
The Heroism of Women and Men

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Heroism consists of actions undertaken to help others, despite the possibility that they may result in the helper's death or injury. The authors examine heroism by women and men in 2 extremely dangerous settings: the emergency situations in which Carnegie medalists rescued others and the holocaust in which some non-Jews risked their lives to rescue Jews. The authors also consider 3 risky but less dangerous prosocial actions: living kidney donations, volunteering for the Peace Corps, and volunteering for Doctors of the World. Although the Carnegie medalists were disproportionately men, the other actions yielded representations of women that were at least equal to and in most cases higher than those of men. These findings have important implications for the psychology of heroism and of gender.

The human propensity to commemorate heroes appears to be a universal feature of human culture. Heroes are honored in ancient cave paintings and in folklore and myth. Societies transmitted stories of heroism in oral traditions and molded legends, folktales, and myths into poems, epics, and eddas (Carlyle, 1891; Hook, 1943; Klapp, 1948). Contemporary societies maintain the tradition of honoring heroes not only in literary works but also in film, television, and journalism. One striking feature of the heroes who have achieved public recognition is that they are almost exclusively male. The phenomenon that we evaluate in this article is the resulting cultural consensus that "The hero is undeniably *he*, the male of the human species" (Lash, 1995, p. 5). To explore this prominence of heroic men and the apparent infrequency of heroic women, we define heroism and evaluate contexts in which heroic behavior occurs more often in one sex¹ than the other. The empirical evidence that we present consists of behavior that arises from real-life decisions of men and women who have faced different degrees of danger in a variety of situations. Finally, we evaluate whether the position of men and women in society has created differential access to achieving recognition and commemoration for one's heroic acts.

In Western culture, the linking of heroism and masculinity can be traced in myth and religion. Myths of the creation of humans featured heroes who succeeded in bringing forth humans or endowing them with the wisdom to cope with their environments. Given the association of women with procreation, it is not surprising that the heroes of early creation myths of Western cultures included deities of both sexes. Many goddesses such as Isis, Ishtar, Inanna,

Demeter, Cybele, and Cerridwen were portrayed as the equals of gods and as possessing powerful natural forces of fertility and creation (Monaghan, 1990; Stone, 1978). Nonetheless, male deities became more prevalent over time, and goddesses, to the extent that they continued to exist, came to play subordinate roles. When monotheism developed, there remained no possibility of intertwined pantheons of male and female deities. Fueled by medieval chivalric codes as well as shifts in religion, conceptions of ideal male behavior in Western culture came to feature courageous behavior in the service of others (Hearnshaw, 1928; Keen, 1984). In this article, we consider the extent to which this cultural association of heroism with men and masculinity is congruent with evidence of heroic behavior in natural settings.

Definition of Heroism

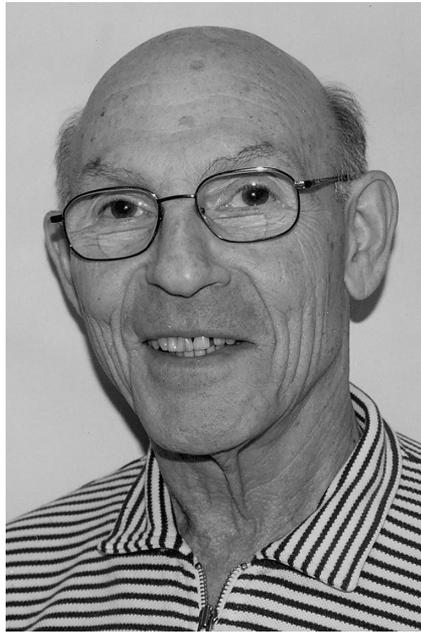
To begin this analysis, we first define *heroism*. Whereas heroes and heroism are generally defined in terms of courage and risk of one's life as well as nobility of purpose (e.g., American Heritage Dictionary, 2003; Oxford English

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¹ In this article, the term *the sexes* denotes the grouping of people into female and male categories. The terms *sex differences* and *sex similarities* are applied to describe the results of comparing these two groups. The term *gender* refers to the meanings that societies and individuals ascribe to female and male categories. We do not intend to use these terms to give priority to any class of causes that may underlie sex and gender effects.



Selwyn W. Becker

Dictionary, 2003), these definitions do not clearly indicate that it is the conjunction of risk taking and service to a socially valued goal that yields heroic status. Yet, actions that have both of these attributes are far more likely to yield heroic status than actions that have only one attribute. Thus, people who take risks merely for pleasure or to attract attention, as in extreme sports, are not deemed heroic, nor are people who serve valued social goals without risk to their own life or health, as in community volunteering. Consistent with our definition of heroism, the Carnegie Hero Fund Commission, which was established by Andrew Carnegie (1907) to honor heroes, recognizes the necessity of both risk and service to others in identifying heroes as individuals who voluntarily risk or sacrifice their life for others' benefit (Carnegie Hero Fund Commission, 2002). Consistent with this definition, actions recognized as heroic are ordinarily performed voluntarily in the sense that they are not coerced by external pressures or at least go beyond the bounds of the behavior ordinarily induced by external pressures, as in the case of military heroism. In this article, we therefore consider as heroes only individuals who choose to take risks on behalf of one or more other people, despite the possibility of dying or suffering serious physical consequences from these actions.

Heroism can be identified within the broader category of prosocial or helping behaviors,² most of which do not involve much risk to the helper. It is the acceptance of risk to one's life that calls for valor or courage and thus transforms prosocial behavior into heroism. These actions, like other prosocial behavior, need not be motivated by pure altruism in Batson's (1991) sense of "a motivational state with the ultimate goal of increasing another's welfare" (p. 6). As we illustrate in this article, various motives could

underlie helping another person by means of acts dangerous to oneself. Before examining heroic actions of women and men, we consider some insights about heroism that emerge from psychological theory and research.

Psychological Theory and Research Relevant to Heroism in Women and Men

Our requirement that heroism involves an unusual amount of risk to one's life or health in helping one or more other people frames our discussion of two themes: the psychology of risk taking and the psychology of manifesting empathic concern with others' welfare. We take into account several bodies of theory and research that consider gender in relation to each of these themes.

The Relation Between Gender and Risk Taking

Consideration of risk taking as sex typed emerges mainly in two theoretical traditions: analyses of the male gender role and of the possible evolutionary origins of sex differences in the propensity to take risks. Role theorists identify societal influences that produce a socially constructed male gender role, defined as shared expectations about how men do and should behave (Eagly, Wood, & Diekmann, 2000). Many analyses of the male gender role have included the element of risk taking. For example, David and Brannon (1976) maintained that the essential themes of masculinity encompass the idealization of "reckless adventure, daring exploits, and bold excesses of all kinds" (p. 30), and Levant and Kopecky (1995) similarly included risk taking and the ability to remain calm in the face of danger as aspects of the male role. Thompson and Pleck's (1986) questionnaire measure of masculine ideology included items expressing bravado and a taste for danger. Also, Mosher and Sirkin's (1984) effort to assess an extreme version of the male gender role yielded a Hypermasculinity Inventory that included a Danger As Exciting subscale. In support of such analyses, numerous studies of gender stereotypes have shown that the male gender role—or cultural stereotype—includes attributes such as daring, adventurous, calm in a crisis, willing to take risks, and stands up under pressure (e.g., Broverman, Vogel, Broverman, Clarkson, & Rosenkrantz, 1972; Diekmann & Eagly, 2000). In a cross-cultural study of gender stereotypes, J. E. Williams and Best (1990) found that the traits of daring, adventurous, and courageous were associated more with men than with women in all 25 nations that they examined.

