

“The Impulse to Rescue”: Rescue Altruism and the Challenge of Saving the Rescuer

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Rescuers who drown sacrifice their lives so that another might live; these drowning deaths are a particular challenge to prevent. In this research from Australia and the literature, we dissect and discuss the elements of “rescue altruism.” This 18-year critical incident population study identified 103 victims who drowned while attempting a rescue. In 74% of cases, the primary “victim” (rescuer) survived; 50% of rescuers were visitors not familiar with the water hazard; 67% of the drowned rescuers were related to the primary victim. None were professionally trained in aquatic rescue. We propose that rescue altruism is composed of (a) an ethos based on the Good Samaritan or Golden Rule ethic; (b) a subjective identity of the rescuer with the victim, intensified by a perceived duty-of-care relationship; (c) perception of risk in which the potential of rescue-resuscitation success is greater than zero; and (d) personal courage that ignores degree of risk. The unmet challenge therefore is to ensure all members of the public are equipped with lifesaving drills and skills to ensure their safety and those in their care.

The broad domain of drowning statistics comprises many distinct syndromes. The dynamics of the child who drowns in the family bathtub (Pearn, Brown, Wong, & Bart, 1979) are totally different from those which beset the adult fisherman who is swept from an oceanic rock ledge, or the victim of tsunami entrapment (Pearn, 1984, 2005). To be effective, preventive endeavors must identify such drowning syndromes in specific detail (Pearn, 1986a). Preventive approaches—whether primary (education, publicity of the risk, equipment design innovation, or legislation) or secondary (better rescue, first-aid or paramedic care; Pearn, 1999)—are effective only if designed for and targeted toward the specific type of drowning being addressed. Such approaches enjoin all—lifesavers, life guards, medical clinicians, and paramedics—who are professionally involved in resuscitation, rescue, and the emergency care of drowning victims.

The syndrome of the rescuer-who-drowns comprises a hitherto neglected and under-identified set of victims where preventive approaches are difficult. Rescuers who drown give their lives, involuntarily but altruistically. Primary vic-

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tims (rescues) include often a child (Franklin & Pearn, 2011; Turgut, 2011) or sometimes a pet or farm animal. Primary victims are usually persons related to or known to the “rescuer.” Almost all “rescuers” are untrained in simple water-rescue techniques (Royal Life Saving Society Canada, 2004). Most drowning prevention strategies have hitherto ignored this group, perhaps adopting a fatalistic approach in acknowledging a perceived impossibility of any potential success in the reduction of its incidence.

Every society lauds altruism and courage. In the British Commonwealth, nations bestow their highest accolades, the Victoria Cross and the George Cross, upon those who attempt to save the lives of others in the face of mortal risk. Twenty-two percent of Victoria Crosses have been bestowed posthumously (Pearn, 2011). More than 50% of the George Crosses bestowed in Australia have been posthumous awards (Wigmore & Harding, 1986). Such is a quantitative index of the degree of mortal risk encountered when a victim is about to die and instant dramatic action is needed for their rescue. Such is usually an impulsive response. In the Netherlands, a major study of 343 attempted rescues from drowning involved 262 bystanders (79%) who swam to rescue a victim (Venema, Groothoff, & Bierens 2010). In that study, 47% (162 rescuers) attempted an in-water rescue on their own initiative as they were the sole witness of the drowning event (Venema et al., 2010). We believe that the impulse to act is unlikely to be changed.

The general preventive approaches to the challenge of drowning involve the three primary strategies of education, ergonomic design, and legislation. Unlike the options available to reduce most drowning syndromes, we believe that the approach to prevention of the rescuer-who-drowns is primarily one of education and training and a more realistic understanding of human behavior (Pearn & Franklin, 2009; Sleet & Gielen, 2004). The literature is silent on this challenging subject. This syndrome presents a unique problem because of the paradox of lauding altruism on the one hand yet deploring its fatal outcome on the other. We report here a total population epidemiological survey of this syndrome and undertake an analysis of the “impulse to rescue.”

Method

We have reviewed every drowning death in Australia over an 18-year period (1 July 1992–30 June 2010). This analysis comprises a retrospective total population survey of fatal immersion injuries in Australia, a population of 22 million at the midpoint of time of the annual statistics reviewed in the study.

