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Whose Life Do You Save? Factors Associated with Gender Differences in Altruism  
Toward Romantic Partners versus Genetic Relatives

Carlos Hernández Blasi

Universitat Jaume I

Author Note

Correspondence should be sent to Carlos Hernández Blasi, [blasi@uji.es](mailto:blasi@uji.es), Departamento de Psicología, Universitat Jaume I, 12071, Castellón, Spain.

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### **Abstract**

This study explored potential gender differences in altruism in three hypothetical life-or-death situations in which a romantic partner and a relative (an offspring, a sibling, and a cousin) were involved. Specifically, 200 college students (93 men) responded to a 24-item questionnaire: 12 items focused on the three romantic partner vs. relative life-or-death dilemmas; 12 items served as control items and focused on three relative vs. relative life-or-death dilemmas (sibling vs. offspring; sibling vs. cousin; cousin vs. offspring). For each main dilemma, four different versions were created by varying the ages of both romantic partners and genetic relatives. Overall, the participants saved their offspring and siblings more often than their romantic partners, and their romantic partners more often than their cousins. In all three dilemmas, the proportion of women who saved their genetic relative over their romantic partner was significantly higher than the proportion of men, with the age of both romantic partners and relatives playing a role. Romantic partners were significantly saved more often when pitted against their cousins than when pitted against their siblings, and when pitted against their siblings than when pitted against their offspring. Young adult males and females exhibit minor, but significant and consistent, gender differences in their altruistic tendencies toward relatives in hypothetical critical situations in which other close non relatives, namely romantic partners, are also involved.

**Key words:** altruism, gender differences, family, romantic partners, youth, evolution

## Introduction

Close genetic relatives and romantic partners are probably the people who human beings feel closest to, care most about and would sacrifice the most to help (Daly, 2015). Yet what would happen in a life-or-death emergency if any of us had to necessarily choose between saving the life of a close relative or of our romantic partner? For whom would we finally make the decision to save? Certainly that would be no easy decision to make, and hopefully this is not a situation that most of us will have to face in our lifetime. However, this sort of disturbing dilemma has already been addressed in experimental research based on hypothetical life-or-death scenarios, and often from an evolutionary perspective (see e.g., Burnstein, Crandall, & Kitayama, 1994; Steward-Williams, 2007, 2008; Fitzgerald, Thomson, & Whitaker, 2010).

One of the most recent examples is Hernández Blasi and Mondéjar (2018), which tested the so-called Kundera Hypothesis. The Kundera Hypothesis basically claims that gender differences in altruism may exist when people have to choose between saving one's mate's life or that of one's offspring. It more specifically suggests that in a life-threatening situation, all women would prefer to save their child over their romantic partner, but maybe not all men would do the same. This hypothesis takes its name from a well-known Milan Kundera's novel (*Immortality*, 1991), in which a daughter character remembers this reflection made by her mother when she was an adolescent: "*At the very same moment that Professor Avenarius was putting on his socks, Agnes was remembering the following sentence: 'Every woman prefers her child to her husband.'* Her mother said that to her, in a confidential tone (in circumstances now forgotten) when Agnes was about twelve or thirteen years old" (p. 258). In essence, the study of Hernández Blasi and Mondéjar (2018) confirmed the Kundera Hypothesis, and the present study is a replication and extension of that study.

### *Gender Differences in Altruism*

Altruism is a deeply rooted characteristic in human nature with a long evolutionary history (Kurzban, Burton-Chellew, & West, 2015), and is observable since infancy (Warneken & Tomassello, 2006). Three important variables have been documented in the literature to influence altruism in humans: 1) the degree of genetic relatedness between the donor and the recipient (Hamilton, 1964; Burnstein, 2005; Kay, Lehmann, & Keller, 2019); 2) the cost of the help for the donor, and the benefit of the help to the recipient (Darley & Batson, 1973; Stewart-Williams, 2007); and 3) the social and cultural environment which the donor has grown up in (Eisenberg, Spinrad, & Knafo-Noam, 2015; Henrich & Muthukrishna, 2021).