Role theorists ascribe these qualities and other aspects of gender roles to the distribution of women and men into different specific roles in societies and to the tendency for social perceivers to assume correspondence between the behaviors demanded by roles and the dispositions of role

² Given the varied definitions of the term *altruism* in psychology and evolutionary biology (Sober, 2002), we favor the term *prosocial behavior* to describe behaviors that benefit others.



Alice H. Eagly

occupants (e.g., Eagly et al., 2000). Because men are more likely than women to occupy social roles that require taking actions entailing risk to one's life (e.g., warrior, fire fighter), men are imputed to have the role-consistent characteristic of the propensity to take risks. Men's occupancy of these roles derives primarily from their greater physical prowess and the restrictions that women's reproductive activities place on women's activities in many environments (Wood & Eagly, 2002). To prepare boys for these adult role occupancies, they are socialized to take risks (e.g., Goldstein, 2001). For example, mothers reported slower and less frequent interventions and cautions directed to sons than to daughters in situations of potential physical injury (Morrongiello & Dawber, 2000). Moreover, men's positioning in society as eligible for rewards of power and high status that have generally been inaccessible to women may produce more striving among men for the public recognition that allows them to rise in social hierarchies (Baumeister & Sommer, 1997). For men but not women, risks taken may yield large gains of status and power.

Evolutionary psychology offers a different perspective on risk taking by assuming that humans evolved in a context in which ancestral men competed with one another for sexual access to women. As a consequence, men, more than women, learned to take risks, especially in the form of dangerous competitive interactions with other men, presumably because these qualities increased ancestral men's access to the resources and status that enhanced their mating opportunities (Daly & Wilson, 1988). From this perspective, risk taking is an "evolved aspect of masculine psychology as a result of sexual selection" (Wilson & Daly, 1985, p. 66). Men thus "engage in dangerous confrontations and other forms of risky behaviour where the reward

is an elevation of status in the local community" (Campbell, 1999, p. 204). Although the emphasis in such discussions is often on men's violence toward one another, the reasoning of evolutionary psychologists also suggests that a portion of men's risk taking could be deployed in the service of other members of their group. Such behavior could yield rewards of increased power, status, and mating opportunities.

Some evolutionary psychologists have argued not only that men evolved a tendency to take risks but also that women evolved a tendency to avoid them (Campbell, 1999). If mothers' care was more crucial than fathers' care to the survival of offspring, women may have evolved a strong concern with merely remaining alive because their nurturing was crucial to increasing their children's chances to survive. By Campbell's (1999) argument, women are more avoidant of danger than men and generally more fearful and anxious.

The quite diverse paradigms used in psychological research designed to study risk taking have provided modest support for theories predicting that men take more risks than women. A large longitudinal study of adolescents' tendencies to engage in risky or problem behaviors found weak associations between gender and varied risky behaviors, $r(1976) = .18$, and thrill-seeking behaviors, $r(1976) = .22$ (Cooper, Wood, Orcutt, & Albino, 2003). In Byrnes, Miller, and Schafer's (1999) meta-analysis of research on risk taking, men appeared to be slightly more likely than women to engage in risky behavior (mean $d = 0.13$), although this sex difference showed a secular trend of decreasing magnitude over the years in which this research was conducted. However, given ethical restraints on psychological research, behavioral studies of risk taking conducted in psychological laboratories do not encompass situations in which loss of life or serious injury are genuine possibilities. Nonetheless, using self-report or observational methods, investigators of risk taking have examined some relatively dangerous behaviors—for example, drug use, unprotected sex, risky driving behavior, and hazardous recreational pursuits. Studies of some of these types of risk taking produced larger effect sizes than studies in laboratory paradigms (Byrnes et al., 1999). As evidence for men's risk taking, evolutionary psychologists commonly have pointed to the greater prevalence of violent behavior, especially homicides, in men than in women as well as men's higher accident rates, especially among younger men (Wilson & Daly, 1985). In the United States, men currently account for 82.6% of arrests for violent crime and 89.2% of arrests for murder and nonnegligent manslaughter (Federal Bureau of Investigation, 2002, Table 42). Also, men's death rate from accidents is 2.2 times that of women, and their death rate from homicide is 3.3 times that of women (National Center for Health Statistics, 2003, Table C).

It is notable that studies of risk taking rarely examined behaviors that are prosocial in the sense that they benefit others. Also, perhaps reflecting infrequent observation of situations involving extreme risk, most psychologists have

not taken into account the influence of physical prowess on risk taking. Some dangerous actions are more safely executed by people who are physically strong and trained in the relevant physical skills (e.g., rescuing potential drowning victims). Men's greater size and upper-body strength would contribute to their risk taking when physical demands are high, although most risky actions would not be selective in this manner.

The Relation Between Gender and Manifesting Empathic Concern With Others

In contrast to psychologists' attention to risk taking in understanding male psychology, their consideration of empathic concern with others has more often arisen in theories of female psychology. For example, Gilligan (1982) maintained that the moral reasoning of women and men differs, with women's reasoning tending to display a logic based on caring and responsibility to others, and men's displaying a logic based on rights and abstract principles. In addition, many feminist scholars have emphasized that women, especially mothers, are expected to place the needs of others before their own (e.g., Chodorow, 1978; Miller, 1976). In concert with these analyses, the female gender role features norms fostering nurturing and caring behavior. Numerous studies of gender stereotypes (e.g., Diekmann & Eagly, 2000; Spence & Helmreich, 1978) have shown that social perceivers ascribe to women, more than to men, prosocial qualities such as helpful, kind, compassionate, and devoted to others. J. E. Williams and Best (1990) found that the traits of helpful and kind were associated more with women than men in 23 of the 25 nations that they examined. From a social-role perspective, these traits are expected to be stereotypic of women. Because women are more likely to occupy social roles that require caring for others (e.g., mother, teacher), women are thought to have role-consistent characteristics (Eagly et al., 2000) and are socialized to embody them (e.g., Barry, Bacon, & Child, 1957; Whiting & Whiting, 1975).

Although evolutionary theory offers varied accounts of human prosocial behavior (i.e., altruism; see G. C. Williams, 1999), a recent analysis, supported by physiological and behavioral evidence, focused on women's tendency to behave supportively toward others in situations of stress or danger. Thus, Taylor et al. (2000) maintained, like most evolutionary psychologists, that women evolved to maximize not only their own survival but also that of their children, consistent with the greater parental investment of women than men (Trivers, 1972). Taylor and her colleagues argued that women's evolutionary history of responsibility for children's welfare led not only to the avoidance of risk emphasized by Campbell (1999) but also to the development by women of a "tend and befriend" response to stress (p. 411). By this argument, women's actions in stressful situations, facilitated by oxytocin and female reproductive hormones, focus on protection of their offspring from harm and affiliation with others that reduces risk. Women's prosocial concern with others could thereby de-

rive from an evolved disposition fostering supportive behavior toward them.