Total Population Series

Case finding involved review of all drowning fatalities, identified in a multiportal selection of primary statistical reports including the Annual Reports of the Australian Bureau of Statistics *Causes of Death, Australia, Annual Data* (Australian Bureau of Statistics [ABS], 1992–2007); case reports within the National (Australia) Coroners’ Information System (National Coroners Information System [NCIS], 2008); and annual *National Drowning Report* compiled by the Royal Life Saving

Society Australia (Royal Life Saving Society—Australia, 2012). Most cases, identified from the separate registers that were perused for these studies were multiply identified. A total of 5,594 unintentional drowning deaths occurred in Australia over this 18-year period. From these official sources, we have identified 103 incidents of fatal drowning where an individual had attempted to rescue an adult, child, pet, or other animal. Instances in which a child was the primary victim have been previously reported (Franklin & Pearn, 2011).

Critical Incident Analysis

Using the National (Australian) Coroners Information System (NCIS) data, we have identified 42 drowning fatalities from within the primary series of 103 drowning fatalities related to performing a rescue. This series comprises an unselected total population survey, albeit retrospective for the period 1 July 1992–30 June 2010. Using the detailed forensic information available from the NCIS, we have undertaken a Critical Incident Analysis of the Chain of Events leading to each of the 42 rescuers' deaths, for the period 1 July 2002–30 June 2010.

Critical Incident Analysis, developed by U.S. Army Air Force psychologists in the war period 1943–45 (Flanagan, 1954), led to the doctrine that final disaster is never the result of a single act, or omission but is the end result of a sequence of individual errors. In the context of immersion fatalities, this approach was followed in the Brisbane Drowning Study, which identified at least 16 links in the chain of immersion-hypoxia, “the drowning chain” (Nixon, Pearn, Wilkey, & Corcoran, 1986; Pearn, 1985). Using this approach, in this current study we have reviewed the full details of each of 42 drowned rescuer-victims identified in a national (Australian) coronial series as one subset of all fatal immersions (1 July 2002–30 June 2010) over this 15-year period.

Results

Over the period 1 July 1992–30 June 2010, 103 people drowned while attempting a rescue, of which 90% were male (Figure 1). The age groups of the rescuers who drowned included three (3%) 0–14 years, 17 (17%) 15–24 years, 24 (24%) 25–34 years, 30 (29%) 35–44 years, 18 (18%) 45–44 years, 8 (8%) 55–64 years, and 3 (3%) 65 years and older. All 10 (10%) females who drowned were in the 15–44 years age groups.

Details of the 42 deaths from the National (Australian) Coroners Information System where the details of the rescue are known are summarized in Table 1. The locations of the drowning incidents were beach (38%); river, creek or stream (21%); ocean, harbor, estuary or bay (19%); and lake, dam or lagoon (14%). Fifty percent of victims were international (29%) or interstate (21%) visitors not familiar with the water hazard in question. Of those who attempted the rescue, parents comprised 40% of victims. Another 26% were other relatives (uncle, brother, son, etc). A child was the primary victim (rescuer), whose perceived drowning was the cause of the rescue attempt, in 59% of cases. In 74% of the cases, the primary “victim” (rescuer) survived. (Table 1)