Two other variables that influence altruism are age and gender. Age is considered by evolutionary researchers to be a rough estimation of “reproductive value” (potential fecundity, Buss, 2015) (e.g., reproductive value of the elderly is lower than that of youths), and it has been found to significantly affect helping behavior (e.g., in hypothetical life-of-death situations, people chose to aid the young over the old, Burnstein et al., 1994). In addition, it has been found that older adults tend to behave more altruistically than younger adults (Mayr & Freund, 2020).

As regards gender, women tend to be more altruistic than men across nations and cultures, which suggests that even this tendency might have a neuroanatomical basis (Yamasue et al., 2008). For example, women typically exceed men in charitable giving (Mesch et al., 2011; Sisco & Weber, 2019), and, in controlled experiments in economics using the Dictator Game, it has been consistently found that women are more generous than men on average when the price of giving is expensive, and are stabler across price changes, whereas men are more generous than women when the price of giving is cheaper and more sensitive to price changes (Andreoni & Vesterlund,

2001; Brañas-Garza, Capraro, & Gascón-Ramírez, 2018). A recent cross-cultural study in 76 countries also found that gender differences in the preference toward altruism are higher and in favor of women in rich and gender-egalitarian countries than in poor and less gender-egalitarian countries (Falk & Hermle, 2018). On the other hand, a marked consensus has been reached in social psychology insofar as women are typically more often helped than men by both men and women (Baumeister & Bushman, 2020).

The literature has also debated the existence of gender differences in the kind of helping behavior exhibited by men and women. An authoritative meta-analytical review of social psychology research into gender and helping behavior by Eagly and Crowley (1986) reported that, due likely to socialization differences in gender roles, helping behavior in men was more of the heroic and chivalrous kind, exhibited on a short-term basis and in public settings to favor mostly strangers. Conversely, helping behavior in women was more of the nurturant and caring type, exhibited on a long-term basis, mostly in domestic private settings and primarily in close relationships (also see Eagly et al., 2020). Carol Gilligan (1982) also proposed that there might be gender differences in moral orientation, with women being more biased toward a moral of care and connection to others, and men more biased toward a moral of justice and protection of individual rights. However, empirical support for her theory is not consistent (Jaffee & Hyde, 2000).

#### *Gender Differences in Altruism Toward Relatives*

A large body of ethnographic and experimental evidence indicates that women are generally more family-focused than men. Women typically spend more time with, feel closer to and more often assist relatives than men, especially in middle and old age (Essock-Vitale & McGuire, 1985; Hames, 2015). In fact the economics literature, particularly empirical evidence in developing countries, has consistently shown that

when household resources and/or microcredit loans are in the hands of mothers instead of fathers, other family members benefit more, children in particular (Alger & Cox, 2013; Ghosh & Neogi, 2017). In one sense, this should not be surprising: in most mammal species, family structures are more oriented around related females than related males (Mattison et al., 2019), and across diverse cultures, girls systematically spend more time with female relatives in middle childhood than boys, who ordinarily spend more time with unrelated same-sex peers (Benenson, 2019). However, it is noteworthy that female-biased kinship is comparatively rare in human cultures (Fortunato, 2012), and socio-cultural factors also contribute to some gender differences in family roles (Oláh, Kotowska, & Richter, 2018).

