Young people’s response to death threat appeals: do they really feel immortal?

N. Henley and R. J. Donovan

Abstract

Threat appeals are used frequently in health promotion, with threats of (premature) death common in some areas, e.g. ‘quit smoking or you’ll die’. There is a common notion that young people feel they are immortal. Accordingly, we investigated whether young people would respond less to threats of death than to non-death threats and whether younger people would respond less to death threats than older people. This study was conducted with smokers in two age groups (16–25 and 40–50 years). Each respondent was exposed to one message about the threat of emphysema, either a death or non-death message. Younger smokers did not respond more to non-death threats than death threats and expressed a higher level of response to all threats than older smokers. It would appear that death threats are effective with young people and so we conclude that they do not feel immortal. An additional finding was that older females responded significantly more to non-death threats than older males. Death threats may not be effective with older females and a segmentation approach may be advisable when targeting older people using death threats in health promotion campaigns.

Introduction

Promoting health to young people is recognized as a major priority for health practitioners worldwide (Nutbeam, 1997). Adolescence is seen as a critical period—healthy behaviors adopted at this age can have long-term, enduring benefits for health and well-being (Maggs et al., 1997; Jessor et al., 1998). A better understanding of the way young people think can help health practitioners design more effective communication strategies to reach them, both in the media and education programs (Nutbeam et al., 1989).

The original impetus for this study was the widespread notion that young people are convinced of their immortality. This idea is found in the literature on threat appeals (Walton, 1996) and in the public health literature (Strauss, 1991). In the qualitative phase of this study, it was voiced independently by many experts and practitioners in the health promotion and road safety areas (Donovan et al., 1995). The notion is frequently stated as fact on health websites (Office of National Drug Control Policy, no date; Sanders-Beckworth, no date; Phoenix House, 1998; Cholesterol control, 2001) and in the popular press (Blackburn, 2000; Remington, 2001; Schorr, 2000), sometimes attributed to grieving parents whose children have died from risk behaviors such as substance abuse or dangerous driving (Cazalas, 1998). Leading health academics who have been quoted as stating variations on the phrase ‘teenagers think they’re immortal’ include: Dr Mike Murphy, Head of the Imperial Cancer Research Fund’s General Practice Research Group, Oxford (Mobiles ‘cut teenage smoking’, 2000), Dr Henry McGill, Senior
One of the ways public health educators attempt to persuade people to cease unhealthy behaviors and adopt healthy behaviors is by presenting a threat that can be effectively averted if the unhealthy behavior is ceased or the recommended behavior is adopted. We therefore decided to investigate how young people would respond to death threats in health promotion. To do this, we designed a study that would compare response to death threats (e.g. ‘Quit smoking or you’ll die prematurely of emphysema’) and non-death threats (e.g. ‘Quit smoking or you’ll be disabled by emphysema’) in two age groups, 16–25 and 40–50. This is in keeping with recent recommendations to focus on the type of threat that audiences will respond to rather than trying to determine the optimal level of fear that is effective (LaTour and Rotfeld, 1997).

We were mindful of the null hypothesis that there would be no difference in young people’s response to death and non-death threats because there is a possibility that this widespread notion that young people feel immortal is one of the pervasive myths of our time. Attempts to demonstrate young people’s sense of immortality have not been successful. The literature supports the idea that young people, particularly males, are greater risk takers (Trimpop, 1994), but has not been able to support the alleged greater indifference to death. Instead, Quadrel et al. found that adolescents viewed themselves as more vulnerable than their parents (Quadrel et al., 1993) and Drolet found that younger adults (19–25 years) had a weaker symbolic sense of immortality than older adults (33–39 years) (Drolet, 1990). A ‘symbolic sense of immortality’ is the feeling that one lives on through one’s children, or through one’s creative efforts, or through religious or other spiritual beliefs or experiences (Lifton, 1977). Weinstein found that his respondents, aged 18–65 years, generally rated their risk of a number of negative health outcomes to be significantly less than other people’s risk, but this was true for all ages (Weinstein, 1987). These findings suggest that young people may be just as aware (or equally unaware) of their mortality as older people. If they engage in increased risk-taking behavior, it may not be because they feel immortal, but because they may not be fully aware of the risks associated with their behavior or may consider the risk to be acceptable if there are attendant benefits, perhaps to their sense of identity or self-esteem (Quadrel et al., 1993; Taubman-Ben-Ari, 2000).

