

# Personality Correlates of Heroic Rescue During the Holocaust

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**ABSTRACT** This study investigated the extent to which personality variables can be used to discriminate non-Jewish heroes of the Holocaust from bystanders and from a comparison group of prewar European immigrants who left their countries of origin prior to World War II. Eighty verified rescuers, 73 bystanders, and 43 immigrants were administered measures of locus of control, autonomy, risk taking, social responsibility, tolerance/authoritarianism, empathy, and altruistic moral reasoning. A three-group discriminant function analysis was able to correctly classify 80.2% of the sample by a combination of personality and demographic variables. When the bystanders and immigrants, who differed very little from each other, were grouped together and compared to the rescuers, the personality variables alone correctly classified 93.1% of the sample. Implications regarding the relationship between personality and altruistic behavior, as well as suggestions for future research are discussed.

This research was supported by Grant AG06535 to Elizabeth Midlarsky from the National Institutes of Health. We gratefully acknowledge and thank Manus Midlarsky for his helpful comments and encouragement throughout the preparation of this manuscript.

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*Journal of Personality* 73:4, August 2005

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DOI: 10.1111/j.1467-6494.2005.00333.x

## PERSONALITY CORRELATES OF HEROIC RESCUE DURING THE HOLOCAUST

*Helping to give shelter was the natural thing to do, the human thing. When I looked into those eyes, how could I not care. Of course I was afraid—always afraid—but there was no choice but to do the only decent thing.*

Maria N., who sheltered 30 Jews in her home in Poland.

The mass murder of approximately 6 million Jews during the Holocaust was perhaps the most extensive genocide in modern history. The vast majority of the population under Nazi occupation, were, by definition, bystanders. In the face of incalculable risks, only a small number of individuals—approximately one-half of 1 percent of the occupied populations (Oliner & Oliner, 1988)—actively participated in rescue activities on behalf of their Jewish neighbors. While some apparently engaged in rescue for material gain (Tec, 1986), according to survivors' testimony, others rescued and sheltered Jews for purely altruistic reasons.

This study examines the extent to which people who engaged in altruistic behavior under extremely risky conditions currently manifest prosocial personality characteristics. Using the Oliners' (1988) pioneering work *The Altruistic Personality* as a point of departure, we addressed the question "Who are these people?" As we have no systematic data about the altruistic dispositions of the rescuers during the time in which the Holocaust occurred, we examined the possibility that they may have differed from others at the time that this study was conducted. In essence, this study sought to determine whether it is possible to identify altruistic personality characteristics among these helpers several decades after their involvement in rescue. Thus, our aim is to determine whether non-Jewish Holocaust rescuers, identified as unselfishly heroic by rescued survivors, are currently distinguishable on the basis of measured personality variables from non-Jewish bystanders and from a comparison group of people who left Europe prior to the outbreak of World War II.

Prosocial behavior is a term used by social scientists to describe actions intended to benefit others, but for which the motive is not specified. Thus, for example, a prosocial act could involve making a substantial and much-needed donation to a worthy charity with the

purpose of "feeling good," or to obtain tax benefits (egoistic motives). Altruism is a subcategory of prosocial behavior that is based on concern for the other rather than on self-centered or egoistic motives. Expectations of extrinsic reward, reciprocation, or self-enhancement are not motives of altruistic behavior (Batson, 1998; Midlarsky & Kahana, 1994; Piliavin & Charng, 1990).

In the literature on altruism and prosocial behavior, attempts have been made to determine whether it is possible to distinguish helpers from nonhelpers on the basis of personality traits. The research in this domain is generally dichotomous in nature, consisting either of rigorous laboratory experiments or naturalistic studies. These laboratory studies on altruism rarely deal with significant or continuous acts of helping in an ecologically valid manner, and the research dealing with naturalistic helping in high-risk situations is rarely rigorous or systematic.

Most of the laboratory studies of altruism involve artificial situations in which respondents are given the opportunity to engage in a single act of helping (Clary & Orenstein, 1991). Much of the research involving these types of "one-shot deals" have focused on low-risk, low-cost behaviors, or "small acts of kindness" (Bierhoff, Klein, & Kramp, 1991; Miller, Eisenberg, Fabes, & Shell, 1996). In addition, many of these laboratory investigations have involved hypothetical situations, rather than situations requiring a genuine need for help (Cialdini, Brown, Lewis, Luce, & Neuberg, 1997; Ma, 1993; Midlarsky, Hannah, & Corley, 1995). Finally, most studies have examined situations in which respondents had opportunities to help others who were quite similar to the respondents.

In the naturalistic studies of helping, and specifically those concerning the Holocaust rescuers (Fogelman, 1994; London, 1970; Oliner & Oliner, 1988; Paldiel, 1993), conclusions often have not been based on systematic analyses and are highly impressionistic. The few studies that have used empirical methods to examine correlates of rescue during the Holocaust have had methodological limitations including small sample sizes, the infrequent use of psychometrically reliable and valid instruments, and the absence of control or contrast groups. In the current study, on the other hand, our naturalistic approach enabled us to investigate highly significant, costly helping that often occurred over a period of several years. Furthermore, the people who were helped were not only different from the helpers but were also stigmatized. Of course, the method-

ology of this study was necessarily less rigorous than is typical in laboratory experiments. Nevertheless, we aimed to use the most systematic approach possible, consistent with this limitation. We also drew upon findings from the existing laboratory studies, in which several personality variables had been found to correlate with helping behavior. These included locus of control, autonomy, risk taking, social responsibility, tolerance/authoritarianism, empathy, and altruistic moral reasoning.