Very few studies to date have empirically approached altruism toward relatives when romantic partners are involved, and even fewer have found significant gender differences among participants. Steward-Williams (2008) reported that when the cost of *real* help was low (e.g., giving emotional support) or medium (e.g., providing financial help), romantic partners and friends received typically more help than siblings. Yet when the cost of *hypothetical* help was high (e.g., donate a kidney), the participants exhibited more willingness to help romantic partners and siblings than friends, although they revealed feeling emotionally closer to romantic partners and friends than to siblings. In addition, Fitzgerald et al. (2010) reported that responses could change depending on whether romantic partners shared a child or not. Specifically when the cost of *real* help was low, romantic partners received more help than siblings, regardless of them sharing a child or not. However, when the cost of *real* help was medium, the romantic partners who had a child received more help than the romantic partners without children and siblings. Moreover, when the cost of *hypothetical* help was high, the participants exhibited more willingness to help romantic partners with a biological

child and siblings than romantic partners with an adopted child or with no children. No gender differences were found in the participants in either of these two studies.

Conversely, Neyer and Lang (2003) reported in a sample of 1365 individuals aged 20 to > 70 years old (only 80 men and 80 women aged between 20-40 years) that, overall, the participants felt emotionally closer and received much more *real* help from romantic partners than from anyone else, including close kin. They also described important gender differences to favor women, who particularly in middle and older ages provided more help to relatives than men (the size effect was not significant for the younger age sample). Similarly, Hernández Blasi and Mondéjar (2018) found that the vast majority of both men and women in their sample of college students decided to save their children rather than their romantic partners in two *hypothetical* life-or-death situations (a home fire/a car crash), which agrees with the kin-altruism literature. However, about 18% of men on average (compared to 5% of women) *consistently* made the decision to save their romantic partners over their children. Saving rates were also seemingly influenced by age with, for example, about 30% of men (vs. about 10% of women) making the decision to save their partner over their children when the former were 25 years old and the latter were 1 year old.

### *The Current Study*

As far as we know, Hernández Blasi and Mondéjar (2018) is the only study to report a significant gender difference in altruism between romantic partners and relatives in a sample of young men and women. However, two important questions remain: 1) was that finding consistent? and 2) if so, does this gender difference extend to relatives other than offspring? To answer these questions, the main purpose of the present study is to, on the one hand, replicate Hernández Blasi and Mondéjar's findings on the romantic partner vs. child dilemma and to, on the other hand, explore if this

potential gender difference also extends to other close (siblings) and distant (cousins) relatives, or if it is exclusive to children. This is worth making the effort to obtain a real estimation of the “value” of romantic partners before relatives when it comes to altruistic behavior, and to better understand the relevance and degree of specificity of altruists’ gender effects in this regard.

For this purpose, we designed a 24-item questionnaire, similar to that used by Hernández Blasi and Mondéjar (2018), and tested large samples of men and women. This questionnaire comprised 12 items that focused on three life-or-death dilemmas involving one romantic-partner vs. a genetic relative (romantic partner vs. offspring; romantic partner vs. sibling; romantic partner vs. cousin), and 12 control items that centered on three life-or-death dilemmas involving one relative vs. another relative (sibling vs. offspring; sibling vs. cousin; cousin vs. offspring). For each dilemma, four different versions were created by varying the age of both romantic partners and relatives. In this way, it was possible to measure how the saving rates in the three romantic-partner dilemmas changed depending on the degree of genetic relatedness, the age of romantic partners and relatives, and the participants’ gender.

We first hypothesized that, as typically comes over in the literature, there will be significant differences in altruism depending on the degree of genetic relatedness among the relatives in the dilemmas. More specifically, we expected the saving rates for offspring, siblings and cousins to be significantly higher than the romantic partner-saving rates for the three dilemmas involving romantic partners, and also for both men and women.

We secondly hypothesized that, in line with Hernández Blasi and Mondéjar (2018)’s findings and with previous empirical evidence suggesting an overall higher bias of women toward family compared to men, there would be significant differences



in the romantic-partner saving rates between men and women for all three romantic partner vs. relative dilemmas, with men saving their romantic partners more often than women.

