

thinkings of Confucianism, Buddhism, and Taoism (Chang, 1996; Wu, Tang, & Kwok, 2002). According to these thinkings, death is not viewed as separate from life or as an end in Chinese culture, but as a transition in life and a continuous and integral part of life. The concept of reincarnation may also have a buffering effect on Chinese anxiety toward death-related issues, as they can talk about life after death in religious and social gatherings and feel a sense of control as their next life is determined by what they have done in their present life (Cheng, 1997). Although Chinese traditional thoughts emphasize the naturalness and importance of death, most Chinese, like people of many other cultures, generally view death as misfortune.

With the uniqueness of Chinese cultural attitudes and beliefs toward death as well as their influences on other Asian countries, research on death anxiety and its correlates among Chinese samples does contribute to cross-cultural knowledge in this field. However, there is a paucity of studies that directly examine Chinese attitudes toward death. This study thus aims to fill in this knowledge gap by exploring the association between Chinese death anxiety and psychosocial variables.

Previous studies on Western samples have found that some psychological factors are related to death anxiety. Tomer and Eliason (1996) proposed a model of death anxiety and hypothesized that people's beliefs about the self will be linked to various determinants of death anxiety, which in turn will be related to death anxiety itself. Indeed, a related review study has found that people who are anxious about death also show a tendency to report a negative self-image as well as a low level of well-being (Lonetto & Templer, 1986). Among healthy college student samples, death anxiety is consistently found to correlate negatively with self-esteem (Aronow, Rauchway, Peller, & DeVito, 1980; Davis, Bremer, Anderson, & Tramill, 1983; Nelson, 1978).

Recently, researchers have focused on the importance of control in moderating internal states such as emotions, thoughts, and physical reactions. One of the most widely studied control constructs is the health locus of control derived from the social learning theory (Wallston, 1992). Of the few studies that examine the association between death anxiety and health locus of control, Hayslip and Stewart (1987) found that fear of dying/death of oneself was related to a low level of internality over general health. In another study, Patton and Freitag (1977) noted that a high level of external locus of control is related to a high level of death anxiety among college students.

Previous studies are inconclusive regarding the association between people's level of death anxiety and their demographic characteristics such as age and gender. Although some researchers find a negative correlation between age and death anxiety (Neimeyer, 1985; Templer, 1971; Thorson & Powell, 1994), others indicate a curvilinear trend in which death anxiety is relatively high in young people, peaks in middle adulthood, and remains the lowest in old age (Gesser, Wong, & Reker, 1987; Thorson & Powell, 1994). Inclusive findings are also noted regarding gender differences (Fortner & Neimeyer, 1999).

To reiterate, this study aims to evaluate the association between death anxiety and psychological variables of self-efficacy and health locus of control among Chinese in Hong Kong. On the basis of past studies in this area, it is hypothesized that self-efficacy and death anxiety will be negatively correlated. It is also speculated that while external health locus of control will be linked to greater death anxiety, internal health locus of control will attenuate the level of anxiety toward death and dying.

Method

Recruitment of Participants

Chinese college students residing in Hong Kong were recruited via posters and flyers throughout a local university. They were invited to complete packages of questionnaires on their perceptions and reactions to death-related issues. A total of 282 (105 men and 177 women) college students participated in the study. Their ages ranged between 18 and 26 years ($M = 19.52$, $SD = 1.05$), with men being somewhat older than women ($M = 19.94$ and 19.27 , respectively; $t = 5.48$, $p < .01$). These students participated in the study voluntarily without any monetary reward.

Instruments

Death Anxiety

Death anxiety was assessed by three existing death-related scales, namely the Death Anxiety Scale (DAS; Templer, 1970), the Revised Death Anxiety Scale (RDAS; Thorson & Powell, 1994), and the Multi-dimensional Fear of Death Scale (MFDS; Neimeyer & Moore, 1994).

All three scales demonstrate satisfactory internal consistency. For the MFDS, it includes subscales measuring “fear of the dying process” (DP), “fear of the dead” (D), “fear of being destroyed” (BD), “fear for significant others” (SO), “fear for the unknown” (U), “fear of conscious death” (CD), “fear for the body after death” (BAD), and “fear of premature death” (PD). Items of these scales were scored in a 5-point Likert format, with higher scores representing higher levels of death anxiety.

