Altruistic suicide in the trolley problem[1]

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Abstract

Sixty-four students enrolled in psychology courses were given the "trolley dilemma" in which either the person on the bridge pushed a stranger (who was killed) into the path of a train, diverting it and thereby saving the lives of five workmen on the train tracks, or the person himself or herself jumped off the bridge (and was killed) in order to divert the train. The suicide received significantly higher scores for heroism than the murderer, and the act of suicide was given higher scores for being "the right thing to do."

A common technique used to study the moral decisions made by people is known as the trolley problem. In one version of this dilemma, a trolley (or train) is speeding down a track, and in its path are five workmen with their backs turned to the trolley. If no action is taken, the men will be killed. There is a bridge over the trolley tracks, and there is a man standing on the bridge. If this man were to be pushed off the bridge, he would land on the tracks and divert the trolley, but he would be killed. The dilemma then is over killing one man vs five men, but also murder vs accidental deaths. As Bartels and Pizarro (2011) have noted, the utilitarian response is to kill one man to save five.

In a typical study, Greene, Cushman, Stewart, Lowenberg, Nystrom, and Cohen (2009) presented people with four situations and asked them the extent to which the proposed action was morally acceptable. The four situations were: pushing the man (named Joe) off the bridge using one's hands, using a pole to push Joe off the bridge, and using a trap door and a remote switch either in a place distant from Joe or standing close to Joe when flipping the switch. The people rated pushing the man off with one's hands as the least morally acceptable action (mean score 3.9 on a 9-point scale) and using the switch and trap door when standing distant from the man as the most morally acceptable (mean score 5.1).

In almost all studies of this problem, the dilemma involves killing a few to save many. For example, Waldmann and Dieterich (2007) used a train about to hit a bus with 10 passengers, but a workman could push a bus containing two passengers onto the track, moving the bus with 10 passengers to safety, so that only two people would be killed instead of 10. Other versions of the problem vary the characteristics of the people in the scenario. Is the one person who will die to save five people fat, or is this person a pregnant woman? Bartels and Pizzaro (2011) found that people who scored higher on measures of psychopathy and Machiavellianism indicated a stronger preference for the utilitarian option.

How would respondents view an individual pushing a stranger (who would be killed) off the bridge into the path of the oncoming trolley vs that individual (who would be killed) jumping off the bridge himself or herself into the path of the trolley? In a study of Spanish undergraduates, Swann, Gomez, Dovidio, Hart, and Jetten (2010) compared the choices of oneself jumping off the bridge to stop the trolley vs doing nothing to save five people. For those students whose identities were tied up with being Spanish, 75% indicated that they would sacrifice their own lives to save the five other Spaniards. The present study sought to compare suicide (jumping into the path of the trolley) and murder (pushing a stranger into the path of a trolley) in the trolley problem with American students.

Method

A questionnaire was administered anonymously to students in two psychology courses (11 men, 53 women; M age = 23.5 yr., SD = 5.6, range 19–47). Half (n = 31) were given

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TABLE 1
Descriptive Statistics For Variables and Comparisons of the Two Conditions

Variable	Murder		Suicide		t
	M	*SD*	*M*	*SD*	
Openness	11.26	2.16	10.42	2.50	1.42
Conscientiousness	11.19	2.50	11.27	2.15	0.14
Extraversion	10.67	3.02	10.48	2.40	0.27
Agreeableness	13.55	1.46	13.55	1.41	0.01
Neuroticism	9.55	2.54	9.27	2.44	0.44
Hero	22.58	28.54	75.45	31.21	7.06*
Right thing to do	15.16	22.42	53.18	33.23	5.33*

*$p < .05$.

the murder scenario and 33 the suicide scenario. Since a hypothetical indication of whether one would murder another or complete suicide is unlikely to reflect what would happen in reality, the students were asked to rate the heroism involved and to what extent the action was the right thing to do. The questionnaire presented the students with one scenario.[1] The murder scenario was:

> In the path of a runaway train car are five railway workmen who do not see the train car approaching (they are working on the tracks with their backs to the oncoming train car) and who will surely be killed unless someone does something. If there was a heavy weight in front of the train car, it would go off the rails, and the five workmen would be saved. A man is standing on a bridge over the train tracks and, standing next to him is a stranger. The man pushes the stranger off the bridge, onto the train tracks, and the train car is diverted, saving the five workmen. The stranger, however, is killed by the train car.
>
> To what extent is the man who pushed the stranger off the bridge, saving five lives, a hero? Assign a number of points from 0 to 100 where 100 represents high heroism.
>
> To what extent is his behavior the right thing to do? (assign a number from 0 [not right] to 100 [absolutely right])

The suicide scenario was identical except for the last three sentences:

> A man is standing on a bridge over the train tracks, and he jumps off the bridge, onto the train tracks, and the train car is diverted, saving the five workmen. The man, however, is killed by the train car.

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[1]The questionnaire also contained a 15-item version of the Big 5 personality inventory to assess openness, conscientiousness, extraversion, agreeableness, and neuroticism (McManus & Furnham, 2006), but scores on this questionnaire were not significantly associated with the scores given by the students in either of the scenarios. Age and sex were also not significantly associated with the scores given by the students.

TABLE 2
Multiple Regression Differentiating the Two Conditions ($R^2 = .50$)

Variable	B	SE	β	t
Openness	−.028	.021	−.130	1.28
Conscientiousness	.023	.023	.101	0.97
Extraversion	−.023	.021	−.125	1.11
Agreeableness	.006	.039	.016	0.15
Neuroticism	.011	.023	.054	0.48
Hero	.008	.002	.605	3.40‡
Right thing to do	.001	.002	.099	0.59
Age	−.005	.010	−.058	0.52
Sex	−.003	.132	−.002	0.02

‡$p < .001$.

The means and standard deviations of the scores are shown in Table 1, along with t-test comparisons of the two groups.

Results

The students rated the suicide as significantly more heroic than the murderer ($Ms = 75.45$ vs 22.58, $SDs = 31.21$ and 28.54; $t_{62} = 7.06$, two-tailed $p < .001$, Cohen's $d = 1.79$), and the suicidal act was judged to a greater extent to be the right thing to do ($Ms = 53.18$ vs 15.16, $SDs = 33.23$ and 22.42; $t_{62} = 5.33$, $p < .001$, Cohen's $d = 1.35$). The full multiple regression to differentiate the two groups is shown in Table 2.

Discussion

The results of the present study confirmed the prediction that altruistic suicide to save others is viewed as far more morally acceptable than killing one person to save others. Thus, although scholars often point to the stigma associated with suicide (e.g., Scocco, Castriotta, Toffol, & Preti, 2012), altruistic suicide seems to bear less of a stigma in this situation than murder. Killing oneself to save others is a common response for soldiers engaging in wars and, in fact, is often the basis for honoring soldiers who died in such a manner or who risked their lives to save others.

It was noteworthy that the range of scores for both questions (heroism and moral acceptability) and for

both options (suicide and murder) was very large. In the suicide scenario, the scores for both heroism and "the right thing to do" ranged from 0 to 100; for the murder scenario the scores ranged from 0 to 100 for heroism and 0 to 75 for "the right thing to do."

The study does have the limitation of using American, primarily female, psychology undergraduates. However, this study calls into question that judgment by Bartels and Pizarro that the utilitarian response in this situation is to murder a stranger. As Bartels and Pizarro found in their study, this utilitarian response was associated with the traits of psychopathy and Machiavellianism and, therefore, seems to be pathological. It is important to consider whether utilitarian choices can be healthy choices for the individuals involved. Can the utilitarian response ever be to commit altruistic suicide? From an evolutionary perspective, a parent dying to save their child may be a utilitarian choice, since this action increases the chances that one's genetic material will survive. Are there other examples of healthy utilitarian choices in situations involving life and death?

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