We thirdly hypothesized, based on previous altruism findings, that age would play a modulatory role in participants' decision making in the three romantic-partner dilemmas, with significantly higher saving rates for younger romantic partners, siblings and cousins than those for older romantic partners, siblings and cousins. For offspring, we predicted that 6-year-old children would be more often saved than 1-year-old children given that, following an evolutionary rationale (Trivers, 1972, 1974; Daly & Wilson, 1988), they were closer to reproductive age (puberty), and therefore in a life-or-death situation, they would hold an unconscious higher "reproductive value" for participants.

## **Method**

### *Participants*

The sample consisted of 200 university students (107 female;  $M$  age = 19.5 years,  $SD = 2$  years) who attended a public urban university in eastern Spain. Students attended the College of Education, the School of Psychology (70%) and the School of Law and Economics (30%). Their socio-economic background was mostly middle class and typical of public universities in Spain. They participated voluntarily in this study, which was previously approved by the University Research Ethics Committee.

### *Questionnaire and Procedure*

The participants were tested in groups in their university classrooms by means of the 24-item questionnaire, which was similar to the structure and instructions employed

in that by Hernández Blasi and Mondéjar (2018). Each item described a hypothetical life-or-death situation in which the participant and two other people were involved, with only one chance to save one of them in addition to the participant. The participants were asked to make a decision about whom they would save. For example: *“You are at home with your 25-year-old romantic partner and your 1-year-old child. Then all of a sudden a fire takes place, and you only have the time and resources to save the life of one of them. We know this is a difficult decision to make, but remember you can only save one of them. Who would you save?”* Before completing the questionnaire, we informed the students that the questionnaire was anonymous (only gender and birth date were collected), there were no correct or incorrect answers, and it was important not leave questions unanswered or spend a long time thinking about each item (although they were told there was no time limit to complete the questionnaire).

The questionnaire included three romantic-partner vs. genetic-relative dilemmas (experimental dilemmas): romantic partner vs. offspring; romantic partner vs. sibling, and romantic partner vs. cousin, with a 0 vs. .50, 0 vs. .50, and 0 vs. .125 degrees of genetic relatedness to the participant, respectively. Coefficients of genetic relatedness indicate “the probability that two individuals have genes in common as a consequence of immediate descent” (Hames, 2015, p. 506). The questionnaire also included three relative vs. relative dilemmas (control dilemmas): sibling vs. offspring; sibling vs. cousin, and cousin vs. offspring, with respectively .50 vs. .50, .50 vs. .125, and .125 vs. .50 degrees of genetic relatedness to the participant.

The hypothetical life-or-death situations were different for each dilemma: a home fire for the romantic partner vs. offspring choice; a car crash for the romantic partner vs. sibling choice, and a trail derailment for the romantic partner vs. cousin choice; an earthquake, a boat sinking and an avalanche for the sibling vs. offspring, the

sibling vs. cousin, and the cousin vs. offspring combinations, respectively. For each dilemma, four different comparisons were presented, where the age of the two involved people systematically varied: romantic partners and siblings were attributed either 25-year-olds or 40-year-olds; offspring were described as either 1-year-olds or 6-year-olds children; cousins could be either 15-year-olds or 35-year-olds (we adjusted the ages of cousins to make them compatible with our sample's average age, namely university students aged about 20 years.) This distribution made tenable four different age combinations for further statistical analyses. *Age combination 1* included dilemmas in which romantic partners' reproductive value was high and relatives' reproductive value was lower: 25-year-old romantic partner vs. 1-year-old offspring/40-year-old sibling/35-year-old cousin dilemmas. *Age combination 2* depicted dilemmas in which romantic partners and relatives' reproductive values were both high: 25-year-old romantic partner vs. 6-year-old offspring/25-year-old sibling/15-year-old cousin dilemmas. *Age combination 3* comprised dilemmas in which romantic partners and relatives' reproductive values were both low: 40-year-old mate vs. 1-year-old offspring/40-year-old sibling/35-year-old cousin dilemmas. Finally, *age combination 4* included dilemmas in which romantic partners' reproductive value was low and relatives' reproductive value was higher: 40-year-old romantic partner vs. 6-year-old offspring/25-year-old sibling/15-year-old cousin dilemmas.