Locus of control, the belief that life events are controlled either by oneself (internals) or by luck, fate, or chance (externals), has been associated with increased helping in diverse settings, including the Holocaust (Allen & Ferrand, 1999; Bierhoff et al., 1991; Guagnano, 1995; Midlarsky & Kahana, 1994; Oliner & Oliner, 1988). Although autonomy, defined as independence and the resistance to social controls, has rarely been systematically studied, scholars have described Holocaust rescuers as “independent . . . persons with especially strong forms of autonomy” (Jones, 1999, p. 223).

Risk taking, the propensity to undertake a task involving danger, has been associated with helping in emergency situations (Huston & Korte, 1976; Wilson & Petruska, 1984). For example, Good Samaritans, who intervened in dangerous crimes (e.g., muggings, robberies), were interviewed and compared with demographically similar people who had never intervened in crime episodes (Huston, Ruggiero, Conner, & Geis, 1981). Those who engaged in this highly stressful, dangerous type of activity tended to be principled risk takers who possessed perceptions of competence based on physical strength, on prior training and experience with crime, and a knowledge of first aid. Moreover, these individuals were characterized by a sense of social responsibility, the tendency for people to help without expectation of gain because it is “the right thing to do” (Bierhoff et al., 1991; Midlarsky & Kahana, 1994; Oliner & Oliner, 1988).

Authoritarianism (“F”) is the tendency to be rigid, intolerant and ethnocentric (Adorno, Frenkel-Brunswick, Levinson, & Sanford, 1950; Butler, 2000). Tolerance/authoritarianism has been found to have strong associations with anti-Semitism and with prejudice against blacks, homosexuals, and other “out groups” (Duck & Hunsberger, 1999; Lippa & Arad, 1999; Peterson, Doty, & Winter, 1993; Whitley, 1999).

Empathy, the identification with and comprehension of others’ thoughts, feelings, and behaviors, is often considered to be the allo-

centric heart of helping and has been widely investigated in relation to altruism (Hoffman, 2000). Empathic concern reflects the genuine compassion and caring for the other that has been viewed as the foundation for genuine altruism, which has as its goal the benefit and welfare of the other (Batson, 1997). Several studies have found relationships between facets of empathy and altruistic behavior (Batson, 1997; Clary & Orenstein, 1991; Penner & Finkelstein, 1998).

People high in altruistic (or prosocial) moral reasoning tend to reason about dilemmas involving human needs on the basis of internalized values about the welfare of the larger group (Eisenberg, 1982). Altruistic moral reasoning has been found to predict helping among people of a wide range of ages, from childhood to older adulthood (Bar-Tal, Raviv, & Leiser, 1980; Midlarsky, Kahana, Corley, Nemeroff, & Schonbar, 1999).

In other studies conducted with naturalistic helpers, some consistencies were found. Midlarsky (1992), for example, found that older adults who help family, friends, and neighbors, despite relatively high costs and with no thought of reciprocation, are characterized by empathy, social responsibility, and altruistic moral reasoning. Moreover, in his study of Holocaust rescuers, London (1970) interviewed a small number of Christians who had lived in Europe during World War II and who risked their lives on repeated occasions by aiding Jews to flee from Nazi Germany. These individuals reportedly were characterized by strong moral principles, a subjective sense of marginality, autonomy, and a willingness to take risks. Moreover, in their study of Holocaust heroes, Oliner & Oliner (1988) found that rescuers identified as altruistic by rescued survivors had a greater sense of social responsibility and empathy for people in pain.

Thus, in the research conducted on helping in both the laboratory and natural settings (including the Holocaust), certain personality variables (locus of control, autonomy, risk taking, social responsibility, tolerance/authoritarianism, empathy, and altruistic moral reasoning) have been found to distinguish helpers from nonhelpers.

The aim of this study was therefore to determine whether the Holocaust rescuers studied here differ on these variables from the Holocaust bystanders. In addition, we incorporated a comparison group of people who came from similar backgrounds and were currently living in similar milieus but who neither had the opportunity to rescue Jews nor to avoid helping this stigmatized and even demonized group of people.

## METHOD

Participants were 196 non-Jewish people, all of whom were born in Europe and who currently reside in the United States and Canada. Of this number, 80 were rescuers of Jews and 73 were bystanders who lived in Europe during World War II but did not help Jews or members of other persecuted groups. An additional 43 people migrated to the United States or Canada prior to the outbreak of World War II and are referred to here as the prewar immigrants.

The group of prewar immigrants was included to serve as a “neutral” comparison group. We included this group of prewar immigrants because we were interested in knowing how the scores obtained by the rescuers and the bystanders on personality measures would compare not only to each other but also to those obtained from a culturally cognate group that did not experience World War II in Europe. We considered comparing the rescuers’ and bystanders’ scores to published norms. However, for most of the measures employed, norms have been compiled on American college students, who differ in important respects from the people studied here. Thus, we chose to compare the scores of both groups with those obtained by people with similar backgrounds who had no opportunities to be either rescuers or bystanders.

Our rationale for studying people who emigrated from Europe rather than people still living in Europe as have other investigators (e.g., Fogelman, 1994; Oliner & Oliner, 1988) was based, in part, on the decision to use standard instruments. The measures used here have been found to be reliable in prior research when used with older, adult European Americans (Midlarsky & Kahana, 1994) but have generally not been used in groups residing overseas.

In addition to selecting a sample of rescuers and bystanders who migrated to English-speaking countries in the Western Hemisphere, we chose to study those who had not been previously honored, publicized, or even interviewed. Many of the most active efforts to locate and honor heroes of the Holocaust have been prompted and encouraged by Yad Vashem, the Martyrs and Heroes Remembrance Authority, which serves as the agency within Israel founded to commemorate the Holocaust. While the official Yad Vashem roster was available to us, all of the rescuers listed there had already been extensively interviewed and honored in ways that were likely to have significant impacts on their self-perceptions. A choice to interview rescuers who had been previously studied (and in contrast to bystanders and immigrants who had not) would have constituted a threat to internal validity (Campbell & Stanley, 1966; Crano & Brewer, 2002). As this study examined personality variables using self-report instruments, which can be affected by self-perceptions, we chose to

interview people who had not been previously studied. As noted in the procedures, we were also careful to avoid sensitizing the study participants in ways that might have led to biased responses to the personality measures.