Empirical evidence consistent with the cultural stereotype of women as manifesting empathic concern for others emerges from studies of social values and attitudes, personality traits, moral reasoning, close relationships, and community volunteering. The social values of young women in the United States reflect greater concern with and responsibility for others' well-being than do the values of young men (Beutel & Marini, 1995), and women's attitudes on social and political issues suggest greater social compassion (Eagly, Diekmann, Johannesen-Schmidt, & Koenig, 2003). In a meta-analysis of research examining sex differences and similarities in personality traits, women manifested higher levels than men of tender-mindedness and nurturant concern with others (mean $d = -0.75$; Feingold, 1994). Gilligan's (1982) claims about the caring, relational emphasis of women's moral reasoning have received modest empirical confirmation in Jaffee and Hyde's (2000) meta-analytic integration of estimates of the care orientation (mean $d = 0.28$). In research on friendship, women, more than men, tend to be relatively cooperative, intimate, and emotionally supportive (see Cross & Madson, 1997; Reis, 1998), and people typically prefer to receive emotional support from women (Burleson, 2002). In addition, women in the United States are more likely than men to manifest concern for others as a by-product of their greater representation in organizational volunteer roles (Volunteering in the United States, 2002) and in family and occupational roles that require caring for others (Cancian & Olicker, 2000). Despite these findings, some researchers have found that men and women have similar emotional responses to others' distress when assessed by physiological and unobtrusive measures (Eisenberg & Lennon, 1983) and similar emotional responses more generally (Robinson & Clore, 2002). Nonetheless, women, more than men, express many types of concern for others in their beliefs, attitudes, and overt behavior. It is of course overt behavior that provides evidence for the identification of heroes.

Heroism and Gender

Our review of research on the behavioral tendencies that we presume are most important to heroism—taking risks and manifesting empathic concern with others' welfare—shows that they are gender stereotypical and somewhat sex typed in varied empirical assessments. Assumptions regarding the roots of the sex differences in these tendencies are quite different in theories emphasizing social roles and those emphasizing evolved dispositions. Whatever the origins of these tendencies, if heroism requires both risk taking and the behavioral expression of concern for others, it might be reasonable to expect that heroic behavior is supremely androgynous. Although the physical demands of some heroic acts and the exclusion of women from social roles and social contexts might depress female participation, many heroic acts would not reflect these restrictions. Without such restrictions, the association of risk taking with cultural definitions of masculinity and of empathic

concern for others with cultural definitions of femininity would lead to the prediction that heroic behavior is not distinctively associated with either sex.

Such possibilities have not been investigated because of the limitations of conventional research methods. Despite the popularity of research on bystander intervention in emergency situations (e.g., Latané & Darley, 1970), its implications for heroism are limited because the dangers that the participants faced did not threaten them with death or physical injury. Therefore, to study heroic behaviors, we sought data from situations in which people voluntarily exposed themselves to life- or injury-threatening dangers in attempting to help others avoid some calamity. To study the behavior of both sexes, we limit this analysis to situations in which men and women had relatively equal opportunity to provide such help and omit settings that generally exclude women (e.g., military battles). Because the settings that meet our requirements vary in degree of danger, we place most emphasis on two data sets that document prosocial behavior that entailed a substantial risk of death. We thus first consider the recipients of the Carnegie Hero Medal, individuals honored for risking their lives by rescuing others in situations such as fires and potential drownings. We then evaluate individuals honored as the Righteous Among the Nations, non-Jewish individuals designated as having helped Jews avoid being killed by the Nazis during World War II. We also consider three other categories of individuals who performed prosocial acts involving considerable physical risk, albeit little likelihood of death: living kidney donors, Peace Corps volunteers, and Doctors of the World overseas volunteers.

Study of these five groups permits us to examine the ideas that heroism is practiced by women as well as men but that, depending on the specifics of heroic acts and their situational context, one sex may participate more than the other. By considering a range of naturally occurring phenomena that satisfy to differing degrees the definition of heroism, we also respond to Tinbergen's (1963) complaint that psychologists neglect to study phenomena in varied natural environments before they fashion generalizations that they enshrine in their theories.

Extremely Dangerous Heroic Acts

Carnegie Hero Medal Recipients

Since 1904, the Carnegie Hero Fund Commission has awarded medals, scholarships, and financial assistance to heroes (and their families) whose heroic acts took place in the United States or Canada. Requirements for designation as a Carnegie hero are "a civilian who voluntarily risks his or her own life, knowingly, to an extraordinary degree while saving or attempting to save the life of another person" (Carnegie Hero Fund Commission, 2002, Requirements section, ¶ 1). Not eligible are

those whose duties in following their regular vocations require them to perform such acts, unless the rescues are clearly beyond the line of duty; and members of the immediate family, except in cases of outstanding heroism where the rescuer loses his or her

life or is severely injured. Members of the armed services and children considered by the Commission to be too young to comprehend the risks involved are also ineligible for consideration. (Carnegie Hero Fund Commission, 2002, Responsibility section, ¶ 3)

Because the awards ordinarily exclude rescuers of family members, the rescued person is often a stranger. Heroism of this type occurs in various situations, many of which are outside of the workplace or home. Rescuers thus observe unexpected emergency situations, often while carrying out a leisure pursuit or merely going from place to place.

Typical acts that merit Carnegie Hero Medals include saving people from fires, drowning, attacks by animals, assaults by criminals, electrocution, and suffocation (Wooster, 2000). Among the awards made since 1994, 20% were posthumous, ordinarily because of the death of the honored individual in carrying out the act of heroism (J. Dooley, Investigations Manager of the Carnegie Hero Fund Commission, personal communication, October 17, 2002). This high mortality provides a measure of the degree of risk associated with the activities recognized as heroic by the commission. No data are available concerning injuries suffered by rescuers.

As of the end of April 2003, there had been 8.9% women among 8,706 medalists (W. F. Rutkowsky, Executive Director of the Carnegie Hero Fund Commission, personal communication, May 23, 2003).³ As with the other data sets presented in this article, we compare this sex distribution with the baseline percentage of women and men. For the Carnegie medalists, this baseline cannot be exactly established because it is not certain that women and men were equally likely to occupy the settings in which the relevant dangers occurred. However, given that the majority of rescues have involved saving people from fires and drowning (Lay, Allen, & Kassirer, 1974; Wooster, 2000), the settings in which emergencies occurred would have included many homes and recreational sites, where women would have been well represented. Regardless of whether the correct baseline percentage of women is 50.0% or some smaller percentage such as 30.0% or 40.0%, the 8.9% of women among the medalists falls significantly below any reasonable assumption about a baseline ($p < .001$).⁴ This form of heroism is thus strongly male dominated.

Although we cannot determine whether the selections by the Carnegie Hero Commission have been nondiscriminatory, Carnegie's (1907) explicit instruction to include women as heroes suggests a norm of fairness. The process by which the commission awards medals consists of receiving approximately 4,000 news articles annually from a

³ Our request to the Carnegie Hero Commission to provide us with yearly statistics yielded data from 1986 through 2001, which showed some variability in the proportion of heroes who were men but showed no secular trend (W. F. Rutkowski, personal communication, March 5, 2003). Eagly and Crowley (1986) reported 616 women (or 8.9%) among 6,955 medalists.

⁴ All p values reported in this article were computed by the normal approximation to the binomial test, two-tailed (Kanji, 1993).

clipping service and then choosing as nominees those cases that “appear to have award potential” (W. F. Rutkowski, personal communication, February 20, 2003). Although lack of bias against women on the part of journalists and the clipping service cannot be assured, incidents involving heroic women probably were more newsworthy and thus more likely to come to the attention of the commission than those involving heroic men, given the apparent rarity of women among such heroes. A committee then evaluates these nominees and chooses a portion of them for awards. For example, in 1999, among the 729 men who were nominated, 77 (or 10.6%) received awards, and among the 89 women who were nominated, 10 (or 11.2%) received awards (W. F. Rutkowski, personal communication, February 19, 2003).