Health Locus of Control

The Multidimensional Health Locus of Control (MHLC) Scale – Form A (Wallston, Wallston, & DeVellis, 1978) is a health belief measure that assesses people’s attribution about “who” controls their health outcomes. It is composed of three 6-item subscales assessing internal locus of control, external locus of control (powerful others), and external locus of control (chance). A Chinese version of the MHLC is available and shows acceptable internal consistency reliabilities (Wu, Tang, & Kwok, 2002). For the present study, all items were modified to a 5-point Likert format, with higher scores indicating higher levels of specific dimensions of the control beliefs.

Self-Efficacy

The Generalized Self-Efficacy Scale (GSE) is a 10-item scale that assesses the strength of people’s belief in their own ability to respond to novel or difficult situations and to deal with any associated obstacles or setbacks (Schwarzer, 1993). This scale has been translated into several languages, and its internal reliability coefficients for Chinese samples average .70. For the present study, all items were modified to a 5-point Likert format, with higher scores indicating higher levels of general self-efficacy.

Demographic Information

Participants also provided information regarding their age, gender, and year and department of study.

Results

The means and standard deviations of various death anxiety scales and their psychosocial correlates were summarized in Table 1. The internal consistency reliabilities of the three death anxiety scales were

TABLE 1 Descriptive Statistics for Major Variables

Variable	Male (<i>n</i> = 105)	Female (<i>n</i> = 177)	Total (<i>n</i> = 282)	<i>t</i> -test value
Death Anxiety Scale	3.06 (.44)	3.28 (.41)	3.20 (.43)	-4.23**
Revised Death Anxiety Scale	2.76 (.48)	2.93 (.49)	2.87 (.49)	-2.91*
MFDS – Fear of the dying process	3.66 (.75)	4.00 (.50)	3.87 (.63)	-4.17*
MFDS – Fear of the dead	3.22 (.77)	3.76 (.56)	3.56 (.70)	-6.23**
MFDS – Fear of being destroyed	2.72 (.68)	2.82 (.71)	2.79 (.70)	-1.22
MFDS – Fear for significant others	4.09 (.58)	4.39 (.50)	4.28 (.55)	-4.63**
MFDS – Fear for the unknown	3.14 (.52)	3.12 (.54)	3.13 (.53)	-0.37
MFDS – Fear of conscious death	3.48 (.49)	3.55 (.46)	3.53 (.47)	-1.21
MFDS – Fear for the body after death	2.34 (.60)	2.66 (.64)	2.54 (.65)	-4.18**
MFDS – Fear of premature death	3.09 (.48)	3.19 (.49)	3.15 (.48)	-1.59
Self-efficacy	2.89 (.50)	2.67 (.37)	2.75 (.44)	3.91**
Internal health locus of control	3.20 (.70)	3.12 (.58)	3.15 (.63)	0.99
Powerful other health locus of control	2.51 (.53)	2.53 (.48)	2.52 (.50)	-0.31
Chance health locus of control	2.57 (.54)	2.62 (.54)	2.60 (.54)	-0.72

Note. Numbers within parentheses represent standard deviations. MFDS = Multidimensional Fear of Death Scale.

* $p < .01$; ** $p < .005$.

satisfactory, with alpha values being .74 for the DAS, .80 for the RDAS, and .89 for the MFDS. The psychosocial correlates also demonstrated satisfactory to acceptable internal consistency reliabilities, with alpha values being .96 for self-efficacy and .71, .52, and .58 for internal, powerful others, and chance health locus of control.

The three death-anxiety scales were related to each other (r ranged from .35 to .76, $p < .005$). Correlation analyses were also conducted between the three death anxiety scales and various psychosocial variables, and their results were summarized in Table 2. In general, younger as compared to older participants tended to report a higher level of death anxiety. Participants who had a low level of self-efficacy or a high level of external health locus of control were also more likely to experience a high level of death anxiety. However, only a weak association was found between internal health locus of control and death anxiety in relation to fear of conscious death.