## Results

Table 1 displays the percentage of participants who made the decision to save their relative (offspring, sibling, cousin) over their romantic partner in each life-or-death situation. Table 2 offers the results of the three control dilemmas which involved two relatives. As we can see, most participants generally preferred saving their offspring over their romantic partners, siblings and cousins, their siblings over their romantic

partners and cousins, and their romantic partners over their cousins. By applying a series of chi-square tests of independence ( $1, N = 200$ ) or Fisher's exact tests, a preliminary analyses of gender differences revealed significant differences for 10 of the 12 romantic-partner vs. genetic-relative combinations, but not for any of the combinations entailing two relatives (all  $p$ s > .056). Specifically, men consistently saved their romantic partners more often than their relatives compared to women, and not only when pitted against offspring (which replicates Hernández Blasi & Mondéjar, 2018), but also when pitted against siblings and cousins. The only two exceptions to this trend were the 40-year-old romantic partner vs. the 6-year-old offspring, and the 40-year-old romantic partner vs. the 15-year-old cousin dilemmas, for which no gender differences were found.

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 Tables 1 & 2  
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Figure 1 presents the percentage of the participants who overall made the decision to save their romantic partners instead of their offspring, siblings and cousins. To further assess this pattern of results, we scored every participant's romantic partner-saving decision with 1, and every participant's relative-saving decision with 0. Then we computed a 3 (kinship: Offspring vs. Sibling vs. Cousin) x 2 (gender: Men vs. Women) x 4 (age: Combination 1 vs. Combination 2 vs. Combination 3 vs. Combination 4) ANOVA with repeated measures on kinship and age.

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 Figure 1

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This analysis produced a significant main effect ( $p < .001$ ) for kinship,  $F(1.94, 371.81) = 295.79$ , partial  $\eta^2 = .61$ ; gender,  $F(1, 192) = 22.09$ , partial  $\eta^2 = .10$ ; age,  $F(2.69, 517.05) = 89.30$ , partial  $\eta^2 = .32$ , as well as two significant interactions: age x gender,  $F(3, 576) = 3.20$ ,  $p = .023$ , partial  $\eta^2 = .02$ ; and kinship x age,  $F(5.05, 970.08) = 13.29$ ,  $p < .001$ , partial  $\eta^2 = .07$ . The *post hoc* Bonferroni ( $p < .05$ ) tests for analyzing the main kinship effect revealed that the romantic partner-saving rates were higher when romantic partners were pitted against cousins ( $M = .76$ ) than when pitted against siblings ( $M = .31$ ), and were higher when pitted against siblings than when pitted against offspring ( $M = .12$ ). An examination of the main gender effect confirmed, and coincided with our preliminary analyses, that romantic partner-saving rates were higher for men ( $M = .47$ ) than for women ( $M = .33$ ). The *post hoc* Bonferroni ( $p < .05$ ) tests for the main age effect indicated that the romantic partner-saving rates significantly differed among all four age combinations. They were higher for age combinations 1 and 3 ( $M_s = .54$ , and  $.43$ ), where relatives' reproductive value was lower, than for age combinations 2 and 4 ( $M_s = .35$ , and  $.27$ ), where relatives' reproductive value was higher. In both cases, the highest romantic partner-saving rates appeared when the romantic partner was 25 years old (age combinations 1 and 2); that is, when romantic partners' reproductive value was higher.

