school with no specific religious affiliation, in Manitoba, Canada.

The results regarding age are in agreement with Mudau et al. (2011) and many other studies that show that increased reports of death anxiety are associated with younger age, and the opposite is true (Neimeyer et al., 2004; Thorson & Powell, 1990, 1994, 2000). In some studies, the results were obtained using scales that are more or less similar to the ones used in the present study. For instance, Russac et al. (2007) used the revised death anxiety scale (DAS-R; Thorson & Powell, 1994), a revised version of the DAS, and the CLS-R to find a negative relationship between age and death anxiety. Over and above its association with death anxiety, age was an important and consistent predictor of the variable. The present findings, combined with those of Mudau et al. (2011), question Rasmussen and Brems' (1996) assertion that a variable such as maturity predicts DA better than age.

There are many reasons why death anxiety is high among the younger age groups and tends to decline with age. Adolescents and young adults are at a developmental stage when they are gaining new cognitive capabilities, and use these to construct and answer questions of existence. The possibility of non-being is also considered, with negative consequences. For instance, Erikson's (1980) construct of psychosocial moratorium suggests that during the period of experimenting with different life alternatives, there is a real prospect of failure to commit to life goals. Therefore, the period of psychosocial moratorium is riddled with conflicts and anxieties. For that reason,

death anxiety is not uncommon (see also Lavoie & de Vries, 2003-2004; Sterling & Van Horn, 1989).

Yalom complements Erikson (1980) when he points out that death anxiety belongs to an early, pre-conceptual developmental stage (Yalom, 1980: p. 189). This means that with age and experience, and successful integration to culture and religion, individuals learn to accept their mortal fate. Nevertheless, they may still be concerned with death around them, especially those who come from societies or communities where death is everywhere, being a consequence of epidemics such as HIV/AIDS or high murder rates. Thus, it is not surprising that older age groups may be less concerned about their own deaths, but still worry about death in general, as Keller, Sherry and Piotrowski (1984) found.

As far as the results of gender are concerned, an influence of the variable on death anxiety was found in this study, contradicting Mudau et al. (2011) and studies such as Fortner and Neimeyer (1999) and Wu et al. (2002). Mudau et al. did not find a gender effect for almost all the variants of death anxiety, except for the "Death of Others". Furthermore, in that study gender failed to emerge as an important predictor in the regression analysis. On the other hand, gender featured in the prediction of all forms of death anxiety measured in this study, consistent with varied studies in the general literature (Abdel-Khalek, 2003; Abdel-Khalek et al., 2008-2009).

Over and above intrinsic and extrinsic religiosity, age and gender, this study also considered the importance of marital status and the participants' number of children in predicting death anxiety. Whereas the role of children in death anxiety, or more specifically, the reduction of mortality salience, is known (Zhou, Lei, Marley, & Chen (2009), that of marital status remains unclear (Cole, 1978). In Mudau et al. (2011) the status of children featured prominently as a predictor of death anxiety and marital status could predict only one variant of death anxiety. In this study it was marital status that contributed as a predictor of the DAS variant of death anxiety, and the status of having children did not feature as a predictor. At this point, marital status and the status of having children remain uncertain as predictors of death anxiety. However, the relatively younger average age of the participants may explain the lack of importance of the two variables, including religiosity, as predictors of death anxiety (Ens & Bond, 2007, p. 179).

Limitations

The sample in Mudau et al. and the present one were drawn from provinces sharing a border, and both are situated in the north-easterly parts of South Africa. Nonetheless, there were important aspects about them that could have affected the success of the replication. The sample of the present study was comparatively young, with an average age of 21 years and an age range of 13—67 years, compared with the previous study's average age of 43 years and an age

range of 17—88 years. The comparatively narrow range of age did not permit investigation of patterns (e.g., curvilinearity) of death anxiety and religiosity normally seen in much older age groups. Although both samples had more individuals who were single, at 85% the proportion was much higher in the present sample. Most of the participants did not have children of their own, whereas in the previous study over half did. Moreover, over half of the church-going were drawn from a born-again, charismatic church, which is a distinctive congregation and thus the sample differed markedly from that of the previous study by Mudau et al. (2011).

Conclusion

The present study attempted to replicate the findings of Mudau et al. (2011), using a sample from a geographically different part of South Africa. We used similar scales and attempted to sample the same way. The findings were similar in some instances, but also differed in important ways. For that reason, we are inclined to consider the results, based on the general view of the findings, as a failed replication.

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