To our knowledge, no prior studies have been conducted to explore differences in young and older people’s responses to death threat appeals. In fact, age has been given little attention as a potential moderating variable in fear arousal studies. Most studies have been conducted with young people (school-age children or college students) with little attempt made to analyze and report differences in the responses of respondents in different age groups. Quinn et al. found some evidence that higher fear levels were aroused in younger (secondary) students compared to older (postgraduate) students (Quinn et al., 1992). They suggested that older students might be more critical and questioning when presented with certain information where younger students might be more impressionable and susceptible. However, both of these groups would be regarded as ‘young people’ in our study. Burnett and Oliver found that age was a positive moderator, with higher fear messages producing more desired attitudes in their older subjects (40–54 year olds) than in their younger subjects (30–40 year olds) (Burnett and Oliver, 1979). Benet et al. considered the ethics of using strong fear appeals when marketing health care to the elderly, a group that is commonly assumed to be particularly vulnerable to anxiety (Benet et al., 1993). However, they found no research that related anxiety proneness to age. Rhodes and Wolitski found that age was not related to ratings of message
effectiveness in their study on AIDS threat appeals (Rhodes and Wolitski, 1990).

**Use of death in threat appeals**

When designing a low–high fear arousal manipulation, there is an apparent tendency in researchers, however unintentional, to use a death threat to convey the high fear (Henley and Donovan, 1999). Many studies that are designed to test the relative effectiveness of high and low threat messages use a non-death negative outcome in the ‘low threat’ condition and then introduce death in the ‘high threat’ condition [e.g. (Leventhal et al., 1965; Chu, 1966; Dabbs and Leventhal, 1966; Leventhal et al., 1966; Millman, 1968; Griffeth and Rogers, 1976; Rogers and Mewborn, 1976; Kirscht et al., 1978; Hill, 1988; LaTour and Pitts, 1989)].

More than half of the studies that have focused on fear arousal have involved the threat of death (Henley and Donovan, 1999). However, to our knowledge, only two studies have explicitly acknowledged the use of death threats: Johnson and LaTour’s study and Taubman-Ben-Ari’s study (Johnson and LaTour, 1991; Taubman-Ben-Ari, 2000). Johnson and LaTour’s fear topic was AIDS and, as their study was done in 1991, it is likely that the fear of death would have been aroused as a latent fear even in their low fear (non-death) respondents. In a study on unsafe driving, half of Taubman-Ben-Ari’s young male respondents were exposed to mortality-salience (asked questions about mortality or shown graphic consequences of a car accident) while half were not exposed to death imagery (Taubman-Ben-Ari, 2000). Taubman-Ben-Ari found that mortality-salience conditions seemed to encourage reckless driving in young men who derived some measure of self-esteem from their driving (Taubman-Ben-Ari, 2000). He concluded that arousing fear of death may be counterproductive in some cases.

Typically, when death threat appeals are used in health promotion they relate to the dimension of the subject’s own death (e.g. ‘Quit smoking or you’ll die of cancer’). However, death anxiety has many dimensions apart from the fear of one’s own death, e.g. fear of the process of dying, fear of missing out on a full life, fear of causing death, fear of the death of loved ones or the effect of one’s death on loved ones (Henley and Donovan, 1999). In a study on fear (Miller and Hewgill, 1966), the statement that received the highest mean rating (7.91) of 180 statements, indicating a strong generalized fear, was ‘I am afraid of losing someone dear to me’. The statement, ‘I am afraid of death’ rated much lower (M = 5.19), and below items concerning hurting other people’s feelings, having an unhappy life and failing to find a suitable mate. Hence death threats relating to the effect on loved ones may be more effective than death threats relating to the self. We decided to test young people’s response to a number of different dimensions of death threat: death per se, dying a painful death, missing out on a full life and the effect of one’s death on loved ones left behind.

**Method**

**Methodological issues**

Preliminary research was conducted prior to commencing the main study. Thirty-three in-depth interviews were conducted with experts and practitioners in the health promotion and road safety areas throughout Australia to explore their views on the use of death threat appeals. Six focus groups were conducted to explore people’s fears generally, and fears about death in particular, and to identify potential health risk behaviors suitable for the study. Then six pre-tests were conducted:

- To confirm that emphysema is an appropriate negative outcome, i.e. that both death and non-death messages relating to emphysema are plausible, credible and realistic.
- To confirm that the six messages on emphysema could be understood by the majority of people with secondary school education.
- To confirm that the threat of emphysema is generally perceived as sufficient to warrant attention but not so threatening, such that variations in the consequences in different messages would be obscured.
- To confirm that there are measurable variations in response to the six different messages.
To choose appropriate fear-arousing background music to add executional fear (two tests).