The criteria for inclusion as a rescuer in this study were (1) that he or she helped, and saved the lives of, one or more Jews (2) at great risk/cost to himself or herself and (3) with no expectation of extrinsic reward. Bystanders were defined as people who lived in very close proximity to the rescuers and the rescued survivors while in Europe (most lived on the same street, and many lived right next door) and who were known to offer no help, even if help was requested. The comparison group, used as a reference point, included European-born people who emigrated between 1935 and 1939. They were drawn from the same religious groups and countries of origin as the other two groups and were residents of the same geographic areas (and even neighborhoods) as the others, both in Europe and in the Western Hemisphere. The countries of origin for the people in the study included Germany, the Soviet Union, the Netherlands, Poland, Hungary, Lithuania, Sweden, Austria, Belgium, Romania, and France.

The list of rescuers was developed on the basis of information from rescued survivors who were eyewitnesses to the rescue activities. As a clinical psychologist, the head of the research team had devoted many years to individual and group work with survivors throughout the Western hemisphere. She had also participated in planning for Holocaust memorials in the United States and Canada and had attended national and international meetings of survivors. When asked to provide names of rescuers who had not been previously recognized, many survivors came forward to provide verbal testimony. Also provided were wartime mementoes, including letters, diaries, and photographs in support of their testimony. By 1991, when the interviews were conducted, rescued survivors had provided a total of 115 names of rescuers who had never been previously interviewed or honored. Of the 115, we were able to find 85 who were still living. Of these 85, five could not participate due to extreme ill health or died before they could be interviewed. All of the remaining 80 participated (100%).

The bystanders (and the immigrants) were randomly selected from lists compiled from various sources. In order to obtain the names of bystanders (and prewar immigrants), each time that a rescuer was located, we contacted clergy in that rescuer's community. Through conversations with rescuers, and with older adult clergy, who were also immigrants and who knew their parishioners over long periods of time, we were able to get the names of people who met the criteria for inclusion in the two groups. Names on the lists were also cross-checked with rescued survivors who had lived in the European communities from which the lists were drawn.

These survivors were able to provide additional input about whether any of those listed had been perpetrators or had engaged in rescue activities. In many instances, the rescuers were also able to help verify bystander status—particularly as the rescuers and bystanders lived in such close proximity to one another during the war. Because of our concern about the validity of the self-report data, the rescuers were only asked to help validate names of bystanders after their own interview had been completed. In several cases, rescuers were found to be living in assisted living facilities. As most of the residents of those facilities (homogeneous in regard to country of origin and religion) knew each other quite intimately over many decades, information needed to compile lists was readily available.

Once the lists were compiled, checked, and cross-checked, 85 bystanders were randomly chosen from a list of 218 people, who were, in most cases, “next-door neighbors” of the rescuers, both in Europe and in the Western Hemisphere. Of these 85, 85% ( $N = 73$ ) agreed to participate and were interviewed. Sixty prewar immigrants were randomly chosen from a list of 182 individuals drawn from the same countries of origin and religious groups. They lived in the same geographic areas both in Europe and in the Western Hemisphere, as did the other two groups. Of the 60 selected, all agreed to be interviewed, and 57 (95%) were able to complete the interviews (three others became too ill to participate). Complete data were obtained from 43 of these (75%) and were used in the study analyses.

### *Sample Characteristics*

Of the total sample, 87 participants were male (44%) and 109 were female (56%). Among the three groups (that is, the rescuers, bystanders, and the comparison group) there were 37 male (46%) and 43 female (54%) rescuers, 30 male (41%) and 43 female (59%) bystanders, and 20 male (46%) and 23 female (54%) prewar immigrants. Chi-square analysis revealed no significant gender differences among the groups  $\chi^2(2, N = 196) = .51, p = .78$ .

The mean age of the overall sample was 71.6 years ( $SD = 7.7$ ). Mean age for the rescuers was 72.9 years ( $SD = 7.5$ ), 68.7 years ( $SD = 6.8$ ) for the bystanders, and 74.4 ( $SD = 8.1$ ) for the prewar immigrants. Results of a one-way *ANOVA* for age revealed significant differences between the groups  $F(2, 193) = 9.77, p < .001$ , and a Scheffé post hoc analysis indicated that both the rescuers and the immigrants were significantly older than the bystanders. However, the rescuers and the immigrants did not differ significantly in age.

The postwar educational backgrounds of participants ranged from fewer than seven years of formal schooling (8%) to graduate or profes-



sional training (18%). Twenty-six percent completed the equivalent of the eighth grade, 52% completed at least some high school or were high school graduates, and 87% completed some college or were college graduates. Chi-square analyses revealed no significant differences between the groups in regard to education,  $\chi^2(42, N = 189) = 43.6, p = .40$ .

### *Measures*

This study employed a lengthy interview instrument in which respondents were asked about their current personalities on self-report measures of internal locus of control, autonomy, risk taking, social responsibility, tolerance/authoritarianism, empathy, and altruistic moral reasoning. With two exceptions, the analyses in this investigation were performed on the complete standard measures of these variables. The measure of empathy was the empathic concern subscale of a widely used scale. The measure of risk taking was developed for the purpose of this study.

