

## Need, Compassion, and Support for Social Welfare

**Andrew W. Delton**

*Stony Brook University*

**Michael Bang Petersen**

*Aarhus University*

**Peter DeScioli**

*Stony Brook University*

**Theresa E. Robertson**

*Stony Brook University*

---

*Funding for social welfare depends on citizen support. Drawing on evolutionary psychological approaches to politics, we study two types of need that might shape citizens' welfare support by regulating their feelings of compassion. One type of need is a recipient's absolute need. The other type is acute need created by sudden misfortune, such as sudden job loss. Across four studies, we find that absolute and acute needs independently affect compassion and welfare attitudes. This leads to potential inefficiencies in judgments: People who have fallen far are judged more deserving of compassion and access to welfare even when they are not in an absolute sense the most impoverished.*

---

**KEY WORDS:** compassion, social welfare, evolutionary political psychology, experimental political science, heuristics

Providing social welfare is an important function of governments. But government provisioning critically depends on support from citizens. A key driver of support is whether citizens think that welfare recipients are deserving (van Oorschot, 2000). Recent work suggests that perceptions of deservingness can be usefully examined through the lens of evolutionary political psychology (Petersen, 2015). Drawing on the evolutionary psychology of cheater and free-rider detection (Cosmides & Tooby, 2005; Delton, Cosmides, Guemo, Robertson, & Tooby, 2012), this line of research has shown that one determinant of deservingness is whether potential welfare recipients are lazy or merely unlucky (Aarøe & Petersen, 2014; Petersen, 2012).

Besides information about the willingness of the able-bodied to work, evolutionary approaches suggest an additional type of information may inform deservingness judgments: need (Petersen, 2015). In this article, we study two potential types of need that might cause citizens to support welfare. One candidate type of need is *absolute need*: the need of someone struggling to meet basic requirements of food, shelter, and medicine. A second candidate type of need is how far a needy person has fallen, the *acute need* that comes with a sudden misfortune. For instance, although citizens

might support welfare for a man trying to support a family on an income of \$20,000, their support might be even stronger if he previously earned \$50,000 before falling to \$20,000.

At a psychological level, how should reactions to need—and therefore support for welfare—be implemented? One possibility is that these reactions arise from compassion (e.g., Brandt, 2013; Feldman & Steenbergen, 2001; Huddy, Jones, & Chard, 2001; Petersen, 2010; Petersen, Sznycer, Cosmides, & Tooby, 2012). Thus, in addition to studying direct attitudes about welfare, we also study citizens' compassion for people in need. If compassion is attuned to both sudden changes in hardship and absolute hardship, this could provide a microlevel, psychological explanation for a number of important political phenomena associated with the expansion and limits of support for public assistance. As we will discuss, the public's attention to sudden hardship can shed light on how public support for the welfare state increases under sudden changes in macroeconomic conditions (e.g., Kam & Nam, 2007).

But if the public is strongly attending to sudden hardship, it will place important limits on the extent of public compassion and create disconnects between a person's absolute level of need and how deserving they are seen to be of public assistance (e.g., Gilens, 1999; van Oorschot, 2000). In fact, a citizen might feel greater compassion for someone who fell from \$50,000 to \$20,000 than someone who had even lower income at \$15,000 all along. The public might therefore prefer to help the person who is actually better off rather than the person who needs help the most. This could lead to potential inefficiencies in judgments, like greater compassion for people who are objectively richer.

We study how changes in income affect compassion and policy preferences in studies in two cultures with different welfare systems (United States and Denmark). Methodologically, we use experimental methods for studying political and economic decisions (Druckman, Green, Kuklinski, & Lupia, 2006; McDermott, 2002). Theoretically, we draw on evolutionary psychological perspectives on political science (Aarøe & Petersen, 2014; Alford & Hibbing, 2004; Dawes, Fowler, Johnson, McElreath, & Smirnov, 2007; Delton, Nemirow, Robertson, Cimino, & Cosmides, 2013; Fowler & Schreiber, 2008; Hatemi & McDermott, 2011; Loewen & Dawes, 2012; Lopez & McDermott, 2012). We test whether compassion and welfare attitudes are structured by two heuristics of caring, one focused on absolute needs and one on sudden, acute needs. We motivate this latter, less-studied heuristic with the theory of risk pooling, which holds that humans evolved a cooperative strategy in which people compensate each other after unexpected resource losses (Kaplan, Hill, Lancaster, & Hurtado, 2000; Kaplan, Schniter, Smith, & Wilson, 2012).