The ways in which this preliminary research informed the main study are discussed below.

A health risk behavior was sought that could realistically result in an illness or injury with either death or non-death outcomes. The qualitative research phase identified smoking as a potential health risk behavior suitable for this study. Smoking was chosen in preference to behaviors such as dental hygiene (where death was seen as a very unlikely consequence) or unprotected anal sex (where death was perceived as too likely a consequence of AIDS). Smoking was associated with a number of ill health effects, some of which have a high perceived likelihood of death (e.g., lung cancer), while others have a low association with death (e.g., reduced fitness).

A negative outcome of smoking was sought that could result in death but would not immediately be associated with death. Following pre-testing, emphysema was chosen as the primary negative consequence of smoking for this study. Smokers aged 16–50 years were asked the following three spontaneous association questions and were asked for multiple responses for each. The order was rotated across respondents:

- What comes to mind when you think of emphysema?
- What comes to mind when you think of AIDS?
- What comes to mind when you think of diabetes?

Some diseases were either strongly associated with death (e.g., AIDS, lung cancer and heart disease) or had a very low association with death (e.g., diabetes). Death was not mentioned by any respondents as a first response to emphysema, by only 6% as a second response and by only 13% in total.

Respondents then were asked to classify several diseases (AIDS, heart disease, prostate cancer, emphysema, diabetes, asthma, lung cancer, measles and mumps) according to these four categories:

- They will not live very long and will die of that disease, regardless of treatment they have.
- Treatment can let them live a long time, but they will probably die of that disease.
- Treatment can let them live a long time and they may or may not die of that disease.
- Treatment can let them live a long time and they will probably not die of that disease.

Only 17% of respondents thought that people ‘will die’ of emphysema compared to 65% for AIDS and 29% for lung cancer. There was a marked spread of responses to this question in relation to emphysema compared to most of the other diseases: a total of 48% of respondents said people ‘will die’ or ‘will probably die’ of emphysema, while 52% said people ‘may or may not die’ or ‘will probably not die’ of emphysema, or that they did not know. In contrast, 88% said people ‘will die’ or ‘probably die’ of AIDS, 71% that people ‘will die’ or ‘probably die’ of lung cancer and only 14% said people ‘will die’ or ‘probably die’ of diabetes.

As death was not given as an immediate or primary consequence of emphysema, latent fear of death should not be aroused in most people by messages about emphysema. This was important for the non-death threat condition. Equally important, however, was the finding that there were sufficient prompted responses naming death to conclude that death would be perceived as a realistic, credible consequence of emphysema. Further pre-testing with smokers indicated that most respondents perceived emphysema as severe (one of the worst things that could happen to them), reasonably likely to occur, difficult to cure and felt some fear when imagining being told they had the disease.

Hypotheses

Given the lack of previous definitive findings in the literature relating to death threats, the null hypotheses were stated:

H01: There will be no difference in young people’s (16–25 years old) response to death and non-death threats.

H02: There will be no difference in young (16–25 years old) and older (40–50 years old) people’s responses to death threats.
Death has many dimensions and the null hypothesis is also stated with respect to the different dimensions of death threat. However, there is evidence to suggest that a greater response could be expected to death threats relating to loved ones as people of all ages readily acknowledge their fears for loved ones.

H0: There will be no difference in younger people’s response to different dimensions of death threats.

**Stimulus materials**

Six messages were developed, two non-death threats and four death threats. A core message was constructed, briefly describing the cause and symptoms of emphysema. This constituted the Non-death Control message and formed the basis of all other messages. One additional non-death message elaborated non-death consequences of emphysema, i.e. being disabled and dependent on oxygen. Four death messages varied on the following dimensions: premature death *per se*, the process of dying, consequences to self of lost opportunities and the effect of one’s death on loved ones. The six messages are described below, but can be seen in full in the Appendix:

- Non-death—Control: core message including information about the disease but no stated consequences.
- Non-death—Disablement: core message plus statement about disabling, dependence on oxygen and loss of independence.
- Death—Control: core message plus statement that emphysema can lead to premature death.
- Death—Dying: core message plus statement that emphysema can lead to premature death and that death by emphysema is slow and distressing.
- Death—Missing Out: core message plus statement that emphysema can lead to premature death involving loss of opportunities.
- Death—Effect on Loved Ones: core message plus statement that emphysema can lead to premature death, and that this will cause significant others to experience grief and loss.