*Locus of control.* Locus of control was measured using the six-item Life Control Subscale of the Life Attitude Profile (Reker & Peacock, 1981). Items on the Life Control Subscale include "The opportunity to direct my own life is very important to me" and "My accomplishments in life are largely due to my own efforts." Responses were given on a 7-point Likert-type scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Cronbach's coefficient alpha was .90 in the current study.

*Autonomy.* Autonomy was measured by Kurtines's (1978) Autonomy Scale, adapted from the California Psychological Inventory (Gough, 1964). The scale's 14 true-false items include "People can easily change me, even though I thought my mind was already made up" and "When I am in a group of people, I usually do what the others do rather than make suggestions." Cronbach's alpha was .71.

*Risk taking.* Risk taking was measured by seven items, including, "If something seems important enough to me, I am often willing to take a risk to do it" and "I stay away from challenges, especially if they seem dangerous." Items are scored on a 5-point scale with responses ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Cronbach's alpha was .82.

*Social responsibility.* The Social Responsibility Scale (Berkowitz and Lutterman, 1968) employed in this study, consists of eight items, for each of which the respondent indicates the degree of agreement on a 5-point scale, ranging from 1 (*strongly agree*) to 5 (*strongly disagree*). Items include "Every person should give some time for the good of the town or

the country” and “It is the duty of each person to do the best he/she can.” Cronbach’s alpha was .78.

*Tolerance/Authoritarianism.* The Balanced F Scale (Athanasίου, 1968), used as the measure of tolerance/authoritarianism, is a nine-item scale that was adapted from the California F Scale (Adorno et al., 1950). Items include “A child ought to be whipped at once for any sassy remark” and “There may be a few exceptions but, in general, members of a racial group tend to be pretty much alike.” The degree of agreement with each statement was measured on a 5-point scale ranging from 1 (*strongly agree*) to 5 (*strongly disagree*), with high scores indicating tolerance and low scores indicating authoritarianism. Cronbach’s alpha for the scale was .71.

*Empathy.* The measure of empathy used in this investigation was the Interpersonal Reactivity Index (IRI) (Davis, 1980), a self-report measure comprising four subscales. The one subscale used in this analysis was Empathic Concern. The Empathic Concern subscale was designed to reflect the genuine compassion and caring for the other that has been viewed as an important foundation for *genuine* altruism (Batson, 1997). It includes such items as: “Sometimes I don’t feel very sorry for other people when they’re having problems”(reverse scored) and “I often have tender, concerned feelings about those who are less fortunate.” Each item is rated on a response scale of one to five, and with anchors ranging from 1 (*does not describe me well*) to 5 (*describes me very well*). Cronbach’s alpha for this subscale was .91.

*Altruistic moral reasoning.* Altruistic moral reasoning was assessed by the Altruistic Moral Judgment Scale, and details about its scoring are available elsewhere (Midlarsky, et al., 1999). The measure includes vignettes describing four situations, in each of which the needs of a potential recipient of altruistic acts are in direct opposition to the protagonist’s own needs and desires. The reasoning about the dilemmas was scored in accordance with a sequence of six levels or stages. These consist, from the lowest to the highest, of fear of authority/punishment (level 1), hedonistic (level 2), needs-oriented/nonhedonistic pragmatism (level 3), approval-oriented/stereotyped (level 4), self-reflective/empathic orientation (level 5), and abstract/internalized reasoning (level 6; cf. Eisenberg, 1982). The scores used in this study indicated the degree to which respondents used the most advanced stage of reasoning, reflecting abstract and/or internalized values (level 6), in each of the four dilemmas. Scores were assigned by two raters, who achieved interrater agreement of .92. Cronbach’s alpha in this study was .90.

*The Interview Instrument*

The interview instrument had three parts. Part I, which was administered to all three groups of participants, included questions concerning demographic and personality characteristics at the time that the study was performed. Part II, administered to the rescuers and bystanders but not the prewar immigrants, inquired about wartime experiences. Part III, which was administered only to the rescuers, obtained details about the rescue in a narrative and in closed and open-ended questions. All of the data used in this study were collected exclusively during the administration of Part I of the interview instrument, which focused on demographic and personality variables in the present.

*Procedures*

The study data were collected in face-to-face interviews throughout 1991. Although the personality scales used here were originally designed as paper-and-pencil instruments, administration in an interview format is standard in research conducted with older adults (Kane & Kane, 2000).

Interviewers were trained to interview older European immigrants and observed an administration of the interview. They were given verbal and written instructions about how to make initial contacts and how to introduce the interview to participants, as well as an introduction to the interview format and the mechanics of using it.

Interviewers began by telephoning each potential respondent in order to request cooperation, and to arrange a face-to-face meeting. They stated that they were calling from the Center for the Study of Development and Aging to request participation in a federally funded research project. They went on to state that the aim of the project was to study the "activities and current well-being of older adult European immigrants." From the initial contact through the completion of Part I of the interview schedule to which all participants responded, we were very careful to avoid giving information that could affect self-perceptions. Thus, no mention was made of World War II, the Holocaust, or rescue before or during the administration of the study measures, all of which were in Part I of the interview schedule.

Interviews were conducted in the respondents' homes. Only the interviewer and the interviewee were present during the course of the interview, except for the 10% of the sample for whom a translator was needed. Written informed consent was obtained from all respondents prior to the interviews.

## RESULTS

### *Intercorrelations*

Intercorrelations among the demographic and personality variables in the study appear in Table 1. Of the 40 correlations, 27 were significant at the  $p < .001$  level. The strongest associations were those among social responsibility, empathic concern, altruistic moral reasoning, and risk taking.

### *Group Differences*

Preliminary group differences were tested for all scales (or subscales) using one-way analyses of variance (ANOVAs) with Bonferroni's correction for multiple tests. Where significant differences were found, Scheffé's post hoc range tests ( $p < .05$ ) were used to determine which groups were significantly different. The means and standard deviations for all three groups on each measure, the  $F$  statistics and the results of the Scheffé post hoc range tests are presented in Table 2.