### Compassion, Risk Pooling, and Welfare Politics

Emotions powerfully shape political behavior (Huddy, Feldman, & Cassese, 2007; Marcus, Neuman, & MacKuen, 2000; Neuman, Marcus, Crigler, & MacKuen, 2007). For instance, group attachment and its attendant emotions, not just policy considerations, predict political involvement (Huddy, Mason, & Aarøe, 2015). Enthusiasm causes people to think more about politics (Groenendyk & Banks, 2014; Marcus et al., 2000), and the emotion of anxiety influences opposition to immigration (Brader, Valentino, & Suhay, 2008).

Compassion is a key predictor of support for social welfare (Brandt, 2013; Feldman & Steenbergen, 2001; Huddy et al., 2001; Petersen, 2010; Petersen et al., 2012). Compassion for welfare recipients predicts support of welfare programs across welfare states as diverse as Denmark and the United States (Petersen et al., 2012). Support for welfare correlates positively with compassionate values such as humanitarianism (Feldman & Steenbergen, 2001) and compassionate values even predict extending welfare benefits to recent immigrants (Newman, Hartman, Lown, & Feldman, 2015).

Psychologists have argued that compassion is an other-directed emotion (Batson, 1991; Goetz, Keltner, & Simon-Thomas, 2010), one that functions to alleviate the suffering of others, providing aid to those in need. For instance, compassion causes people to help even if they could otherwise walk

away; in contrast, seemingly related emotions like distress at another's suffering cause people to withdraw rather than help (Batson, O'Quin, Fultz, Vanderplas, & Isen, 1983). At an evolutionary level, researchers have argued that the mechanisms of compassion evolved to perform altruistic or cooperative functions such as parental care and social exchange, that homologous mechanisms are found in a variety of animal species, and that they were favored by evolutionary processes such as kin selection, reciprocity, and mutualism (Batson, Lishner, Cook, & Sawyer, 2005; Goetz et al., 2010; Hublin, 2009; Preston, 2013).

Drawing on this work, we propose that humans have (at least) two heuristics of care. The first heuristic responds to *absolute needs*, meaning conditions of being in a vulnerable state—having few resources, being in poor health, or being aged, infirm, or very young. These types of cues regulate helping behavior in a variety of nonhuman animals. Researchers argue that mammals share common abilities to perceive and respond to the absolute needs of a few close others (Batson et al., 2005; Preston, 2013). These abilities were then elaborated in some species, including humans, to be applied broadly to other kin, mates, reciprocators, and other valuable social partners (Goetz et al., 2010; Hublin, 2009).

A second heuristic responds to *acute needs* caused by a sudden hardship. Humans have evolved a specialized system of care, a primitive type of social insurance called *risk pooling*, that enables people to survive sudden hardships (Aktipis, Cronk, & Aguiar, 2011; Hao, Armbruster, Cronk, & Aktipis, 2015; Kameda, Takezawa, & Hastie, 2003; Kameda, Takezawa, Tindale, & Smith, 2002; Kaplan et al., 2000; Kaplan et al., 2012). Human ancestors were foragers who faced an uncertain supply of food. On any given day a person may not find enough to feed themselves and their family. For instance, among the Ache and Yora (hunter-horticulturists in South America), hunters catch nothing 27% and 45% of the time (Sugiyama & Chacon, 2000). Someone else, however, may find more than enough—more food than they could eat before it spoils. By sharing excess food, a fortunate forager pays only a small cost but provides a large benefit to the recipient. Across time, because everyone is likely to suffer bad luck, this system benefits everyone (Gurven, Allen-Arave, Hill, & Hurtado, 2000). Indeed, anthropological studies find that a majority of foragers (65%) would have perished had they not been part of a risk-pooling system (Sugiyama, 2004a,b).

Although usually framed in terms of food returns, the theory of risk pooling applies more broadly. Theoretically, risk pooling can be mutually advantageous whenever there are high variance benefits or costs, while the long-term average is positive (otherwise everyone loses by sharing). For example, people who are at risk from severe storms can mutually benefit by housing each other when one of their shelters is destroyed. Past research on small-scale groups, for instance, has connected risk pooling to people's motives to help each other through bad health (Sugiyama, 2004a,b). These advantages do not depend on whether the individuals are on the brink of survival, although of course there is even more to gain in this case, since the marginal benefit of a resource is greater when survival is on the line. So, we can expect roughly similar patterns in people's responses to a shock to someone else, even if they are relatively well off. Experimental studies on risk-pooling psychology have typically used monetary rewards (DeScioli, Shaw, & Delton, in press; Kaplan et al., 2012). Even if one of the main functions of risk pooling is to buffer caloric risk, people are also able to share risk in other domains.

Critically, to perform this insurance function, we argue that human compassion is attuned to sudden hardships, rather than absolute needs alone. Although many animals might have compassion systems attuned to absolute needs (e.g., for parental care), the acute-needs heuristic was favored for a different function, risk pooling, and was likely a more recent evolutionary addition to the suite of mechanisms underlying the specifically human sense of compassion. Moreover, previous research in evolutionary political psychology has already found connections between compassion, risk pooling, and political attitudes (Petersen, 2015; Petersen et al., 2012).