Confirmation that the type of acts identified as heroic by the Carnegie Hero Commission are male dominated comes from additional studies. Specifically, Huston, Ruggiero, Conner, and Geis (1981) conducted an interview study of 32 people who intervened in dangerous criminal events such as muggings, bank holdups, and armed robberies. Because their sample was drawn from individuals seeking compensation under California’s Good Samaritan statute that provides compensation for losses to people who intervene in crimes, it is not surprising that 27 of the 32 had been injured as a consequence of their involvement. Confirming the findings from the Carnegie heroes, only 3.19% of these interveners were female. Lay et al. (1974) examined data on Toronto recipients of Civilian Citations, who are citizens recognized for spontaneously aiding the police force. Among those who assisted the victim directly, assisted a police officer, or chased the offender, 12.0% were female. However, among those who notified the police, presumably a much less dangerous act, 41.7% were female.

To provide information about the characteristics of individuals who heroically intervene, Huston et al. (1981) included a control group of noninterveners matched for age, sex, education, and ethnic background. The interveners exceeded the control participants in physical size and past training to deal with crimes and emergencies. In addition, they were more likely to describe themselves as strong, aggressive, principled, and emotional.⁵ Huston et al. argued that such crime interveners “act out of a sense of capability founded on training experiences and rooted in personal strength” (p. 14).

Physical prowess and relevant skills no doubt increase the likelihood of performing such heroic acts. These acts are almost always carried out immediately after the rescuer notices the potentially catastrophic situation, which typically involves a stranger as the potential victim (Johnson, 1996). For the rescuers, the act of helping can seem quite spontaneous. For example, a man who rescued a woman from a burning car said, “I didn’t have time to think, I just wanted to get her out of there” and “I’m glad the adrenaline was kicking in, because if I had time to think, I might have been too scared” (McCann, 2002, Section 2, p. 3). This propensity for immediate action in extreme situations may be more typical of men, as suggested by Zuckerman and

Kuhlman’s (2000) demonstration that the greater risk taking of men than women was mediated by a male sex-typed personality trait known as *impulsive sensation seeking* (Zuckerman, Kuhlman, Joireman, Teta, & Kraft, 1993). Although after the emergency Carnegie medalists often described their motivation as reflecting their religious and ethical principles as well as empathic concern for the victim’s plight (Wooster, 2000), it is unclear how much such postevent rationales reflect the motives of these rescuers at the time of their intervention.

In summary, the research that we have reviewed shows that direct physical intervention to rescue victims in very dangerous emergency situations such as fires, potential drownings, and violent crime situations are highly male dominated when undertaken spontaneously by people who are not in roles such as fire fighter or law enforcement officer that require such actions. Underlying such behavior may be physical prowess, emergency training, and a readiness for very quick action in extreme situations.

Righteous Among the Nations

The Righteous Among the Nations are non-Jews who risked their lives in order to save Jews during the Nazi holocaust. The data consist of those who are listed in the Index to Righteous Gentiles Registry of Yad Vashem (United States Holocaust Memorial Museum, 2003). Eligibility for this list is defined as follows:

When data on hand clearly demonstrates that a non-Jewish person risked his (or her) life, freedom, and safety in order to rescue one or several Jews from the threat of death or deportation to death camps without exacting in advance monetary compensation, this qualifies the person in question for serious consideration to be awarded the “Righteous Among the Nations” title. This applies equally to rescuers who have since passed away. (United States Holocaust Memorial Museum, 2003, p. 2)

Evidence from the rescued person(s) is an almost indispensable condition for this recognition. Honored individuals receive a medal, a certificate of honor, and the addition of their name to the Wall of Honor in the Garden of the Righteous at Yad Vashem in Jerusalem (Yad Vashem, 2004).

The risks associated with rescuing or attempting to rescue Jews were considerable. We are especially concerned with conditions in Poland, the Netherlands, and France, which yielded the largest numbers of Righteous Among the Nations. In occupied Poland, those who helped Jews in any way were officially subject to execution, as stated in the following proclamation by the German district governor of Warsaw, Ludwig Fischer:

Concerning the Death Penalty for Illegally Leaving Jewish Residential Districts . . . Any Jew who illegally leaves the designated residential district will be punished by death. Anyone who delib-

⁵ This self-perception of these interveners as emotional may refer to their ability to become emotionally activated by events because rescuing itself often demands control over the overt expression of emotions (see Lois, 2003).

erately offers refuge to such Jews or who aids them in any other manner . . . will be subject to the same punishment. (Righteous Gentiles, 2002, The Penalty section [homepage])

In addition, the Nazis offered cash bounties in Poland for informing on hidden Jews and their rescuers (S. P. Oliner & Oliner, 1988). Accounts of Nazis murdering Poles for hiding or supporting Jews are numerous (e.g., Bartoszewski, 1969; Gilbert, 2003). Estimates are that “thousands of Poles were executed or died in concentration camps for trying to help Jews” (Baron, 1988, p. 29). In some cases, the acts of assistance that resulted in a helper’s execution were minor, such as giving a drink of water or selling bread to a Jew (Bartoszewski & Lewin, 1969). Although other occupied countries did not have official death penalties for helping Jews, people from many nations were executed for helping Jews and other fugitives from the Nazis. Such executions were apparently quite numerous in the Netherlands as well as in Poland (Baron, 1988; Sijes, 1977). Conditions in France were mixed, with more resistance from the non-Jewish population, more opportunities to flee to countries not under German control, and a considerably higher survival rate of Jews (Baron, 1988). All in all, becoming a rescuer of Jews during the Nazi occupation was dangerous; such actions qualify as heroism, even though we cannot determine the proportion of rescuers who were killed because of their actions.

It is obvious that many individuals who would meet the definition of Righteous Among the Nations are not so designated because they were caught by the Nazis and in some cases executed along with the Jews whom they attempted to save. Countless other rescuers remained unidentified because the Jews whom they helped did not survive or surviving Jews were unable to identify them. Consequently, the data consist of the names of those non-Jewish individuals who helped Jews survive and were nominated by the survivors and eventually designated as Righteous Among the Nations. The registry of the rescuers contains names from many countries, but only those from Poland, the Netherlands, and France, the countries with the largest number of Righteous Among the Nations, are analyzed here. Among the 20,205 Righteous Among the Nations identified as of January 1, 2004, Poland accounts for 28.7%, the Netherlands for 22.7%, and France for 11.7% (Yad Vashem, 2004).

Classification of the Righteous Among the Nations by sex. Our task was to count the number of men and women on the list provided by the United States Holocaust Memorial Museum (2003) in Washington, DC. In addition to names of individuals, the list frequently identifies married couples or families—for example, Jerzy and Paulina Filipowski with two sons and one daughter. In such cases, Jerzy and Paulina were counted as one man and one woman, and their children were excluded from the count because it is unlikely that they were critical in deciding to rescue the Jews. Children were counted, however, in those cases in which they were also adults, as identified by a child being listed with a spouse or a daughter with a

married surname. However, counting both members of the listed couples as Righteous Among the Nations might not reflect their equal partnership in the decision, although the survivors presumably would not have identified both as Righteous Among the Nations if only one person participated. Nonetheless, to eliminate the ambiguity of the unknown division of responsibility in married couples, we also present the numbers of men and women who were not listed as married couples. When siblings appeared alone on the list (an infrequent event), all were counted because they were assumed to be adults who cooperated in rescuing Jews. Persons identified as clergy (and wives of clergy) were excluded because they may have been acting under the constraints of their role rather than according to their own initiative. We applied this method of counting to the lists from the three countries.

The Polish language makes identification of male and female names relatively unequivocal. Female names end in *a*, both surname and given name, although married women’s surnames appear in the male form. Thus, Ewa, married to Jan Tarnowski is Mrs. Ewa Tarnowski, but if unmarried or widowed she is Ewa Tarnowska. Given the simplicity of classifying Polish names by sex, this task was carried out by Selwyn W. Becker as well as independently by an assistant.