Inspection of the Scheffé post hoc range tests revealed that rescuers scored significantly higher than both the bystanders and the immigrant group on six of the seven personality measures including locus of control, autonomy, risk taking, social responsibility, empathic concern, and altruistic moral reasoning. Although the rescuers differed significantly from the bystanders on tolerance/authoritarianism, they were not significantly different from the immigrants. The bystanders scored significantly lower than both the rescuers and the immigrants on measures of risk taking and social responsibility.

### *Multivariate Analysis*

A multivariate analysis was performed in order to determine the extent to which historic rescue activity is associated with current altruistic personality variables, controlling for sex and for the possible confounding effects of age. The capacity of current personality variables to predict membership in the rescuer, bystander, or immigrant groups was assessed using a hierarchical discriminant function analysis (H DFA). Personality variables in the analysis consisted

**Table 1**  
Intercorrelations of Variables

Variable	1	2	3	4	5	6	7	8	9
1. Group									
2. Gender	.01								
3. Age	.02	-.06							
4. Locus of Control	-.25***	.01	.03						
5. Autonomy	-.41***	-.04	.03	.45***					
6. Risk Taking	-.38***	-.18	-.06	.48***	.50***				
7. Social Respons.	-.52***	-.05	.16*	.45***	.43***	.61***			
8. Tolerance/Author.	-.15*	.63***	.00	.39***	.39***	.56***	.56***		
9. Empathy	-.45***	-.08	-.08	.52***	.46***	.68***	.67***	.50***	
10. Altruistic Moral Reas.	-.64***	-.15*	.12	.35***	.45***	.56***	.55***	.32***	.47***

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

**Table 2**  
**Group Differences for Personality Variables Among Rescuers, Bystanders, and Immigrants**

Variable	Rescuers ( <i>n</i> = 80)		Bystanders ( <i>n</i> = 73)		Immigrant ( <i>n</i> = 43)		<i>F</i>	<i>p</i> <sup>a</sup>	Scheffé <sup>b</sup>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Locus of Control	36.44	6.89	30.74	7.56	32.49	7.02	12.46	.001	1 > (2,3)
Autonomy	10.33	2.49	7.41	2.76	7.65	1.97	30.49	.001	1 > (2,3)
Risk taking	25.44	5.22	17.80	5.17	20.79	3.73	47.07	.001	1 > (2,3)
Social Response	34.34	4.63	25.40	4.23	27.84	3.05	92.10	.001	2 < (1,3) 1 > (2,3)
Tolerance/Author.	31.02	5.86	27.38	6.65	29.31	4.25	7.33	.001	2 < (1,3) 1 > (2)
Empathy	32.54	3.40	23.47	7.12	25.62	6.26	52.09	.001	1 > (2,3)
Altruistic Moral Reas.	10.82 (4.60)		4.14 (.61)		4.30 (1.14)		111.69	.001	1 > (2,3)

<sup>a</sup>Bonferroni's correction for multiple *F*'s was used. Therefore, only *ps* < .007 are considered significant.

<sup>b</sup>Group 1 = Rescuers; Group 2 = Bystanders; Group 3 = Immigrants.

All Scheffé group differences are significant at *p* < .05.

of locus of control, autonomy, risk taking, social responsibility, tolerance/authoritarianism, empathic concern, and altruistic moral reasoning.

Eight cases had at least one missing discriminating variable and were thus excluded. Four rescuers and four immigrants were eliminated, resulting in sample sizes of 76 rescuers, 73 bystanders, and 39 immigrants. The prior probabilities for the three groups were .40, .39, and .21, respectively.

Two significant discriminant functions were identified. The first function had an eigenvalue of 2.44, accounted for 93.3% of the discriminant function variance, and had a canonical correlation of .84, Wilks's  $\Lambda = .25$ ,  $\chi^2 (18, N = 196) = 252.80$ ,  $p < .0001$ . The second function had an eigenvalue of .175, accounted for the remaining 6.7% of the discriminant function variance, and had a canonical correlation of .39, Wilks's  $\Lambda = .85$ ,  $\chi^2 (8, N = 196) = 29.23$ ,  $p < .001$ .

The structure matrix presented in Table 3 presents the correlations between the discriminating variables and the discriminant functions. The variables within the table are ordered according to the strength of their contributions to the overall classification. According to Stevens (1996), these correlations are used for interpreting the func-

**Table 3**  
Structure Matrix for Discriminant Functions.

Variable	Function 1: Altruistic. motiv. structural coefficient	Function 2: Age structural coefficient
Altruistic Moral Reasoning	.71	-.22
Social Responsibility	.62	.30
Empathy	.48	.14
Risk Taking	.42	.39
Autonomy	.35	-.06
Locus of Control	.23	.12
Age	.08	.70
Tolerance/Authoritarianism	.14	.27
Gender	-.02	-.17

*Note.* Pooled within-groups correlations between discriminating variables and standardized canonical discriminant function.

Variables ordered by absolute size of correlation with function.

tions. The first function, accounting for 70.56% of variance between the groups, is best described by altruistic moral reasoning (.71) and social responsibility (.62), followed by empathic concern (.48). Hence, it is interpreted here as the altruistic motivation function. The second function, accounting for 15% of the variance between the groups, is best defined by age (.70). The classification table shown in Table 4 indicates that these two functions correctly classified 80.9% of the group members, including 82.9% of the rescuers, 91.8% of the bystanders, and 56.4% of the refugees. This represents an average improvement of approximately 47% over the prior probabilities.