The six threat messages were produced on videotape. Each message was approximately 3 min long. The visual component consisted of printed text, displayed simultaneously with the voice, using a maximum of two sentences per screen. Two versions of the messages were produced, half with sobering music in the background, making a total of 12 threat conditions.

Each message contained efficacy statements. Efficacy has been identified as a major factor in threat appeals (Rogers and Mewborn, 1976; Beck and Frankel, 1981; Witte, 1992a,b, 1993, 1994, 1998; Snipes et al., 1999; Witte and Allen, 2000; Morman, 2000). Efficacy was not manipulated in this study. Rather, we attempted to control for efficacy by including statements in all the messages confirming the effectiveness of quitting smoking in stopping emphysema (solution efficacy) and that it is possible for anyone to succeed in quitting (self efficacy) (see messages in Appendix).

### ‘Response’

The response to the message was operationalized by the mean of a summed six-item scale ‘Response’. Cronbach’s $\alpha$ indicated high internal consistency ($\alpha = 0.9$). The six response questions were:

- Attitudinal response: ‘While watching this message, how strongly did you feel that trying to quit smoking is the sensible thing to do?’, ‘How much do you feel that, for you, trying to quit smoking is a good idea?’.
- Motivational response: ‘While watching this message, how strongly did you feel an urge to try to quit smoking?’, ‘How much influence did the message you have just seen have on making you think about trying to quit smoking?’.
- Intentional response: ‘How much, if at all, has this message increased or decreased your intention to try to quit smoking?’, ‘After watching this message, how likely is it that you will try to quit smoking in the next 2 weeks?’.

We referred back to the message in five of these six questions because we wished to elicit a response to the message, rather than the person’s usual
levels of motivation, intention and their attitudes towards anti-smoking messages.

**Procedure and sample characteristics**

The overall study design was a monadic, independent samples design. Non-probability convenience (mall-intercept) sampling was used with quota screening for age, gender and smoking behavior. We attempted to reduce the limitations of this sampling method by conducting the survey at different venues and different times. The survey was carried out by professional interviewers over a period of 16 weeks, on weekdays, Saturdays and late night shopping days. Three venues were used: a city center (Perth), a city shopping mall (Midland) and a suburban shopping mall (Cannington). All three venues were adjacent to outdoor facilities for smokers. Qualified respondents first answered several interviewer-administered questions and then were invited to a nearby test center to participate in a research study to obtain their opinions on health promotion messages. They viewed the message and then answered a self-completion questionnaire.

In total, 19,780 people were approached; 7,398 refused outright and 588 had previously completed the questionnaire. Interviewers discontinued 200 questionnaires due to language problems and 9,901 because they were not eligible. Only Western Australian residents who were smokers, who could read, who had not been diagnosed with emphysema and who were 16–25 or 40–50 years old were included in the study; 688 respondents passed the screening measures but refused to participate in the main survey. The market research agency conducting the intercept interviews stated that two-stage interviews requiring re-locating for the second stage usually result in this sort of percentage dropping out when asked to relocate. A further 1005 respondents were eligible and agreed to continue. Ten questionnaires were discarded because they were substantially incomplete or obviously unreliable, resulting in a total of 995 useable questionnaires.

The sample was designed to have approximately equal numbers of males and females in two age groups, 16–25 and 40–50 years, in each of the 12 threat conditions. Within the above age and gender quotas, respondents were randomly allocated to each message. Each respondent was exposed to one message only. Immediately after viewing the message, respondents were taken to another desk where they completed the self-completion questionnaire.

**Results**

A $2 \times 2 \times 2 \times 2$ (Death/Non-death $\times$ With Music/Without Music $\times$ Age ($16$–$25$ years/$40$–$50$ years) $\times$ Gender) Simple Factorial ANOVA was conducted for the dependent measure Response. For this analysis, the four death threats were combined to form the Death condition and the two non-death threats were combined to form the Non-death condition. The ANOVA results are shown in Table I. All measurements used Likert-type scales (1–5) where 1 indicated the lowest response.