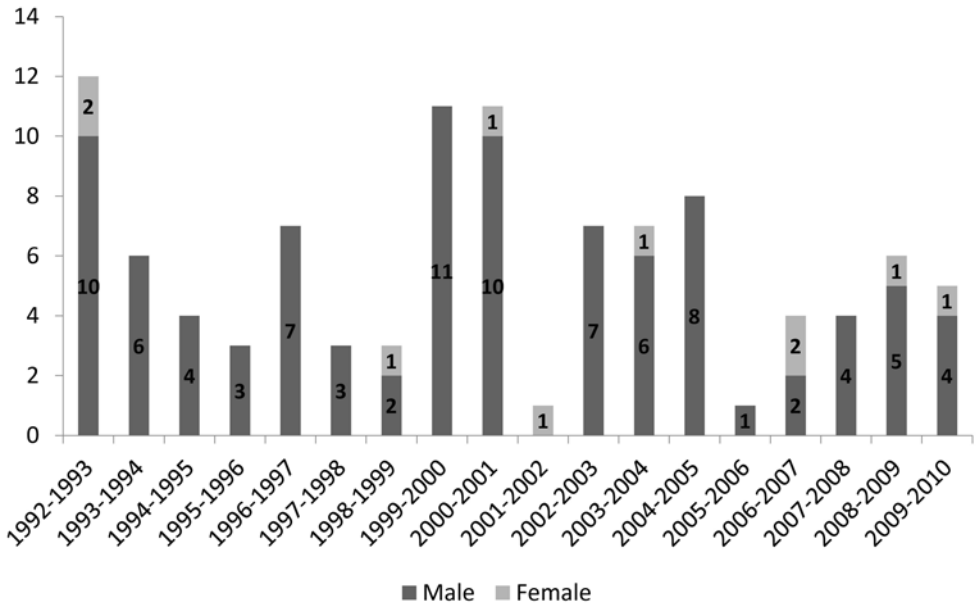


Figure 1 — Rescuer-victim deaths by drowning, by financial year and sex, 1 July 1992–30 June 2010, Australia.

Discussion

Attempting an in-water rescue, especially by untrained bystanders, is notoriously dangerous with the significant likelihood of death (Browne, Lewis-Michel, & Stark, 2003; Dahl & Miller, 1979; Ducharme & Lounsbury, 2007). How serious the risk is (in quantitative terms) remains unknown as baseline denominators are never calculated. In this type of drowning syndrome, such exposure denominators are unknowable, but as can be seen in this study, death is a regular occurrence from this activity (average 5.7 deaths per annum). If a rescuer is successful because the victim remains conscious or recovers consciousness following resuscitation at the incident site, the potential drowning event is not reported and its circumstances lost.

This analysis and our experience leads us to believe that preventive endeavors to reduce the incidence of this syndrome, the aquatic victim-instead-of-rescuer (AVIR) syndrome (Franklin & Pearn, 2011), can be approached only by an analysis of the altruism that underpins it, combined with a more vigorous promotion of basic life saving skills—especially those of noncontact rescues and resuscitation training to the general public (Pearn & Franklin, 2009).

Rescue Altruism

Individual instances of rescue altruism comprise a hierarchy of laudable responses to the threat of death. In philosophical terms, there exist three ethically-distinct, hierarchical themes—duty, supererogation, and altruism.

Table 1 Details of Rescue by Relationship of Rescuer to Potential Drowning Victim (Rescued), 1 July 2002–30 June 2010, Australia

	Family Member	Friend	No Relationship	Other / Unknown	Owner	Total (N)	Total (%)
Aquatic Location							
Coastal	19	4	3	1	0	27	64
Inland still water	4	0	0	1	1	6	14
Inland flowing water	5	2	0	1	1	9	21
Visitor Status							
Visitor	16	2	3	0	0	21	50
Not a visitor	6	3	0	2	2	13	31
Unknown	6	1	0	1	0	8	19
Survival status of Rescued(s)							
Survived	21	4	3	1	2	31	74
Drowned	7	2	0	0	0	9	21
Unknown	0	0	0	2	0	2	5
Age group of Rescued							
Child	22	0	2	0	0	24	57
Adult	5	6	1	1	0	13	31
Adult and Child	1	0	0	0	0	1	2
Animal	0	0	0	0	2	2	5
Unknown	0	0	0	2	0	2	5
Total	28	6	3	3	2	42	100

Duty is defined as a subjective feeling of obligation. In certain aspects of resuscitation work and lifeguarding, subjective duty also has legal overtones of an implied or explicit duty of care. Salaried lifesavers, paramedics, police, and doctors are expected to act to the highest ethical standards, despite personal risk. It has been said that “this is an inevitable concomitant of their fiduciary [or professional] relationship with their patients, and is thus separate from, although occasionally overlapping with, altruism” (Glannon & Ross, 2002, p. 68). In certain relationships there is a duty to act beneficently (McLean, 2003). Nevertheless, duty is philosophically distinct from beneficence (McKay, 2002). Duty is worthy, but in many instances is not regarded as a virtue. In almost all incidences, its willful dereliction is regarded as a moral failing. The omission to act to save someone is usually judged less morally reprehensible than a positive act to produce death, although such dereliction is judged harshly if the full circumstances of a “walk-away” omission to act is known to others (DeScioli et al., 2011).