The list of Dutch names was examined by three native Dutch and Frisian speakers, who were aware of the research question, and by two native Dutch speakers naive to the research topic. The naive raters agreed on 99% of the male–female identifications. After a meeting of the raters, 100% agreement was reached.

A graduate student at the University of Chicago classified the French names. She had attended a French-speaking school for 9 years, earned a bilingual international baccalaureate degree, and tutored French for 7 years. Whenever she had any doubt about the identification of a name as male or female, she sought confirmation from two Web sites containing lists of male and female French names, www.kabalarians.com and www.behindthename.com/nmc/fre.html. Her classifications were checked by Selwyn W. Becker.

Determination of population baselines.

To determine whether the sexes were disproportionately represented among the Righteous Among the Nations, we compared the percentages of female Righteous Among the Nations with the population baselines of women. If women differed from this baseline, men differed from the male baseline as well. To estimate these baselines, we consulted the population statistics for the year closest to 1940 (League of Nations, 1940–1941). From the appropriate tables, we determined the number of men and women in each country who were at least 20 years old. From these numbers, we subtracted the number of Jews in each country estimated to be at least 20 years old. We then subtracted the following groups who were absent during at least part of World War II: (a) male and female voluntary and forced laborers who worked in the German Reich (Herbert, 1985/1997) and (b) prisoners of war (assumed to be male;

Table 1

Numbers of Righteous; Percentages of Women; and Population Baselines of Women in Poland, the Netherlands, and France

Numbers and percentages of Righteous and comparisons with baselines	Nation		
	Poland	Netherlands	France
Counts of Righteous			
Number of couples	1,260	1,569	529
Number of women, excluding couples	1,362	449	411
Number of men, excluding couples	800	336	269
Percentage of women in total sample	56.0	51.4	54.1
Percentage of women, excluding couples	63.0	57.2	60.4
Comparisons of Righteous with population baselines			
Baseline population percentage of women	57.0	52.9	55.6
<i>p</i> for comparison of women in total sample with baseline	.17	.07	.21
<i>p</i> for comparison of women, excluding couples, with baseline	< .001	.02	.01

Note. Righteous = Righteous Among the Nations.

Herbert, 1985/1997). In the case of Poland, we also subtracted the following groups, who were assumed to be male (Curtis, 1994; Piesowicz, 1988): (a) soldiers and government officials who fled to Romania, (b) officers executed by the Russians, and (c) soldiers serving in the German and Russian armies.⁶ For France, we also subtracted communists and members of the International Brigade, who were imprisoned by the Vichy government, as well as members of the Free French military forces, all assumed to be male (Jackson, 2001). This process yielded percentages of women of 57.0% for Poland, 52.9% for the Netherlands, and 55.6% for France.

Percentages of female and male Righteous Among the Nations in relation to population baselines. Table 1 presents the numbers and proportions of men and women among the Righteous Among the Nations in Poland, the Netherlands, and France, along with the population baselines. When all men and women were considered, the proportion of women did not differ from the baseline proportion of women in Poland, the Netherlands, or France. However, when only those individuals who were not listed as couples were considered, the proportion of women was significantly greater than the baseline proportion of women in each nation.

Characteristics of the Righteous Among the Nations. These data show that rescuing Jews was certainly not a male-dominated act and in fact was somewhat female dominated when married couples were excluded from the counts. To provide insight into the characteristics and motivations of holocaust rescuers, S. P. Oliner and Oliner (1988) conducted a study that involved interviews of 406 authenticated rescuers and 126 nonrescuers who had lived in Nazi-occupied Europe during World

War II. Rescued survivors were also interviewed. Ethical and humanitarian justifications for acting were given by the great majority of the rescuers, and the most important of these was an "ethic of care and compassion" (S. P. Oliner, 2002, p. 125). When asked to summarize the main reasons for their rescuing, 86.5% of the rescuers gave an ethical rationale, primarily having to do with care and compassion, and 82.8% of the rescued survivors similarly ascribed ethical motives to their rescuers (S. P. Oliner & Oliner, 1988, Table 6.2, p. 287). Drawing from interviews and historical sources, Gilbert (2003) similarly emphasized the ethical rationales provided by holocaust rescuers. He particularly noted that describing oneself as doing what any "decent person" would do "was almost universal among rescuers" (p. 438).⁷ Rescuers' explanations of their actions thus included statements such as "Our religion says we are our brother's keepers" and "I sensed I had in front of me human beings who were hunted down like wild animals. This aroused a feeling of brotherhood with the desire to help" (S. P. Oliner, 2002, p. 125). This sense of shared humanity with the persecuted Jews appears to have been critical to decisions to help, which were apparently often quite spontaneous (Monroe, 1996, 2002).

The prevalence of ethically guided care and compassion among rescuers is not surprising, given that they generally formed relationships of shorter or longer duration

⁶ For Poland, we did not subtract two groups of unknown sex distribution that likely included substantial numbers of women: people imprisoned in Poland and people deported to Russia (Piesowicz, 1988).

⁷ Such statements are consistent with the general tendency for people to underestimate the value of the help they provide (the "self-effacing modesty bias"; McGuire, 2003, p. 331).

with the rescued Jews, as they hid them, fed them, and in some cases arranged for their escape. Moreover, considerable experimental research supports the claim that empathic emotion can evoke altruistic motivation and helpful action (Batson, 2002). In a further study of S. P. Oliner and Oliner's (1988) data, Anderson (1993) qualitatively analyzed the records from 13 male and 27 female rescuers and found that this caring, relational orientation was a more prevalent rationale for rescuing among the women than among the men. The strong representation of women among the Righteous Among the Nations thus appeared in a situation that lends itself to the formation of compassionate human relationships, albeit relationships that generally put rescuers' own lives at risk. Consistent with this analysis, the Hebrew word used to describe the Righteous Among the Nations is *Chasidim*, which can be translated as "those who act lovingly" or act with "loving kindness" (Rabbi D. M. Rosenberg, personal communication, February 18, 2003). Critical, though, in becoming a holocaust rescuer was the ability to direct care and compassion to people who differed ethnically and religiously from one's own group (P. M. Oliner, Oliner, & Gruber, 1991).

Other Heroic Acts

People engage in somewhat dangerous prosocial behavior in many other circumstances that are risky but less dangerous than those faced by Carnegie medalists and the Righteous Among the Nations. We were able to obtain relevant data on three such actions: donating one's kidney to another individual, volunteering for service with the Peace Corps, and volunteering for overseas duty with Doctors of the World. Although the death rates are low in these situations, the possibility of serious physical consequences accompanies each of these activities.

Living Kidney Donors

Live kidney donation is far less dangerous than the harboring of Jews during the Nazi occupation of Europe or the rescuing acts of Carnegie heroes. However, most people are fearful of pain and possible medical complications following kidney donation even though they report themselves willing to donate to a close relative (e.g., Boulware et al., 2002). Consistent with these fears, donors typically reported major postoperative pain (e.g., Duque, Loughlin, & Kumar, 1999). Although most studies suggest few serious medical complications (e.g., less than 0.30%; Cecka, 2000), the overall rate of minor and major complications is higher (e.g., 8.00%; Cecka, 2000). The length of time required for donors to return to their prior state of health depends on the invasiveness of surgical procedures and can be up to 2 to 3 months (Fehrman-Ekholm, Duner, Brink, Tyden, & Elinder, 2001). It is perhaps because of these consequences and people's fears of them that the designers of the opening Web page of the United Network for Organ Sharing (2004b) included the statement that "organ donors are heroes."