Furthermore, results of an analysis of the significance in change in Wilks'  $\Lambda$ ,  $F_{(18,372)} = 18.98$ ,  $p < .001$ , indicates that the personality variables significantly discriminated the groups over and above age and gender. The group centroids, or means on the discriminant functions, appear in Table 5 and are plotted in Figure 1.

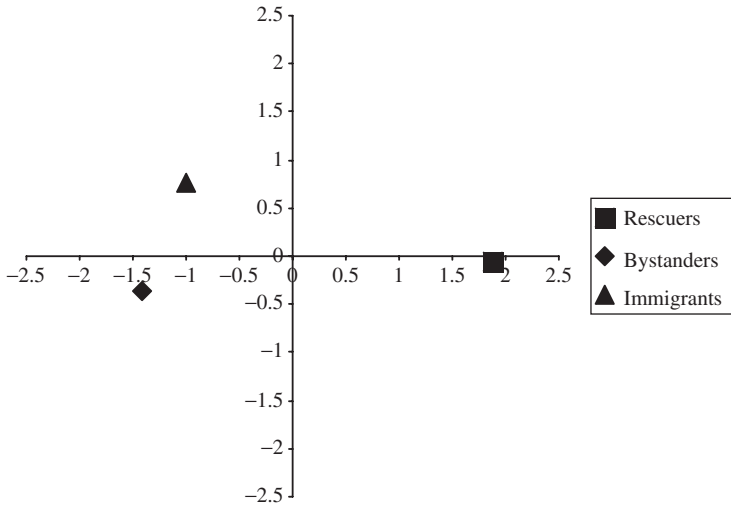
**Table 4**  
Classification Table

Actual group	<i>N</i>	Predicted rescuers	Predicted bystanders	Predicted immigrants
Rescuers	76	63 82.9%	7 9.2%	6 7.9%
Bystanders	73	1 1.4%	67 91.8%	5 6.8%
Immigrants	39	0 0%	17 43.6%	22 56.4%

**Table 5**  
Group Centroids for Discriminant Analysis

Group	Function 1: Altruistic Motivation	Function 2: Age
1	1.87	-.005
2	-1.42	-.357
3	-.996	.767





**Figure 1**  
 Group centroids or means on the discriminant function for the rescuers, bystanders, and immigrants.

*Additional Analyses*

In the three-group HDFA reported above, we attempted to control for age and gender by entering them in Step 1, prior to a Step 2 in which the personality variables were entered as well. Although we were able to demonstrate the rather obvious fact that age differences do exist among the groups, the inclusion of the demographic variables could serve to inflate the apparently high ability of the HDFA to classify the study participants into the three groups.

In order to answer the central question of the study, whether the personality variables can discriminate group membership, a standard (nonhierarchical) discriminant function analysis (DFA) was therefore conducted. When only the seven personality scores were used to discriminate the three groups, the overall rate of correct classification dropped from 80.2% to 70.2%. However, 80.2% of the rescuers were still successfully classified, a percentage that is comparable to the 82.9% who were correctly classified when the demographic data were included. The decrement in classification accuracy when the demographic data were removed occurred principally because a high proportion of bystanders (41%) were misclassified as immigrants only 57.5% were correctly classified as

bystanders. Thus, the major effect of including the demographic variables is that they aid in differentiating between the bystanders and the prewar immigrants—a distinction made largely on the basis of the significant age differences between the groups (the bystanders are younger).

For comparative purposes, we then combined the bystanders and the prewar immigrants into one group, and examined the contribution of the personality variables alone to the classification of the rescuers and the nonrescuers. Results of the two groups (rescuer, nonrescuer) DFA yielded correct classification of 93% of the sample—84.2% of the rescuers and 99.1% of the nonrescuers. This finding indicates that while some of the rescuers may score like the nonrescuers, the personality characteristics of the nonrescuers were clearly distinguishable from those of the rescuers. In an additional two-group DFA, we also asked whether the personality variables alone can distinguish the bystanders from the prewar immigrants (with the rescuers excluded from the analysis). Despite optimizing the discriminant function to separate the two groups, only 61.6% of the respondents were correctly classified—56% of the bystanders and 72% of the prewar immigrants.

We then explored the implications of the high intercorrelations among the personality variables reported in Table 1. In order to address the nonindependence of these measures, we began by first extracting any possible effects of age and sex by creating residualized personality measures. We then used principal components analyses to do data reduction on the seven personality measures after they had been residualized. Results of the principal components analysis yielded the extraction of only one component, with an eigenvalue of 3.746, accounting for 53.5% of the total variance among the measures. All of the other eigenvalues were less than 1.0.

With the single personality score created by the principal components analysis, we then did two additional two group DFAs because a three group DFA cannot be conducted with just one measure. In the DFA of rescuers versus bystanders, the total classification accuracy was 85.2%. In the DFA of rescuers versus prewar immigrants, the total classification accuracy was 82.6%.

Next, we considered the possibility that collinearity may have affected the coefficients in this study. That is, the high intercorrelations among the personality variables may have indicated a degree of col-

linearity that may have led, in turn, to misspecifications of the individual effects of the personality variables. The results of the principal components analysis, which yielded a single dimension of altruistic personality with a high eigenvalue, do support the idea of a multicollinearity problem. However, in a series of multiple regression analyses, in which the dependent variable was "group" (rescuer vs. bystander or rescuers vs. nonrescuer), we found that an important indicator of collinearity effects, the variance inflation ratio or VIF (Kleinbaum, Kupper, Muller, & Nizam, 1997), was not elevated in any of the analyses. On the other hand, the coefficient obtained for the tolerance/authoritarianism variable reverses from positive (in the bivariate analyses) to negative (in the multiple regression analyses), a possible indicator of collinearity effects. Furthermore, throughout all of the additional multivariate analyses, the three variables with the strongest controlled associations with rescue were altruistic moral reasoning, social responsibility, and empathic concern. These three variables, and their order, are identical to the three variables (and their order) found to be strongest in the three group HDFAs reported above. Thus, while there appears to be some degree of multicollinearity in the data set, nevertheless, the results regarding the strongest effects of personality variables are consistent, and therefore reliable.