To the extent the psychology of compassion structures welfare attitudes, the recognition of a compassion heuristic attuned to acute need should provide novel insights on these attitudes. Below, we discuss how this heuristic supports and extends existing knowledge about when and among whom support for welfare can be expanded. As we also discuss, however, the acute-needs heuristic also places important limits on the public's compassion towards welfare recipients, disconnecting compassion from the recipients' current economic conditions and sometimes even making people feel more compassion for recipients who are better off.

### The Expansion of Compassion and Public Support for Welfare

Past research has examined how the economic hardship of others affects welfare attitudes and, in particular, whether worsening economic conditions lead to greater or less support for the welfare state (Durr, 1993; Erikson, MacKuen, & Stimson, 2002). As Kam and Nam (2007) point out, there are two possibilities. One is that during good times, when citizens have resources to spare, they support a generous welfare state. As a corollary, when times are tough, citizens favor cutting welfare. A second possibility is that during a poor economy citizens recognize that the prevalence of hardship has increased, so they want to increase support for welfare. They might recognize, for instance, that in a bad economy someone's hardships are less likely to be their own fault, making the unemployed on average more deserving (Aarøe & Petersen, 2014; Gilens, 1999; Petersen, 2012; van Oorschot, 2000).

Kam and Nam (2007) argue that the evidence on this is mixed. For instance, Durr (1993) studied aggregate measures over two decades and found that expectations of good economic times predict preferences for a liberal policy agenda. Similarly, more recent research using a sample of European countries shows that lower inequality predicts generous welfare policy (Barth, Finseraas, & Moene, 2015).

On the other hand, some data are consistent with greater welfare provision in hard times (Erikson et al., 2002). Kam and Nam (2007) found that high inflation predicted *greater* support for unemployment benefits (though high unemployment did not), consistent with an expansion of welfare in times of hardship. A study of the United States, France, and Denmark found that citizens prefer less stringent conditions for welfare eligibility during economic downturns (Jensen, 2007). Support for income redistribution is higher in countries with especially large rises in unemployment (Blekesaune, 2007). U.S. states spend more on welfare when they have greater unemployment (Ewalt & Jennings, 2014). Similarly, in nations with high unemployment, support for government spending on welfare is higher (Jakobsen & Listhaug, 2012). And Gilens' (1999) found using the American National Election Studies (ANES) that lower GDP was associated with greater support for welfare.

These macrodata on the expansion of welfare during economic hardship are consistent with our microlevel framework. Importantly, however, the present work can extend this literature in two ways. First, much of this previous work uses aggregate, cross-sectional, and time-series data to understand welfare attitudes. By using experiments, we can avoid confounds common in this literature (as noted by Huddy et al., 2001). One confound is between current hardship (which may have been stable over the medium- to long-term) and downturns in hardship (i.e., sudden changes for the worse). Another confound is between personal needs and others' needs; in real-world economic downturns both are likely affected. As self-interest plays a role in welfare support (Blekesaune & Quadagno, 2003; Hasenfeld & Rafferty, 1989; Jakobsen & Listhaug, 2012), it is unclear whether increased support during hardship reflects self-interest or other-regarding preferences (see, e.g., Feldman & Steenbergen, 2001).

We use within-subjects experiments to hold constant personal characteristics while systematically varying absolute needs and acute needs (Studies 1–4). This is analogous to experiments that examined how changes in personal need affect welfare attitudes (Aarøe & Petersen, 2013; Petersen, Aarøe, Jensen, & Curry, 2014), except we vary the recipient's circumstances rather than the citizen's own needs.

Second, we directly test whether the effect of acute needs depends on individual differences such as gender, income, or ideology (Study 4). To the extent that the effect of acute needs is not limited to certain demographics, this provides evidence that compassionate responses are genuinely other-directed because they are shaped by the recipient's circumstances rather than the citizen's own vulnerabilities. One might expect that the acute-needs heuristic would be limited to left-wing respondents, because they are in general more supportive of social welfare and much more compassionate towards welfare recipients than people in the right-wing (Skitka & Tetlock, 1993). But heuristics of care should not completely depend on people's ideology. On the theory reviewed above, heuristics of care are universal features of the human mind and should be present on the right and the left.