Supererogation, in contrast to duty, is that act of “doing more than is required by duty”. (McKay, 2002)

Altruism belongs to a distinct, higher ethical category than duty (Downie, 2002). We define altruism as supererogation that also involves personal risk. Many who attempt to rescue a drowning victim would regard it as simply a duty in the context of their prior ethical upbringing. In the underlying subjective dynamic that drives a person to act under these circumstances of life threatening emergency, an element of courage is inescapable.

We posit that four basic elements comprise altruism. The first is an *a priori*, subjective, higher ethic of a concept of duty and obligation to others. The second is an identity with an individual who needs help. The third is a perception of what philosophers call “utility”—that is, a concept of benefit, however fleetingly or incorrectly perceived, that there will be a successful outcome. The fourth element is that quality, indefinable for many, which is variously called “courage,” “valor,” or “gallantry.”

The baseline or strategic background in which altruistic acts are performed is the broad generic acceptance of the ethic of the Good Samaritan (Pearn, 2000b) or the underlying humanist ethic of the Golden Rule. A personally-held identity with this higher ethic, as a baseline mindset, is probably “necessary but not sufficient” for a person to respond proactively to any emergency, should the latter occur. Altruistic acts are performed by individuals with a prior higher ethic, learned primarily in childhood but reinforced in adult life (Pearn & Gardiner-Medwin, 2003). In one’s everyday life, one imagines that one would, or should, do everything one can to help someone in trouble in a nonspecific scenario in an imagined future. Most individuals with an upbringing in the Judeo-Christian, Buddhist, Hindu, Muslim, or secular Humanist tradition would imagine, in a nonspecific way, that they would “step forward” and “do the right thing” if someone needed rescue.

The second component of altruism, that of identity with the drowning victim in his or her plight, implies an *a priori* relationship or a perceived personal “duty of care.” One cares for children, friends, and mates because that is what such relationships imply. A *sine qua non* of friendship is an understanding that care will be offered if needed. The fact that 60% of “rescuers” in the current study were blood

relatives of the victim illustrates this point. Two of the victims died trying to save animals in their care (a dog and a horse), again illustrating the intensity of this sense of duty to a vulnerable individual where the “rescuer” perceives, in the drama of the moment, a duty of care. A perceived duty of care seems to be intensified by the more subservient the relationship of the victim is to the potential rescuer. The absolute duty-of-care nature of the parent-child dyad is the most obvious form of fundamental identity of a drowning victim. This may lead to instances of the aquatic victim-instead-of-rescuer (AVIR) syndrome, which involves an unthinkable terrible choice—those instances where several children are drowning and a potential rescuer has to decide which child to save. This is an example of the ethical Doctrine of Double Effect (Gillon, 1986). Whichever child is selected for the initial rescue, the other(s) will likely drown. The same ethical dilemma confronts those making a decision to surgically separate some types of Siamese twins—where without intervention both will die, and with intervention one must die (Pearn 2001).

The third element of altruism is that of perception of subjective risk (Pearn, 1977). This is distinct from the concept of absolute mathematical risk (Pearn, 1973). This latter is irrelevant in the mind of the bystander making an instant judgment whether to subject himself or herself to the risk of death. In the drama of the moment, all potential rescuers believe that the risk to their own lives is less than 100%. That is one reason why they act impulsively. This may differ from that other type of gallantry or valor, where an individual performs an altruistic act that is premeditated and reasoned, and where he or she knows that they will die as the result of their action to benefit another (Pearn, 2011). The issue has relevance to current debates about euthanasia, where there is concern that the rates of altruistic suicide may be increased by physician-assisted death, an issue particularly involving those of senior years. In the rescue-resuscitation context, the differential perception of risk is exemplified by studies where it has been shown that many bystanders “are prepared to put their own lives at risk [by swimming to rescue a drowning victim] but is in contrast to publications that describe that the majority of bystanders have a fear of providing mouth-to-mouth ventilation to strangers” (Venema et al., 2010).

The fourth element of altruism is that indispensable component, courage. Many have addressed the question “what is courage?” It is important to make the distinction between “moral courage” and “courage” more generally. Courage may be directed to an unethical end—such as a bank robber displaying personal courage but for an infamous reason (Schlegelmich, 1998). Moral courage is the element that underpins many secondary virtues such as endurance, loyalty, and honesty (de la Billière, 1977). In his oft-quoted essay, *Courage*, the playwright J.M. Barrie wrote that courage requires three internalized personal elements—a challenge in which personal risk was perceived, an internal “fight to overcome it,” and success in such self-control of fear, which leads to action (Barrie, 1922, p. 3).