Data concerning deaths of donors show very low mortality (less than 0.01% during recent years and 0.03%

in earlier surveys; Cecka, 2000). Most long-term follow-ups of donors have found few health consequences except for a very small increase in proteinuria (elevated protein levels in the urine) that generally has no clinical consequences (e.g., Goldfarb et al., 2001). Nonetheless, a study of all living donors registered in the relevant United States database (United Network for Organ Sharing, 2004a) found that 56 donors were subsequently listed for cadaveric kidney transplantation, suggesting long-term vulnerability to renal failure in some individuals (Ellison, McBride, Taranto, Delmonico, & Kauffman, 2002). However, this number translates into a rate for end-stage renal disease of 0.04%, which is very close to the 0.03% rate in the general U.S. population. Nonetheless, because kidney donors are screened for good health and excellent kidney function, end-stage renal disease should be less common in donors than the general population if the loss of a kidney had no long-term health consequences.

We calculated the proportions of kidney donations by women and men from data on live organ donations in the United States between 1988 and 2004 archived in the transplantation database of the Organ Procurement and Transplantation Network of the United Network for Organ Sharing (2004a). In all, the database had recorded 60,259 live kidney donations, 34,582 by women and 25,676 by men. Compared with the U.S. population of 50.9% female (U.S. Census Bureau, 2002), the percentage of kidneys donated by women, 57.4%, exceeded what would be expected by chance ($p < .001$). This preponderance of women occurred as well in each of the individual years. Moreover, for living donations of all organs, the percentage of women was 57.0%, although 95.7% of organ donations were of the kidney. We also determined, with the help of Analyst C. B. Tolleris of the United Network for Organ Sharing, that the proportion of female kidney donors was unrelated to the age of the recipients.

These higher rates of donating a kidney among women than men have been extensively documented in the medical literature (e.g., Biller-Andorno, 2002). Among individuals who have no genetic family relationship (only 5% of live donations in 1997; Cecka, 2000), women-to-men transfers have been especially common (Kayler et al., 2002). Contributing to this excess of women among unrelated donors is the substantial disproportion of women-to-men donations between spouses (69% of spousal donations in Kayler et al., 2002; 90% in D. Zimmerman, Donnelly, Miller, Stewart, & Albert, 2000). In general, men are more likely than women to be the recipients of live kidney donations (e.g., Biller-Andorno, 2002), even when the data are controlled for a wide range of patient variables (Kayler et al., 2002).

The larger number of female than male donors, especially among spouses, is not accounted for by biological factors. The slightly higher incidence of end-stage renal disease among men (53.3% male in the United States from 1995 to 2001; United States Renal Data System, 2002) would have trivial impact on the numbers of men and women available as potential donors. Moreover, when fam-

ily members were medically evaluated as potential donors, men and women were deemed eligible at similar rates, but among the acceptable donors a higher percentage of women (28.3%) than men (20.3%) became donors (D. Zimmerman et al., 2000). Because husbands are somewhat more likely to be employed full-time and on the average have higher income than their wives, economic pressures could be one factor accounting for these findings. Yet, attitudinal sex differences appeared important as well in an interview study of kidney donors for transplant patients at the University of Minnesota Hospitals (Simmons, Klein, & Simmons, 1977). In a sample of donors who were biologically related to their recipients, men were more ambivalent than women about their donation and had more negative feelings after the event. Because the women, more than the men, viewed their donation as an aspect of their family obligations, the researchers suggested that women's family role includes not only self-sacrifice but also caretaking of ill family members. Whatever the underlying motivations of living kidney donors, their decisions to donate appear to reflect reasoned analysis, in view of the successful prediction of donation by attitude-behavior models that assume that individuals analyze the consequences of their anticipated actions (Borgida, Conner, & Manteufel, 1992).

In summary, women have somewhat predominated among kidney donors. Although the act of donation entails little risk of death, it has considerable consequences in terms of pain and short-term disability and a small risk of longer term morbidity.

Peace Corps Volunteers

The Peace Corps, established by executive order of President John Kennedy in 1961, places volunteers from the United States in a wide range of countries, with the goals of

helping the people of interested countries in meeting their need for trained men and women; helping promote a better understanding of Americans on the part of the peoples served; and helping promote a better understanding of other peoples on the part of Americans. (Peace Corps, 2004a)

This service does not constitute a job in the ordinary sense because tours of duty are time limited and are compensated not by a salary but by a stipend that allows volunteers to live at the same level as the people they serve.

Service as a Peace Corps volunteer may present less danger than the other activities we have reviewed, but this role is not entirely safe. Within the 137 countries that have been served by a total of 170,000 volunteers and trainees are many locations troubled by wars and internal unrest as well as by poverty, famine, and limited access to medical care. Suggestive of nontrivial dangers, a study by the U.S. General Accounting Office (2002) investigated major non-sexual physical assaults against volunteers and reported that the rate had risen from 9 per 1,000 volunteer years in 1991–1993 to 17 per 1,000 volunteer years in 1998–2000. Sexual assaults against female volunteers showed no clear trend over time, with 8 major assaults and 11 minor assaults per 1,000 female volunteer years reported for 2000.

These statistics represent only officially reported incidents, and the actual amount of violence against volunteers may be considerably higher (“Attacks on Peace Corps,” 2002).

Although deaths have been rare, Peace Corps volunteers have died in service. In the entire history of the Peace Corps, 20 volunteers have been victims of homicide (Peace Corps, 2004c). In addition, deaths have resulted from other causes. For example, the year 1998 included, in addition to four homicides (Peace Corps, 2004c), two disappearances from the Great Barrier Reef with no reappearance (Smith, 1998) and one auto accident in Namibia (Drell, 1998). The year 2001 included, in addition to one homicide (Peace Corps, 2004c), one trampling by an elephant in Tanzania, one car accident in Namibia, and one disappearance in Bolivia with no reappearance (R. Zimmerman, 2001). Political unrest also can produce dangers. For example, in 2001, 311 volunteers were evacuated from Turkmenistan, Uzbekistan, and the Kyrgyz Republic, which are countries bordering Afghanistan, because of the perception that they were endangered (R. Zimmerman, 2001). Volunteers may also contract a variety of serious diseases—for example, parasitic infections such as schistosomiasis (“Schistosomiasis in U.S. Peace Corps,” 1993). Malaria is a danger to volunteers in many countries, with some volunteers claiming long-term health damage from side effects of a preventive drug, mefloquine, which they were required to take (“Scores of Peace Corps volunteers,” 2002). Although it is not possible to establish defensible base rates against which to evaluate the unfavorable outcomes that some Peace Corps volunteers have suffered, we agree with the Peace Corps' own warning to potential volunteers that “health, safety, and security risks are an unavoidable part of life and of volunteer service” (Peace Corps, 2003a).

In the early years of the Peace Corps, more men than women served as volunteers, but beginning in the mid-1980s, the sex ratios shifted toward more women than men (Peace Corps, 1988), perhaps reflecting women's increasing interest in and access to a wide range of nontraditional social roles. According to J. Bonier of the Peace Corps Planning Policy and Analysis Section (personal communication, March 10, 2001), 9,622 applications were received in 2000, of which 60.0% were from women; 3,889 volunteers and trainees were selected, of whom 62.0% were women. In 2002, 6,678 volunteers and trainees were selected, of whom 61.1% were women (Peace Corps, 2003b); in 2003, 7,533 volunteers and trainees were selected, of whom 59.0% were women (Peace Corps, 2004b). All of these percentages of women exceed the U.S. population baseline of 50.9% female ($p < .001$).