Two preliminary findings are worth reporting. The main effect for death versus non-death threat was not significant, $F(1, 944) = 0.85, P > 0.05$. Death threats were not more effective overall than non-death threats. The main effect for the music manipulation was not significant, $F(1, 944) = 0.30, P > 0.05$, and there were no significant interactions with any other variables. Hence music is not entered as a separate variable in any further analyses. It is interesting that this manipulation failed to influence response. Given the sample size, the analysis had sufficient power to detect any differences.

There was no significant difference between the 16- to 25-year-olds’ Response to death versus non-death threats ($Ms = 3.30; 3.35$), $t(459) = 0.63, P = 0.53$, i.e. the null hypothesis $H_0^1$ was supported. There was an apparent significant main effect for age, $F(1, 944) = 7.80, P = 0.005$, with younger people responding more to all threats than older people. However, the study did not include a control group so it is not possible to conclude that this difference is in response to the stimulus.

The Response of 16- to 25-year-olds to death threats was significantly higher than 40- to 50-
Young people’s response to death threat appeals

Table I. ANOVA results for Death/Non-death × Music × Age × Gender for dependent variable ‘Response’

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>Sum of squares</th>
<th>d.f.</th>
<th>Mean square</th>
<th>F</th>
<th>Significance of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main effects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Death/Non-death</td>
<td>0.797</td>
<td>1</td>
<td>0.797</td>
<td>0.853</td>
<td>0.356</td>
</tr>
<tr>
<td>Music</td>
<td>0.284</td>
<td>1</td>
<td>0.284</td>
<td>0.304</td>
<td>0.581</td>
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<tr>
<td>Age</td>
<td>7.288</td>
<td>1</td>
<td>7.288</td>
<td>7.796</td>
<td>0.005</td>
</tr>
<tr>
<td>Gender</td>
<td>0.254</td>
<td>1</td>
<td>0.254</td>
<td>0.272</td>
<td>0.602</td>
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<tr>
<td>Two-way interactions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Death/Non-death × Music</td>
<td>2.086</td>
<td>1</td>
<td>2.086</td>
<td>2.232</td>
<td>0.136</td>
</tr>
<tr>
<td>Death/Non-death × Age</td>
<td>0.010</td>
<td>1</td>
<td>0.010</td>
<td>0.011</td>
<td>0.916</td>
</tr>
<tr>
<td>Death/Non-death × Gender</td>
<td>5.278</td>
<td>1</td>
<td>5.278</td>
<td>5.646</td>
<td>0.018</td>
</tr>
<tr>
<td>Music × Age</td>
<td>0.347</td>
<td>1</td>
<td>0.347</td>
<td>0.372</td>
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<tr>
<td>Music × Gender</td>
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<td>1</td>
<td>0.345</td>
<td>0.369</td>
<td>0.544</td>
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<tr>
<td>Age × Gender</td>
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<td>1</td>
<td>0.394</td>
<td>0.421</td>
<td>0.516</td>
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<tr>
<td>Three-way interactions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Death/Non-death × Music × Age</td>
<td>0.640</td>
<td>1</td>
<td>0.640</td>
<td>0.684</td>
<td>0.408</td>
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<tr>
<td>Death/Non-death × Music × Gender</td>
<td>0.946</td>
<td>1</td>
<td>0.946</td>
<td>1.012</td>
<td>0.315</td>
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<tr>
<td>Death/Non-death × Age × Gender</td>
<td>7.499</td>
<td>1</td>
<td>7.499</td>
<td>8.021</td>
<td>0.005</td>
</tr>
<tr>
<td>Music × Age × Gender</td>
<td>0.191</td>
<td>1</td>
<td>0.191</td>
<td>0.205</td>
<td>0.651</td>
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<td>Four-way interactions</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Death/Non-death × Music × Age × Gender</td>
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<td>1</td>
<td>0.166</td>
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<td>0.673</td>
</tr>
<tr>
<td>Explained</td>
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<td>1.826</td>
<td>1.953</td>
<td>0.016</td>
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<tr>
<td>Residual</td>
<td>882.547</td>
<td>944</td>
<td>0.935</td>
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<tr>
<td>Total</td>
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<td>959</td>
<td>0.949</td>
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</table>