A subsequent inspection of the significant age x gender interaction revealed that the largest difference in the romantic partner-saving rates between men and women was found in age combination 1 (men  $M = .63$ , women  $M = .44$ ,  $p < .001$ ,  $t = 5.40$ ), whereas the smallest difference appeared in age combination 4 (men  $M = .31$ , women  $M = .24$ ,  $p = .04$ ,  $t = 2.08$ ). The gender differences in the romantic partner-saving rates for age

combinations 2 (men  $M = .42$ , women  $M = .28$ ,  $p = .001$ ,  $t = 3.89$ ) and 3 (men  $M = .51$ , women  $M = .36$ ,  $p = .001$ ,  $t = 3.99$ ) fell in between. In other words, the largest size of the gender differences in the romantic partner-saving rates (with men saving significantly more their romantic partner than women in all four age combinations) was observed when relatives' reproductive value was low and romantic partners' reproductive value was high, and steadily lowered as a relative's reproductive value rose and the romantic partner's reproductive value fell.

For the significant kinship x age interaction, another inspection indicated that the effect of age on the romantic partner-saving rates was apparently stronger for the romantic partner vs. cousin dilemmas, where all six potentially significant differences among the four available age combinations were significant ( $ps \leq .001$ ,  $t_s \geq 3.35$ , romantic partner-saving means:  $M_{25rp \text{ vs. } 35cs} = .92 > M_{40rp \text{ vs. } 35cs} = .83 > M_{25rp \text{ vs. } 15cs} = .74 > M_{40rp \text{ vs. } 15cs} = .57$ ) than for the romantic partner vs. offspring dilemmas, where only four of the six potentially significant age combinations differences were significant ( $ps \leq .02$ ,  $t_s \geq 2.35$ , romantic partner-saving means:  $M_{25rp \text{ vs. } 1off} = .17 > M_{40rp \text{ vs. } 1off} = .12 [= M_{25rp \text{ vs. } 6off} = .10] > M_{40rp \text{ vs. } 6off} = .07 [= M_{25rp \text{ vs. } 6off} = .10]$ ). The effect of age for the romantic partner vs. sibling dilemmas fell in between because five of the six age combinations differences were significant ( $ps < .001$ ,  $t_s \geq 4.73$ , romantic-partner saving means:  $M_{25rp \text{ vs. } 40sb} = .52 > M_{40rp \text{ vs. } 40sb} = .34 > M_{25rp \text{ vs. } 25sb} = .21 = M_{40rp \text{ vs. } 25sb} = .17$ ). That is, romantic-partner saving rates were more influenced by age when romantic partners were pitted against cousins than when pitted against offspring and/or siblings.

## Discussion

The main purpose of this study was to, on the one hand, replicate in a sample of young people if gender differences actually existed in altruism when a romantic partner and an offspring were involved in a hypothetical life-or-death situation, and if so to, on

the other hand, test if these differences also extended to other relatives, namely siblings and cousins. Our findings provided an affirmative response to both queries. As predicted in our second hypothesis, gender differences remained significant and consistent across the three romantic-partner vs. genetic-relative dilemmas, which extends Herández Blasi and Móndejar (2018)'s findings on the Kundera Hypothesis. However, the size of these gender differences changed depending on the age of both romantic partners and relatives. Overall, the largest difference was found when romantic partners and offspring were younger, and when siblings and cousins were older. Conversely, the smallest difference appeared precisely in the opposite condition; that is, when romantic partners and offspring were older, and siblings and cousins were younger.

In addition, as predicted in our first and second hypotheses, the degree of genetic relatedness to relatives and the age of both romantic partners and relatives significantly influenced the participants' choices. Specifically the participants, regardless of their gender, more often saved their children and siblings on average than their romantic partners, with romantic partners being more often saved when pitted against cousins than against siblings and offspring. Apparently romantic partners were more valued than cousins, but less than siblings and offspring. Similarly, the romantic-partner saving rates varied across the four age combinations depending on the degree of the genetic relatedness, with more variations found in the romantic partner vs. cousin dilemma.