Doctors of the World

We also considered volunteers for Doctors of the World, an organization in the United States that is dedicated to relieving the suffering of vulnerable populations in the United States and abroad (Doctors of the World, 2003). Because the volunteers who serve in the United States for the most part work in safe situations, we considered only volunteers who serve overseas. These programs exist in

locations such as Chiapas, Russia, Vietnam, Kosovo, India, South Africa, and Romania. Volunteers receive medical insurance, travel, and subsistence costs but no additional stipend; many volunteers pay their own travel expenses (V. Tripathi, Programs Department, Doctors of the World, personal communication, February 9, 2004). Although volunteering for service abroad with Doctors of the World does not pose much risk of death, there is a nonnegligible risk to delivering health and medical services in environments marked by local violence and unsanitary conditions. There is also some personal risk in treating patients with diseases such as HIV–AIDS and tuberculosis.⁸

Doctors of the World Recruitment Coordinator A. Eleusizov (personal communication, January 17, 2003) provided a list of volunteers, each identified by sex, professional specialty, and country of service for 2000–2002. Among the 76 volunteers serving abroad, 50 (or 65.8%) were women. Although the majority of the volunteers were physicians, primarily in family practice, some represented other specialties (e.g., midwife, nurse trainer, psychologist). Among the 48 volunteer physicians, 27 (or 56.3%) were women. Similar percentages of women were found in each of the 3 years. In comparison, in the United States, approximately one quarter of physicians (29.3%, U.S. Census Bureau, 2002; 24.0%, American Medical Association, 2001b) and one third of primary care physicians (33.3%, American Medical Association, 2001a) are female.⁹ These data show that it is disproportionately women who engage in these somewhat dangerous prosocial actions ($ps < .001$). This form of service to others, like volunteering for the Peace Corps, is evidently more attractive to women than men.

Discussion

The Carnegie heroes, who placed their lives in serious danger, were predominantly men, but the heroes in the other classes of actions that we examined were at least as likely to be women as men and in most cases more likely to be women. Specifically, among holocaust rescuers, who faced a substantial risk of execution if their actions were detected, women and men were equally represented in relation to population baselines in the total sample. Yet, these rescuers were more likely to be women than men among those not listed as part of a married couple. Also, in three situations that involved physical risk but little risk of dying, women predominated: donating a kidney to a person with end-stage renal disease, volunteering for service with the Peace Corps, and volunteering for overseas duty with Doctors of the World. It thus appears that women's heroism emerges in several quite diverse settings. These findings challenge us to interpret why only one of the types of heroism we identified was male-dominated and why, given the generous representation of female heroes in our findings, heroism is culturally associated more with men than with women. We examine these issues in turn.

Distinctive Characteristics of Carnegie Heroism

One question in interpreting the male dominance of Carnegie rescuing is whether these situations differed from those of holocaust rescuing in the amount of risk to the hero's life. Although we presented the Carnegie heroes first in our category of very dangerous acts because of the known statistic of 20% posthumous awards, it is quite possible that more than 20% of the people who aided Jews were killed by the Nazis. Thus, in one of the two most dangerous situations—the saving of Jews in the holocaust—women made heroic choices at least as often as men, whereas in the situations identified by the Carnegie Hero Commission, men strongly predominated. The assumption that men are more prone to take risks is therefore not sufficient to explain this discrepancy in the sex ratios of the helpers in the two most dangerous situations.

Relevant to this discrepancy in sex ratios are important differences between the Carnegie heroes' situations and those of the other types of heroes we identified. One difference is that the hero's physical prowess was a definite asset in most situations yielding Carnegie medalists, in terms of both saving the other person and the rescuer surviving the act of rescuing. The greater physical prowess of men than women may thus account for their lower death rate as Carnegie heroes (16.4% for men vs. 25.5% for women; Johnson, 1996). Just as in the nonemergency situations of everyday life, requirements of physical prowess favor male action. As Wood and Eagly (2002) argued, men's greater speed and upper-body strength especially facilitate their ability to perform efficiently tasks that require intensive bursts of energy, and this physical difference between the sexes is one general constraint on the female–male division of labor. Possibly androgens, especially testosterone, which some researchers have implicated in the development of male rough-and-tumble play and aggression (e.g., Taylor et al., 2000), also facilitate assertive physical intervention in risky situations (but see Turner, 1994). It is in addition possible, consistent with Huston et al.'s (1981) study of interveners in dangerous crime situations, that men are more likely than women to have undergone training for rescuing. Such training is sometimes associated with military service or with activities such as Boy Scouting, which offers merit badges for training in activities such as emergency preparedness, life-

⁸ Although we had initially planned to review United Nations volunteers, over 70% are citizens of developing countries (United Nations Volunteers, 2003a). Because the status of women tends to be relatively low in many developing countries and women's opportunities are therefore limited (United Nations Development Programme, 2003), inclusion in our analysis of this group of volunteers, which is currently 64.4% male (United Nations Volunteers, 2003b), would have violated our equal access stipulation. For the same reasons, we also excluded volunteers for Doctors Without Borders (2004), an international organization that sends more than 2,500 volunteers from many nations to 80 countries each year.

⁹ Because a few volunteers served more than once during a year, we also determined the sex distribution on the basis of tours of duty, with very similar results.

saving, and first aid (U.S. Scouting Service Project, 2003). With at least 16,000,000 men having served in the U.S. armed forces in World War II and smaller but very substantial numbers in other wars (U.S. Census Bureau, 2002, Table 498) and as many as 5,000,000 boys associated with Boy Scout programs in a single year (Boy Scouts of America, 2002), a large number of men in the United States have undergone at least some training for rescuing.

The situations of Carnegie medalists differed in three additional respects from those of the holocaust rescuers and the other types of heroes we studied: the public nature of their prosocial act, the necessity for immediate action, and the demand for emotional control in the face of extreme danger. Although Carnegie rescues were not necessarily carried out in the presence of an audience other than the victim, they gained journalistic attention, given that these heroes were nominated on the basis of newspaper clippings. In contrast, holocaust rescuing was hidden, and kidney donations and volunteering for the Peace Corps or Doctors of the World, although not private or concealed acts, would have been known mainly in limited circles of family, friends, and coworkers. The presence of an audience may foster male heroism by increasing the salience of two normative constraints that are aspects of the male gender role: demands for bold and courageous action (Levant & Kopecky, 1995) and pressures to rise in social hierarchies (Baumeister & Sommer, 1997). Consistent with this argument, in a meta-analysis of sex differences in prosocial behavior in situations that entailed little or no risk of death or physical injury, Eagly and Crowley (1986) found that the greater tendency of men than women to engage in such helping was strong when the helpers were under others' surveillance (mean $d = 0.74$) but absent when they were not under surveillance (mean $d = -0.02$).

The requirement that the Carnegie medalists act immediately to rescue the victim may have favored male rescuing, given men's presumed propensity for quick, impulsive physical action in extreme situations (Zuckerman & Kuhlman, 2000). Although holocaust rescuing sometimes also required immediate action, the decision to help often developed somewhat gradually as rescuers became aware that their friends, neighbors, or coworkers were endangered (Gilbert, 2003). Decisions to donate a kidney or to volunteer for the Peace Corps or Doctors of the World presumably were ordinarily preceded by contemplation of the consequences of these decisions (see Borgida et al., 1992, for kidney donors).