Response of 16- to 25-year-olds to non-death threats was substantially, although not significantly, higher than 40- to 50-year-olds’ (Ms = 3.35; 3.18). The three-way interaction, Age × Gender × Death/Non-death, was significant, F(1, 944) = 8.02, P = 0.005. Figure 1 shows the mean Response of both age groups by gender. The Response of 40- to 50-year-old males to death threats was significantly higher than 40- to 50-year-old females’ (Ms = 3.24; 2.98), t(299) = 2.28, P < 0.05 and their Response to non-death threats was significantly lower than 40- to 50-year-old females’ (Ms = 2.96; 3.39), t(156) = −2.56, P < 0.05. The Response of 40- to 50-year-old males to death threats was substantially, although not significantly, higher than their Response to non-death threats (Ms = 3.24; 2.96), t(225) = 1.92, P = 0.056. Conversely, the Response of 40- to 50-year-old females to non-death threats was significantly higher than their Response to death threats (Ms = 3.39; 2.98), t(230) = −2.97, P < 0.01. No other interaction effects were significant.

The findings that emerged from this analysis were that 16- to 25-year-olds do not respond differently to death and non-death threats. Forty-to 50-year-old males and females do discriminate between death and non-death threats, but respond in opposite ways: 40- to 50-year-old females respond more to non-death threats and 40- to 50-year-old males respond more to death threats.

To test H03 relating to young people’s response to different death threat dimensions, a further analysis of the six individual threats was conducted: 6 × 2 × 2 (Individual Threats × Age × Gender) Simple Factorial for the dependent measure ‘Response’. These ANOVA results are shown in Table II.

The three-way interaction, Individual Threats × Age × Gender was significant, F(5, 936) = 3.086,
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$P < 0.01$. The means for 16- to 25-year-olds by gender are graphed in Figure 2 and for 40- to 50-year-olds by gender in Figure 3. There were no significant differences in the Response of 16- to 25-year-old males and 16- to 25-year-old females to individual threats, supporting null hypothesis H03. There were two significant differences in the Response of 40- to 50-year-old males and females to individual threats: for the Death threat Dying, the Response of 40- to 50-year-old males was significantly higher than the Response of 40- to 50-year-old females ($M_s = 3.43; 2.80$), $t(73) = 2.49, P < 0.05$. For the Non-death Control, the Response of 40- to 50-year-old males was significantly lower than the Response of 40- to 50-year-old females ($M_s = 2.69; 3.47$), $t(78) = -3.46, P = 0.001$. That is, the gender interaction noted above holds only for older respondents.

Briefly, 16- to 25-year-olds, both males and females, responded well to all threats, but especially to Non-death Disablement. Young people appeared most affected by threats to their mobility (or ‘freedom’) and to threats of pain (males). Forty- to 50-year-old males responded most to Death Dying, Death Control and to Non-death Disablement. They responded least to Non-death Control. That is, 40- to 50-year-old males appeared most affected by threats about death per se, loss of physical capability and pain. Conversely, 40- to 50-year-old females responded most to Non-death Control, Non-death Disablement and Death Effect on Loved Ones. In the present study, females did not respond well to Death Dying or Death Missing Out.

In summary, overall there was no significant main effect for death versus non-death threats. There was no age interaction with death versus non-death threats. Young people did not respond less than older people to death threats. In fact, young people’s apparent response to all threats,
Young people’s response to death threat appeals

Fig. 2. Response of 16- to 25-year-old males/females to individual threats.

Table II. ANOVA Results for Individual Threats×Age×Gender for dependent variable ‘Response’

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>Sum of squares</th>
<th>d.f.</th>
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<tr>
<td>Main effects</td>
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<td></td>
<td></td>
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</tr>
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<td>Individual Threats</td>
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<td>Age</td>
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<td>0.087</td>
<td>0.094</td>
<td>0.759</td>
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<tr>
<td>Two-way interactions</td>
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<td>Individual Threats × Age</td>
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<td>0.510</td>
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<td>Individual Threats × Gender</td>
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<td>2.595</td>
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<td>Age × Gender</td>
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<td>1</td>
<td>0.077</td>
<td>0.083</td>
<td>0.774</td>
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<td>Three-way interactions</td>
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<td>Individual Threats × Age × Gender</td>
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<tr>
<td>Total</td>
<td>909.937</td>
<td>959</td>
<td>0.949</td>
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including death threats was higher than older people’s. There were no significant differences in young people’s response to individual death threats. The significant Age × Gender interaction effects can be explained in the older people’s responses: older males responded more to death threats than older females while older females responded more to non-death threats than did older males, with one
exception: older females responded more to the death threat relating to the effect on loved ones.