## DISCUSSION

This study applied systematic methods, including the use of carefully chosen comparison groups and psychometrically appropriate measures, to the study of altruistic rescue during the Holocaust. The rescuers are more altruistic in that they reason in accordance with internalized standards and values, manifest social responsibility, and display a deep concern for the plight of others.

This study provides the first explicit comparison of the measured personality characteristics of "real life" altruistic rescuers with non-rescuers (bystanders and prewar immigrants). These rescuers were defined as people who helped Jews during the Holocaust at great cost to themselves and with no expectation of gain. Differences were found in seven personality variables that were associated with prosocial behavior in numerous empirical investigations over the past 30 years (e.g., Bierhoff et al., 1991; Cialdini et al., 1997; Ma, 1993; Midlarsky & Hannah, 1985; Miller et al., 1996). Those studies typ-

ically used experimental methods, in contrast to the naturalistic approach used in this research. We found that most of the personality variables correlated with helping in the laboratory also characterized the Holocaust rescuers; this similarity in findings based on disparate methodologies provides an example of the use of converging operations (Elmes, Kantowitz, & Roediger, 2003). This is also the first study of Holocaust rescuers that included a comparison group of demographically similar people who were not exposed to World War II in Europe (the prewar immigrants). Thus, we have compelling evidence that people who were allocentric rescuers during the Holocaust are currently distinguishable on the basis of altruistic personality characteristics.

The finding that personality characteristics associated with prosocial and altruistic action distinguish rescuers from nonrescuers accords with prior research. In the large-scale naturalistic study by Oliner and Oliner (1988), social responsibility and empathic concern were part of the “extensivity” construct that differentiated rescuers from nonrescuers. Furthermore, our findings suggest that personality characteristics associated with low-level helping in the experimental literature are also associated with “real life” helping under life threatening circumstances—personality characteristics that include altruistic moral judgment (Janssen & Dekovic, 1997; Miller et al., 1996), social responsibility (Bierhoff et al., 1991; Midlarsky & Kahana, 1994), and empathic concern (Batson, 1997; Penner & Finkelstein, 1998).

The differences that we obtained between rescuers, bystanders, and prewar immigrants are indicated in the hierarchical discriminant function analysis (HDFA), which correctly classified 80.2% of the respondents based on both the demographic and the personality variables. A clear representation of the group differences can be found in Figure 1, which illustrates the group centroids or means on the HDFA. The rescuers emerged as exceptionally distinct from the other two groups, particularly on Function 1. When we conducted a DFA of the three study groups, which used only the personality variables, 70.2% of the total sample were correctly classified; 93% were correctly classified when only the rescuers and bystanders were compared. The Oliners (1988), on the other hand, investigated the extent to which rescuers and bystanders are characterized by “extensivity” in a DFA. Extensivity is a construct resulting from a factor analysis of variables that included family upbringing, friendships

with Jews, involvement in social commitments, social responsibility, empathy, and egalitarianism. They were able to correctly classify 73.1% of their sample using extensivity. In contrast, when our model, comprised solely of altruistic personality variables was used in a DFA with rescuers versus nonrescuers (as did the Oliners), our model yielded a 20% improvement over the extensivity model.

In regard to the second function of the HDFA, the bystanders were significantly younger than both the rescuers and the immigrants. The finding that the rescuers in this study were significantly older than the bystanders is consistent with the results of earlier research (e.g., Gordon, 1984; Wolfson, 1975). In the study by Oliner and Oliner (1988), for example, the rescuers were 4 years older than the bystanders.

Nevertheless, despite indications that older individuals were more likely to engage in rescue activities, several rescuers were less than 18 years old at the time of their wartime rescue activities. Could these children and adolescents who helped be said to have generated an intention to help based on altruistic motives? In response, we should take note of the fact that the rescuers were included here and in similar studies because the rescued survivors, who were the beneficiaries of their heroism, denoted them as altruistic helpers. In order to be included in a study sample, nominated rescuers had to meet criteria for altruistic rescue developed by Yad Vashem. Descriptions of rescue by even young children may help to explain the judgment that these children behaved altruistically.

Consider Manya, an 11-year-old daughter of an anti-Semitic couple who was horribly upset by the brutality that she observed. Manya urged a 20-year-old Jewish man, whom she saw hiding nearby, to hide, instead, in the cellar of an abandoned building near her home. Over a 2-year period, she used all of her ingenuity to obtain food, clothing, and other supplies and bring them until she was finally able to find him another safe haven. He willingly left because he realized that this child often gave up part or all of her own food in order to feed him. Or consider Hans, whose older brothers were bringing food and firearms to Jews hiding in the forest. On Hans's 14th birthday, he insisted on joining them, despite his full awareness of the risks: his cousin, who had also been helping, had been murdered while bringing Jews to safety.

The Holocaust literature provides numerous additional examples of rescue undertaken by the young. For example, Fogelman (1994)

identifies children as a special class of rescuers who participated in familial rescue efforts. Ten-year-old Annie M. of the Netherlands, for example, was one of scores of children who assisted her parents' rescue activities by concocting stories to explain the coughs, sneezes, and noises that occasionally emanated from the upstairs room where a Jewish butcher and his wife were hidden for 2 1/2 years (Paldiel, 1993). Tec (2003) highlights the courageous resistance of Eastern European teenagers who participated in underground networks and various partisan groups.