To some, courage is seen as more than a response to an externally imposed duty (Archives, Public Records Office [UK] 1975). Lord Moran (1882–1977) wrote in his book, *The Anatomy of Courage*, that the essential element is

the willpower to handle the instinctive reaction to fear, the [natural] response to the instinct of self-preservation in danger. (Moran, 1945)

General George S Patton said that “courage is fear holding on a minute longer.”

Those familiar with trauma, resuscitation, and injury prevention work know that, in Kipling's words, "every conceivable variety of heroism" is called upon (Carrington, 1955, p. 316) and that in all trauma work, courage, whether it be described as "valor," or "gallantry," or "bravery" has many faces. Courage may be needed simply to discharge a duty, but in common use, usually embodies the concept of going beyond any society-promoted or self-imposed duty. In the context of saving life, it is to be afforded the highest accolade. To champion courage, yet reduce the risk of realized death to such altruistic bystanders, we believe, can only be achieved by equipping all persons with basic rescue and resuscitation skills.

Rescue-Resuscitation Skills

Primary prevention stratagems to reduce the incidence of rescuer-victim syndrome include such themes as improving discipline at water hazards, improving hazard signage, and promoting the provision of static life-buoys at known trouble spots. Such includes high-profile flotation aids at rock ledges where fishermen congregate. High-profile intermittent promotion of public warnings of the hazards of flood-prone streams and culverts are also important. In spite of these approaches, altruistic rescuers will always impulsively attempt to save drowning victims. We laud this; but once a potential drowning sequence has been initiated, any reduction of the fatality rate can be achieved only by that of *a priori* training of the general public. Such particularly includes parents.

Training in cardio-pulmonary resuscitation, water safety promotion, and basic lifesaving skills are part of secondary education stratagems in the reduction of drowning deaths (Marchant et al., 2008; Pearn, 1985,1999; Pearn & Nixon, 1979; Venema et al., 2010). As the need to effect an aquatic rescue can confront a bystander at any time, and as many so confronted will act altruistically, the solution is to equip all with the "tools for heroic acts" (Franklin & Pearn, 2011). Such will reduce the risk of rescuer deaths and increase the likelihood of saving the primary victim. Specialist swimming and body-contact rescue skills are the province of professional lifesavers and life guards. By contrast, in the context of the general public (i.e., those who are involved in opportunistic bystander aquatic rescues), the basic paradigm of public-access water safety is to teach rescue techniques without placing the rescuer at risk—if at all possible by noncontact outreach, a fundamental principal involved in all international "Aqua Codes" (Franklin & Pearn, 2011; Pearn & Franklin, 2009). The teaching of basic line-throwing skills is important in this context. It has been shown that only 20% of untrained adults can throw a line within two meters of a target at a first attempt. In the heat of the moment, 20% do not secure the end of the flung rope. Trained children can affect a 10 meter accurate throw and pull a potential victim to safety with a median lapsed time of 23 s (Pearn & Franklin, 2009).

Eisenburger and Safar in 1999 highlighted the importance of motivational outreach to induce more members of the general public to learn basic resuscitation skills (Eisenburger & Safar, 1999). In this context outreach messages to learn basic noncontact rescue and resuscitation skills, directed at particularly at parents of young children, will empower them to be safer first responders as incidental bystanders of life-threatening events, which can confront anyone at any time (Pearn, 1986b, 2000a; Pearn et al., 2008).

Conclusion

It has been said that the prevention of injury is a challenge as great as the cure for cancer (Pearn et al., 2004). Certainly, many injury reduction rates generally and some drowning rates specifically have lagged behind secular trends in the reduction of cancer deaths. Saving the rescuer, like saving victims of some types of malignancies, has to date proved resistant to a successful “cure.” Such success lies in acknowledging the heroism of bystander-rescuers and the unchangeable impulse to rescue. We believe that in many cases, such heroism can thus be bought at less than fatal risk by equipping them with the skills to better achieve the purpose of their altruistic acts.

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