Finally, effective action in an emergency situation involving extreme danger requires considerable emotional control to keep one's fears sufficiently in check to act very quickly and competently. As Lois (2003) observed in a participant-observer study of a mountain search and rescue team, such dangerous activity requires suppressing the expression of emotions while in a high state of arousal. The requisite emotional coolness and self-control are consistent with norms of masculine stoicism. Boys' socialization to control their emotions (e.g., Goldstein, 2001; Pollack, 1998) may thus leave them better prepared for such activ-

ities. In summary, our comparative analysis of heroic behaviors suggests that the male dominance of Carnegie heroism stems not mainly from the support that the male gender role gives to risk taking or from an evolved risk-taking disposition but from these acts favoring male physical prowess, their provision of an opportunity for public recognition, and possibly, their demand for immediate action and emotional control.

Sources of Heroism in Empathic Concern, Relational Self-Construal, Ethics, and Male Protectiveness

Our theoretical analysis also maintains that heroism stems in part from an expression of empathic concern with others' welfare, a theme that has received considerable emphasis in discussions of the psychology of women. Consistent with psychological research on holocaust rescuers (S. P. Oliner & Oliner, 1988) and kidney donors (Simmons et al., 1977), the expression of empathic concern with others' plight appears to be important to much of the heroism that we have studied. As suggested by the themes in the female gender role that emphasize caring and concern for others, women appear to be at least as motivated as men to behave heroically, absent the special features of the heroic Carnegie rescues. It may be that women risk their lives and personal welfare mainly in the service of others. Although men's heroism is equally in the service of others, men, more than women, also engage in very dangerous actions that may harm themselves and others, such as violent crime and dangerous driving, and risky activities that may produce personal pleasure as well as enhanced social status, such as participation in sports that commonly result in physical injury (Byrnes et al., 1999).

Women's risk taking, arising in the service of others, is assumed to derive at least in part from their traditional family role as main nurturer (Eagly et al., 2000). Whether this relational risk taking also has deeper roots in evolved dispositions is a matter for speculation. Although females engage in extreme risk taking in defense of their young throughout mammalian species (Fox, 1999), the greater tendency of women than men to donate a kidney was not greater when the recipients of donated kidneys were children suffering end-stage renal disease. Nevertheless, it is possible that women's physiological responses to stress prime their other-oriented, helpful actions, consistent with Taylor et al.'s (2000) argument. Yet, the greater tendency for women than men to put themselves at risk in most of the settings that we studied is not congenial to the evolutionary psychology arguments whereby men possess a general evolved disposition to take risks and women to avoid risks. By Wilson and Daly's (1985) argument, men should be generally willing to engage in risky behavior. By Campbell's (1999) argument, women should be generally unwilling to engage in risky behavior, especially when physical injury or death is a possibility. Contrary to this logic, it appears that men are not particularly willing to take certain kinds of risks in the service of others, such as those involved in kidney donation, and women, somewhat more

than men, are willing to take these risks. Evolutionary psychologists may thus have given insufficient attention to risk taking that helps others and in addition may have overestimated the extent to which men's mating success was dependent on assertive, risky behavior and children's survival depended mainly on maternal caretaking in the primeval period when humans evolved (Wood & Eagly, 2002).

Regardless of the ultimate origins of women's concern with others, women's self-construals tend to be relational in the sense that they include others who are important to them, especially in close, dyadic relationships (Gardner & Gabriel, 2004). The behaviors that we have studied, especially those of holocaust rescuers and Doctors of the World, possibly would reflect relational self-construal to the extent that others are helped mainly in dyadic and small-group contexts. In fact, among the Carnegie medalists, a higher proportion of rescues by women than men were directed toward relatives or people known by the rescuer (53% vs. 32%; Johnson, 1996). However, most of the heroic people we have identified extended this service to others beyond the bounds of existing close relationships. This extension was thus usual for Carnegie medalists, most holocaust rescuers, Peace Corps volunteers, and Doctors of the World volunteers as well as for those rare kidney donors whose gift went to a stranger or acquaintance. These rescuers, volunteers, and donors served people who often differed from themselves in major ways, including nationality, ethnicity, cultural beliefs, lifestyle, and religion. Extending one's helpfulness to people different from oneself distinguishes many of the male and female heroes we have studied. Such actions are no doubt facilitated by acceptance of the universalistic themes of brotherhood with all humans that are inherent in many religious and ethical systems (P. M. Oliner & Oliner, 1995; Post, 2002).

Insufficiently explored in discussions of heroism are the forms of other-oriented protectiveness that are consistent with the male gender role. As Gilmore (1990) argued, men's protection of others is directed mainly toward the family as a unit and the community and society: "Men nurture their society . . . by bringing home food for both mother and child and by dying if necessary in faraway places to provide a safe haven for their people" (p. 220). Although the division of labor inherent in this characterization is neither inevitable nor universal (Wood & Eagly, 2002), it surely is common in world societies. To the extent that it is present, it demands a different socialization for boys and girls, for example, to prepare men to leave their homes to go to war and fend off enemies (Goldstein, 2001). Men's connection with other people has thus been characterized as mainly group oriented and collective rather than dyadic and relational (Baumeister & Sommer, 1997; Gardner & Gabriel, 2004), and much male heroism takes place in structured, male-dominated social roles such as soldier, fire fighter, and police officer, which are designed to defend the community and society.

Cultural Association of Men With Heroism

This analysis helps solve the remaining puzzle of the cultural association of heroism with men and masculinity, despite the substantial delivery of heroic behavior by women that we have documented. At the proximal level, the highly public nature of much of men's prosocial risk taking is one source of this cultural emphasis. More profoundly, women have traditionally been excluded from male-dominated protective roles, especially from military service, above all from the combat roles that can yield heroic status (Goldstein, 2001; Wood & Eagly, 2002). In fact, one of the reasons that we did not examine heroism in military or in other dangerous occupational roles such as fire fighter is that the exclusion of women disallowed comparing the heroism of women and men in the same situations. The high visibility of men's heroism in such roles has allowed courage and heroism to be ascribed more to men than to women and to become culturally elaborated as elements of desirable masculinity. Many of women's heroic actions of, for example, hiding holocaust victims or giving a kidney to a family member are inherently quite private, known to few, and in the case of rescuing Jews, very carefully hidden. Volunteering for the Peace Corps and Doctors of the World is surely public but lacks the high visibility of military heroism or rescuing in high-stakes situations of sudden emergencies. Although most people probably have little difficulty in recognizing that the somewhat female-dominated heroic actions that we have examined are consistent with cultural construals of the female gender role, they may not have contemplated how common these acts have been among women or how risky (and therefore heroic) such actions can be.

Conclusion

We hope that by bringing women's heroism to the attention of a wider audience, our research will help produce not only some modification of psychological theories pertaining to risk taking, heroism, and gender, but also some cultural shift whereby heroism will be viewed as more androgynous. However, any substantial shift in the cultural association between men and heroism probably awaits the entry of more women into the most common social roles that require risking one's life. Such change is underway, as suggested by women constituting 15% of active duty military personnel in the United States (Office of the Secretary of Defense, 2002), occupying many combat roles (McDonough, 2003), and receiving intense publicity for their military service in the war with Iraq (e.g., Wilgoren, 2003).

Our findings raise questions that deserve further study. In particular, more attention could be directed to heroes' motivations, especially in terms of altruistic versus egoistic motives (Batson, 1991, 2002). The broader issue of the psychological and psychophysiological mediation of heroic behavior warrants attention and could illuminate the sex differences and similarities that we have presented. We thus hope that our findings inspire research on these issues. Also, our research underscores the value of seeking data

from natural settings. Following Tinbergen's (1963) advice to study behavior in natural settings, we have explored the psychology of heroism in women and men by studying their prosocial behavior in several different types of risky situations.

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