It is also noteworthy that in the HDFA analysis, only one bystander was incorrectly classified as a rescuer (and no immigrants). In contrast, seven rescuers were incorrectly classified as bystanders, and six rescuers were incorrectly classified as immigrants. Seventeen immigrants were incorrectly classified as bystanders, and five bystanders were incorrectly classified as immigrants. Thus, the criteria for being classified as a rescuer were significantly more stringent than for classification as a bystander or an immigrant.

By including a comparison group, we aimed to discover the extent to which the bystanders and the rescuers differed from prewar immigrants. Interestingly, the bystanders were more similar to the immigrants than were the rescuers, who emerged as different from both groups. The fact that the rescuers were extremely high scorers on most of the measures suggests that when prolonged, life-threatening help is needed, only a small proportion of the population is likely to engage in altruistic activities.

Several caveats are in order in interpreting these findings. First, because this study was conducted several decades after the conclusion of World War II, the antecedent-consequent relations between the personality variables and rescue could not be directly determined. The goal of this study was to assess the extent to which personality variables would predict *group membership*, as opposed to *past rescue activity*. While this caveat is a limitation characterizing most retrospective analyses, it nevertheless does not minimize the importance of retroactively attempting to identify factors that may have been associated with historic behavior.

There is, of course, no simple answer to the question about whether the personality dispositions studied here were present to a similar degree during the years of the Second World War. While some researchers believe that personality undergoes changes over the life span, (Neugarten, 1968), Biesanz, West and Kwok (2003) have

noted that much of the evidence about personality change is derived from cross-situational studies. As each cohort studied in such cross-sectional research (e.g., ages 18–21, 40–49, and 50+) has been exposed to different historical events (e.g., the Great Depression and the Vietnam War), it is difficult to disentangle the effects of those highly significant events from the accrual of years. In addition to the variations in personality dispositions over time, there is the question of the extent to which individual differences are consistent within specific people (West, 2003). The nature of the rescuers' personalities, for example, may have predisposed them to be more (or less) consistent than the bystanders. Also, the enormous, possibly life-altering significance of rescue activities under the threat of death may have had a more profound impact on personality than do most life events. If this is the case, then the methodology of this study, unfortunately, precludes our discovery of that difference.

Whether or not the personality differences reported in this study are consistent with the historical personality differences in these groups, such differences cannot be used to determine the *causes* of the historical rescue activity. As in any case-control study, only the degree of association between the variables under investigation and the "cases," or groups, can be ascertained.

A second caveat is that our sample was drawn entirely from migrants to the Western hemisphere. We chose this sampling strategy because we wished to use personality measures developed for use in English-speaking, American, and Canadian populations. Our choice permitted us to use these instruments without modification, but, on the other hand, it limited the study to people who may be different from those who chose to remain in Europe.

A third caveat is that in proportion to the estimated size of the rescuer population, our sample of rescuers was relatively small ( $N = 80$ ), thus further limiting generalizability. An estimate of the number of non-Jews who engaged in rescue activity is 100,000, and these rescuers helped to save an estimated 250,000 Jews (Paldiel, 1992, as cited in Gushee, 1993). Hence, the variables that distinguished the rescuers from the bystanders may not describe all individuals engaging in rescue activities. On the other hand, the types of rescue represented by people in our sample (and verified by rescued survivors) were broad indeed. Rescuers in our sample smuggled food and even weapons into the ghetto and arranged for Jews to escape, worked with Nazi officials compiling lists of people to be deported

and then risked their lives by warning the potential deportees, and, in other cases, hid Jews in their attics and cellars (providing food, medications, shelter, and even delivering babies!), sometimes for years on end.

A representative sample of rescuers is impossible to find (Gushee, 1993). Nevertheless, in contrast to the rescuers who had already been honored by Yad Vashem at the time our study began, we might have included a wider range of people. A limitation on the group already honored by Yad Vashem was that they were all spontaneously nominated by rescued survivors. This may have limited the Yad Vashem archives to people who were the most noble and interpersonally skillful, excluding those who were equally altruistic, but less personable. In this study, rescued survivors were approached and strongly urged to provide names of previously unrecognized people who risked their own lives to (voluntarily) help Jews to survive. Many survivors who provided names for our study had previously been too upset, were incapable of feeling or expressing gratitude, had worked to repress/suppress their Holocaust memories, or hesitated because they did not like their rescuers. An additional benefit of studying people who had not been previously interviewed is that they had had less exposure to externally induced self-reflection about wartime activities. Such reflection could have led to self-perceptions that may, in turn, have influenced their responses to the personality measures.

The noble and costly activities in which the rescuers engaged, combined with the fact that they achieved extremely high scores on most of the measures of altruistic personality variables, suggest that in life-threatening situations only a very small and unique group of people will behave altruistically. Oliner and Oliner (1988) reported that less than one-half of 1% of the population in Nazi-occupied territory engaged in rescue activity of any kind during World War II. In order to better understand such unique behavior, future research should empirically investigate the degree to which these personality variables characterize other cohorts of heroic rescuers. A second future aim could be to conduct longitudinal investigations of the extent to which personality variables predict heroic altruism over time and in diverse contexts. Third, the effects of involvement in altruistic behavior on subsequent personality should be systematically examined to gain a clearer understanding of the relationship between these constructs. Finally, investigators have begun to examine the extent to which altruistic and prosocial personality traits can be



cultivated among our youth (Eisenberg, 1982; Hoffman 2000). In addition to altruistic moral reasoning and empathy, future researchers should explore whether traits such as social responsibility can be developed.

If, indeed, altruism denotes behaviors necessary for the survival of complex societies, then research on heroic rescue is of critical concern. In addition to the intrinsic interest in systematically studying uniquely altruistic individuals, social and political benefits may accrue in the context of a society that seems increasingly liable (M. Midlarsky, 2005) to engage in violence, war, and the annihilation of the other.

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