With regard to gender differences, women as compared to men reported a higher level of death anxiety and fear as shown on the DAS, the RDAS, and the MFDS ($p < .05$), with the exception of four subscales of the MFDS (Table 1). In addition, women also demonstrated a lower

TABLE 2 Correlations Between Death Anxiety Scales and Psychosocial Variables

Variable	Self-efficacy			Internal HLOC			Powerful Others HLC			Chance HLC			Age		
	Male	Female	Total	Male	Fe- male	Total	Male	Female	Total	Male	Female	Total	Male	Fe- male	Total
Death Anxiety Scale	-.30**	-.20**	-.28**	-.15*	.01	-.08	.13	.08	.11	.20**	.06	.12*	-.09	-.01	-.12*
Revised	-.17*	-.11	-.17**	-.08	.07	.01	.23**	.08	.14*	.15*	.15*	.16*	-.15	-.16*	-.20**
Death Anxiety Scale															
MFDS	-.15*	-.21**	-.23**	-.15*	-.04	-.11	.11	-.01	.05	.18*	.05	.11	.03	-.15*	-.13*
— Fear of the dying process															
MFDS	-.14*	-.12	-.21**	-.09	.04	.04	.14	-.04	.05	.06	-.02	.03	-.05	-.02	-.05
— Fear of the dead															
MFDS	-.16*	-.13	-.15*	-.12	.02	-.04	.05	.06	.06	.05	-.20**	-.15*	-.01	.03	-.01
— Fear of being destroyed															
MFDS	.02	-.07	-.09	-.02	.03	-.01	.02	-.22**	-.11	-.03	-.14	-.08	-.10	-.01	-.04
— Fear for significant others															
MFDS	-.14*	.01	-.05	-.13	.12	.02	.02	.13	.08	-.09	.03	-.02	-.06	-.11	-.08
— Fear for the unknown															
MFDS	-.11	-.02	-.08	.15*	.18*	.16*	.09	.04	.06	-.07	.09	.03	.04	-.09	-.05
— Fear of conscious death															
MFDS	-.31**	-.03	-.20**	-.11	.10	.01	.26**	.20**	.22**	.28**	.23**	.25**	-.19*	-.16*	-.23**
— Fear for the body after death															
MFDS	-.16	-.03	-.10	-.05	.17*	.08	.19	.05	.11	.19**	.22**	.21**	-.19*	-.10	-.16**
— Fear of premature death															

Note. MFDS = Multidimensional Fear of Death Scale; HCL = Health Locus of Control.

* $p < .05$; ** $p < .01$

level of self-efficacy than men. Correlation results between death anxiety and various psychological variables differed slightly across the two genders. Table 2 summarizes results of correlation analyses as broken down by gender.

Discussion

Similar to Western (Lonetto & Templer, 1986; Wallston, 1992) and local studies (Wu et al., 2002), the present study shows that self-efficacy and health control beliefs are related to Chinese death anxiety. The present results indicate that those with a high level of self-efficacy tend to report a lower level of death anxiety; whereas external health control orientations are related to a high level of death anxiety among Chinese. On the other hand, the hypothesis that internal health control beliefs attenuate psychological distress is only weakly supported by the present study. This is in line with the arguments of some researchers that internal control beliefs should not be falsely assumed to be all positive, instead, the appropriateness of people's health locus of control may depend on cultural or situational factors (Marks, 1998).

Similar to some studies on Western samples (Neimeyer, 1985; Templer, 1971; Thorson & Powell, 1994), the present results show that younger college students are more death anxious than their older counterparts. However, the age range of the present sample is rather narrow, that is, between 18 and 26 years. It remains unclear whether the curvilinear trend of death anxiety will be evident when samples with broader age ranges are examined (Gesser et al., 1987). This study also shows that Chinese female college students tend to report a higher level of death anxiety than the male students. This is consistent with some Western studies that indicate women usually score higher on death-related scales than men (Lester, 1990; Neimeyer & Fortner, 1995; Schumaker et al., 1988). However, researchers have cautioned that women's higher level of death anxiety may not be unique to death-related issues, but may simply reflect their greater tendency to report negative feelings and experiences (Fortner & Neimeyer, 1999).

The present study has several limitations, and cautions must be taken when extending its findings. First, this study is based on a non-random college student sample with a narrow age range. It remains unclear to what extent its findings are representative of the Chinese population. Moreover, the present sample is from Hong Kong, a place where its

people have been exposed to Western influences for over a century. Thus, their attitudes and beliefs may not be reflective of typical Chinese culture. It should also be noted that participants self-reported their perceptions and reactions toward death-related issues, which may be subject to recall, self-selection, and social desirability biases. Lastly, this study has not addressed the issue of religiosity, notwithstanding that it also relates to how people perceive death and dying. Despite these limitations, the present study documents the cross-cultural validity of existing death anxiety scales and suggests that they can be extended to Chinese samples to explore how they adjust and cope with death and dying, which has significant medical and social implications.

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