This is the first time in the literature that gender differences in altruism between romantic partners and relatives in a sample of young adults are so consistently, extensively and precisely reported. Previous research either did not find any gender differences among participants (Steward-Williams, 2008; Fitzgerald et al., 2010), just found them in middle-aged and older samples (Neyer & Lang, 2003), or for a single

relative type, namely offspring (Hernández Blasi & Mondéjar, 2018). The results are consistent with, on the one hand, an evolutionary perspective that emphasizes variables like the degree of genetic relatedness and the reproductive value to understand altruistic behavior, as well as the role of women as “kin-keepers” (Hames, 2015) and with, on the other hand, psychology and economics theorizing and evidence suggesting that men and women behave, feel and think differently with respect to helping behavior (Eagly & Crowley, 1986; Falk & Hermle, 2018; Gilligan, 1982).

At the same time, some findings are not fully consistent with either of those two approaches. For example, from an evolutionary perspective it is not easy to offer an explanation as to why a vast majority of both men and women ( $M = 77\%$ ) made the decision to save their romantic partners over their cousins. Indeed ethnographic evidence reveals that altruism toward relatives is “prescriptive” in human societies, even when the degree of genetic relatedness is low, which is the case with cousins (Burnstein, 2005), and available evolutionary theorizing and evidence suggest that there is a specific ongoing system for kin selection in cousins in humans (Jason & Buss, 2007). Conversely from a non-evolutionary perspective, it is difficult to explain why, for example, a vast majority of both men and women made the decision to save their children and their siblings over their romantic partners, when adults throughout their lifetime typically express feeling emotionally closer to romantic partners than to any relatives (Neyer & Lang, 2003).

Certainly, more research is required to properly understand the intriguing phenomena reported in this study. In our opinion, this research should first include samples with participants from a wider age range (the mean age of our sample was 19.5 years), with more detailed information about their romantic, parental and family statuses. That is, neither here nor in Hernández Blasi and Mondéjar (2018) were



participants asked if they actually had a romantic partner, children, siblings and cousins at the time these studies were conducted. This might be an important issue as lack of experience with these relationships might have influenced participants' final decision making. Second, we think it would be suitable to employ measurements that go beyond the forced-choice method herein used, such as Likert-type scales, reaction times, open-ended questions or interviews, to ask the participants about the reasons for their choices, particularly romantic-partner savers for the offspring and siblings dilemmas. Finally, we believe it would be interesting to provide some complementary information about romantic partners and relatives in the questionnaire, such as relatives' gender, and the number children of a romantic partner and relatives. As previous research work has demonstrated (Fitzgerald et al., 2010), the participants' decision making might change in hypothetical life-or-death situations in accordance with romantic partners having children or not. It might also be wise to increase the hypothetical age of older romantic partners: most 25-year-old romantic partners have a higher reproductive value than 40-year-old ones, but the reproductive value of a 40-year-old women and a 40-year-old man are not likely equivalents. Similarly, it might be helpful to have at least two accidents (or ideally four) affecting each type of dilemma to prevent that the type of accident is confounded with the dilemmas (it should be noticed yet that in Hernández Blasi & Mondéjar, 2018, where every dilemma was presented in two different life-or-death situations, no significant outcomes differences between situations were reported.) Hence new research should take these issues into account.

This study revealed that young men and women display different altruistic behavior tendencies when providing help in a hypothetical life-or-death situation that involves genetic relatives and romantic partners, with women being apparently, and on average, slightly more sensitive toward relatives than toward romantic partners vs. men

(regardless of relatives being offspring, siblings or cousins). In both genders, however, the degree of genetic relatedness to relatives, and the age of relatives and romantic partners, both played a significant role in the participants' altruistic tendencies. This does not mean, however, that *all* women and *all* men show the same tendency because we are talking about means. Nor does this mean that men do not care, or care less, about family than women, or women do not care, or care less, about romantic partners than men. In the end, this study reports a small, but significant difference, in a forced-choice paradigm about a hypothetical, and not a real, life-or-death situation. In any case, our results strongly suggest the need to bear in mind the altruist's gender more seriously when approaching altruistic behavior toward family members, particularly when other close non-kin individuals, such as romantic partners, are involved.