**Discussion**

The study was conceptualized on the popular notion that young people, particularly young males, feel they are immortal. If the notion were true, we would expect that young people would respond poorly to death threat appeals. The findings of the present study did not support this notion: young people, both males and females, responded equally to death threats and non-death threats. This finding is supported by the literature on adolescent vulnerability (Quadrel et al., 1993). It could be argued that these young people believed they were immortal until exposure to the death threat in our study. At that point they were shocked into a higher response than expected when confronted with news of their own death. This would mean that they would have had to have been immune to all the other reminders of death in our society, including many exposures to social marketing messages threatening death. It seems unlikely that our low production value message would have penetrated where high production value, mass-media campaigns had made no impact. Even if that were true, it would indicate a much more fragile sense of immortality than the popular notion implies.

There was an apparent significant main effect for age in Response to all emphysema threats, with younger smokers (16- to 25-year-olds) indicating higher Response to all threats than older smokers (40- to 50-year-olds). However, without a baseline non-intervention control group we cannot conclude that this difference between younger and older adults is a difference in response to the stimulus. A control group of younger people may have exhibited higher baseline levels of Response. Other factors, such as credibility of the message, may have accounted for the difference. The 16- to 25-year-olds in the present study did rate the message significantly more ‘believable’ than the 40- to 50-year-olds, suggesting that older people
Young people's response to death threat appeals

may have been more critical (or cynical). Alternatively, younger people may pay more attention to messages generally and therefore be more affected by them. Dubow found that young people were more likely to recognize and recall advertisements than older people (Dubow, 1995). Ornstein suggested that the conscious mind pays more attention to unexpected or extraordinary events, particularly those relating to scarcity or danger (Ornstein, 1986). Hence, another explanation may be that the messages used in the present study were of more 'news' value to younger people than to older people, and that this factor might explain stronger attention, interest and, hence, response in younger people. Another possible explanation is that young people may be more involved in life and lifestyle decisions than older people who have already made most of the major life decisions (such as career, marriage and family), and there is evidence that higher involvement in an issue increases response (Petty and Cacioppo, 1979).

Curiously, our older females responded the way we thought our young males might respond, i.e. they responded more to non-death threats than to death threats. If the expectation regarding young males had been supported, it would have been reasonable to conclude that young males do, in fact, have a strong sense of immortality and that this served to reduce the salience of death threats in the present study. Perhaps the same hypothesis could be considered in relation to older females: do older females have a strong sense of immortality? There is another popular conception—that males 'empire-build' to establish their immortality, whereas, for women, bearing children fulfils the same purpose. This would fit with Lifton's symbolic sense of immortality, the feeling that one will live on in some way, e.g. through one's children (Lifton, 1977). If this hypothesis has validity, differences in response would be expected for women with and without children. However, this sample of 40- to 50-year-old women ($n = 240$) included only 19 who did not have children, so further research would be needed to test this possibility. The traditional care-giving role of women might explain the older women's response to threats of disability and to the effect on loved ones. (Younger women may not yet have adopted strong care-giving roles.)

It would be interesting to know how the 26–39 year olds would have responded, but limitations of cost meant that we were not able to include the middle age group in this study.

In summary, we wished to explore young people's response to the use of death threats in health promotion. If we had found significant differences in their response to death versus non-death threats, it would have been reasonable to suggest that practitioners adopt a segmentation approach when targeting young people in health promotion campaigns. Our findings indicated instead that a segmentation approach is recommended when targeting older males and females. The resultant different segments are substantial enough to be worth developing strategies for, relatively easy to measure and to access, and sufficiently different to warrant segmentation (Rossiter, 1987). One major benefit of segmenting is that previously neglected segments may be identified (Sheth, 1990) as would appear to be the case in this study.

Implications for practice

The implications for practitioners and researchers are significant. Practitioners in many countries have made extensive use of death threats in recent years, particularly in health and road safety campaigns, but without previous research to support this practice. When asked to consider the validity of using death threats, practitioners consulted in the qualitative research phase of this study were of the opinion that death threats may be useful for targeting over-40-year-olds but were not appropriate for campaigns targeting young people, particularly young males, who were perceived as feeling immortal (Donovan et al., 1995). This present study did not provide confirmation of the practitioners' opinion.

For mass communication health campaigns using threat appeals, two findings are especially significant. First, the finding that the non-death threat of disablement was an effective threat for males and
females in both age groups indicates that non-death threat appeals may be the preferred option when segmentation is not feasible. Secondly, the finding that only one death threat (relating to the effect of one’s death on loved ones) was effective with all segments indicates that this dimension of death threat may be preferred when death threats are deemed appropriate but segmentation is not feasible. In fact, health promoters have already been using this threat, e.g. in Australian anti-smoking campaigns where a child is depicted as grieving for a father or fearing the death of a father.

It may be useful for researchers in the area of threat appeals to be aware of the death/non-death threat dimension, and mindful about mixing death and non-death threat conditions. This has occurred frequently in the past where a non-death threat has been used in the low fear condition and a death threat used in the high fear condition. This study has clearly shown that death is not invariably the most effective threat. Non-death threats can be at least as effective for most people and apparently more effective for some.

Finally, this research suggests that younger smokers do respond to health threats, and perhaps even more so than older people, at least to the threat of emphysema. This is a finding that may give heart to practitioners seeking to persuade young people to adopt healthy behaviors so that they will be more likely to experience long-term health benefits throughout their life.

Acknowledgements

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References


Young people’s response to death threat appeals
Appendix: stimulus materials

‘Non-death—Control’—core message
Emphysema is a disease of the lungs. Your lungs are made up of tiny air sacs which transfer the oxygen you breathe in to the bloodstream. Emphysema happens when some of a person’s air sacs are damaged. The person then finds it hard to breathe, especially when doing any physical activity that requires extra oxygen, like climbing stairs.

Cigarette smoking causes emphysema in the following way. The body produces an enzyme to attack any particles that are breathed in, such as dust, bacteria and smoke that could harm the lungs’ air sacs. The body then produces a protein to stop the enzymes being produced. Cigarette smoke prevents the production of this protein so that the enzymes go on to destroy the air sacs themselves.

All smokers will suffer some damage to their lungs. If the damage is bad enough, the person will get emphysema. The more cigarettes smoked, the more air sacs are destroyed and the worse the disease. Emphysema is extremely rare in non-smokers.

The best way to avoid emphysema is to stop smoking. If you stop smoking now you will prevent further damage. It’s never too late to quit smoking.

‘Non-death—Disablement’ additional statement
At first, people with emphysema feel short of breath and may think this is just a sign of getting older or unfit. As the disease gets worse, feeling short of breath happens more often and normal daily activities become difficult. Ordinary things like taking a walk or a shower become very exhausting. People with emphysema usually live in a disabled state for many years, often in a wheelchair and dependent on an oxygen tank, leaving them frustrated, anxious and depressed.

The best way to avoid being disabled by emphysema is to stop smoking.

‘Death—Control’ additional statement
If bad enough, emphysema can cause early death. In 1992 in Australia, about 1500 people died early from emphysema caused by smoking, many in their 40s and 50s.

The best way to avoid dying early from emphysema is to stop smoking.

‘Death—Dying’ additional statement
If bad enough, emphysema can cause early death. In 1992 in Australia, about 1500 people died early from emphysema caused by smoking, many in their 40s and 50s. Dying from emphysema is like slowly suffocating over a long period of time. At the end, it is a very distressing way to die, with the person constantly gasping for every breath. This is definitely not an easy way to die.

The best way to avoid dying early from emphysema is to stop smoking.

‘Death—Missing Out’ additional statement
If bad enough, emphysema can cause early death. In 1992 in Australia, about 1500 people died early from emphysema caused by smoking, many in their 40s and 50s. People in their 40s and 50s who are dying have strong feelings of regret that they will not get the chance to do many things like watching their children grow up, playing with their grandchildren, finishing work, enjoying their retirement, perhaps finally traveling to all those places they always dreamed of seeing.

The best way to avoid dying early from emphysema is to stop smoking.

‘Death—Effect on Loved Ones’ additional statement
If bad enough, emphysema can cause early death. In 1992 in Australia, about 1500 people died early from emphysema caused by smoking, many in their 40s and 50s. People in their 40s and 50s who are dying worry a lot about the awful effect that their early death will have on the loved ones they leave behind. They know that their death will cause their partners and children terrible grief, and they will not be there to comfort them. They may realize that they haven’t saved enough to provide as much as they would have liked for their loved ones.

The best way to avoid dying early from emphysema is to stop smoking.