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Table 1. Percentage of the men and women who stated they would save their relative (offspring, sibling, cousin) over their romantic partner in a hypothetical life-or-death situation (1 = home fire, 2 = car crash, 3 = train derailment). *Note:* Significance of the gender differences calculated by chi-square tests (1,  $N=200$ ).  $p < .05$  in bold. YO = year old

<b>Dilemmas</b>	<b>Men</b>	<b>Women</b>	<b>Significance</b>
Partner 25 YO vs. Offspring 1 YO (1)	72.0	93.4	<b>.000</b>
Partner 25 YO vs. Offspring 6 YO (1)	83.9	96.2	<b>.003</b>
Partner 40 YO vs. Offspring 1 YO (1)	82.8	92.5	<b>.037</b>
Partner 40 YO vs. Offspring 6 YO (1)	90.3	95.3	.172
Mean	82.3	94.4	
Partner 25 YO vs. Sibling 25 YO (2)	71.0	85.6	<b>.012</b>
Partner 25 YO vs. Sibling 40 YO (2)	37.0	58.5	<b>.002</b>
Partner 40 YO vs. Sibling 25 YO (2)	76.3	88.7	<b>.021</b>
Partner 40 YO vs. Sibling 40 YO (2)	53.8	76.4	<b>.001</b>
Mean	59.6	77.3	
Partner 25 YO vs. Cousin 15 YO (3)	18.3	33.6	<b>.014</b>
Partner 25 YO vs. Cousin 35 YO (3)	2.2	14.2	<b>.003</b>
Partner 40 YO vs. Cousin 15 YO (3)	39.8	44.9	.469
Partner 40 YO vs. Cousin 35 YO (3)	9.9	22.4	<b>.018</b>
Mean	17.6	28.8	



Table 2. Percentage of the men and women who stated they would save their offspring over their sibling, their sibling over their cousin, and their offspring over their cousin in a hypothetical life-or-death situation (4 = earthquake, 5 = boat sinking, 6 = avalanche).

*Note:* Significance of the gender differences calculated by chi-square tests (1,  $N=200$ ) or Fisher's exact tests (\*). YO = year old

<b>Dilemmas</b>	<b>Men</b>	<b>Women</b>	<b>Significance</b>
Sibling 25 YO vs. Offspring 1 YO (4)	74.2	85.0	.056
Sibling 25 YO vs. Offspring 6 YO (4)	88.2	85.0	.519
Sibling 40 YO vs. Offspring 1 YO (4)	84.9	87.9	.549
Sibling 40 YO vs. Offspring 6 YO (4)	90.3	88.8	.724
Mean	84.4	86.7	
Sibling 25 YO vs. Cousin 15 YO (5)	87.1	86.0	.818
Sibling 25 YO vs. Cousin 35 YO (5)	98.9	99.1	1.000*
Sibling 40 YO vs. Cousin 15 YO (5)	68.8	70.1	.845
Sibling 40 YO vs. Cousin 35 YO (5)	93.5	92.5	.777
Mean	87.1	86.9	
Cousin 15 YO vs. Offspring 1 YO (6)	98.9	95.3	.219*
Cousin 15 YO vs. Offspring 6 YO (6)	98.9	99.1	1.000*
Cousin 35 YO vs. Offspring 1 YO (6)	96.8	96.3	1.000*
Cousin 35 YO vs. Offspring 6 YO (6)	97.8	99.1	.598*
Mean	98.1	97.5	

Figure 2. The mean percentage of the men and women who made the decision to save their romantic partners over their offspring, siblings and cousins in a hypothetical life-or-death situation across the presented four age scenarios or dilemmas.