### The Limits of Compassion and Public Support for Welfare

While the acute-needs heuristic points to ways for expanding public support for welfare, it also places important limits on this support. Consistent with the existence of this heuristic, past research show that the public's compassion and support for social programs does not always match the needs of the disadvantaged (see Aarøe & Petersen, 2014; Brandt, 2013; Fong, 2001; Goren, 2013; Henry, Reyna, & Weiner, 2004; Jensen & Petersen, in press; van Oorschot, 2000; Petersen, 2012). For example, support for benefits targeting acute needs such as unemployment benefits is greater than support for benefits that target problems relating to long-term poverty such as food stamps (Gilens, 1999, p. 28). The disconnect between compassion and needs also emerges in cross-national patterns in welfare provision. If compassion and support were closely attuned to needs, then nations with greater inequality should show greater welfare provision. That is, well-off citizens in a more unequal society should feel compassion for impoverished citizens and hence demand more welfare provision. However, cross-national analyses often show the opposite pattern: Countries with greater inequality provide less welfare benefits (Alesina, Glaeser, & Sacerdote, 2001; Barth et al., 2015; Bénabou, 2000; Larcinese, 2007).

These disconnects between absolute needs and compassion are consistent with compassion being driven, to an important extent, by an acute-needs heuristic. Importantly, however, the existence of this heuristic suggests these disconnects run deeper than previously recognized. The operation of the acute-needs heuristic could lead to the ironic effect that it pays to have been rich: People who suffer a large increase in need may elicit more compassion or support for welfare than people who have experienced only a modest increase but are nonetheless worse off in absolute terms. In this way, the psychological structure of compassion can create blind spots in public support and public policy, leaving crucial needs unmet.

### STUDIES 1–3

We begin by testing for both the absolute needs and the acute-needs heuristics in two cultures, the United States and Denmark. The formal state-sponsored welfare systems of these countries represent “maximally different” systems (Przeworski & Teune, 1970). Nonetheless, if these heuristics are basic features of human psychology, they should operate in both. In Study 1 (United States) and Study 2 (Denmark), we make an initial test that both absolute need and reversals of fortune lead to greater compassion; in Study 3 (United States), we test for effects on welfare attitudes.

We used a within-subject design to test for heuristics of care while controlling for individual differences. We purposely presented subjects with many possible combinations of what a person *was* making in income and what they are *now* making. Each question asked participants to consider a man who had lost his job in the recession and found new work with a lower salary. By using many possibilities, presented in a random order, we aimed to maximize participants' use of intuitive heuristics

rather than more reflective judgments (Rand, Greene, & Nowak, 2012). In all, participants answered over 100 questions. If people use the absolute-needs heuristic, lower current salaries should lead to more compassion and welfare entitlement (holding past salary constant). If people use the acute-needs heuristic, *greater* past salaries should have the effect of leading to *more* compassion and welfare entitlement (holding current salary constant).

In order to systematically and independently vary current status and how far someone has fallen, it was necessary to have a design that included taking a new job after job loss—if all targets were ended up merely unemployed, we would not have been able to manipulate current status nor manipulate how far people fell in a way that was independent of where they ended up. We recognize that this design—losing a job and then finding new, but lower paying, one—does not map onto well-known welfare programs like unemployment insurance or food assistance. However, it does map onto a less well-known type of welfare: *wage insurance* (Kletzer, 2004; Kletzer & Litan, 2001). Despite being less well-known, wage insurance continues to be popular among economists (Schiller, 2016). For workers who, after losing a job, take a lower-paying one, wage insurance works by compensating them with some fraction (e.g., 50%), of the difference between their previous and current salary. Wage insurance is designed to reduce worker anxiety over job churn while simultaneously encouraging workers to rejoin the work force.

### Method

*Participants.* For Studies 1 and 3, 90 and 89 U.S. students (23 and 17 men) completed the computerized surveys in a university laboratory. For Study 2, 83 Danish students completed the computerized survey in Danish on their home computers (data on sex was not collected). (We omitted demographics due to time constraints but added them in Study 4.)

*Survey.* All questions used a constant prompt: “Imagine a man who has always had a regular job, making \$[past salary] per year. Because of the recent economic recession he was unlucky and lost his job. He has found new work and his yearly salary is now \$[current salary] per year.” In Studies 1 and 2, participants rated, “To what extent do you feel compassion for this man?” In Study 3, they rated, “To what extent do you disagree or agree that a person like him should be eligible for social welfare?” All questions used a 7-point scale (1 = strongly disagree; 7 = strongly agree). Responses were recoded to range from 0 and 1.

In the U.S. studies, past salaries ranged from \$150,000 to \$10,000 in steps of \$10,000; current salaries ranged from \$100,000 to \$10,000 in steps of \$10,000, plus an additional level of \$5,000. In the Danish study, past salaries ranged 500,000 to 100,000 kroner and current salaries from 300,000 to 80,000 kroner. Specifically, past salaries were 500,000, 450,000, 400,000, 350,000, 325,000, 300,000, 275,000, 250,000, 225,000, 200,000, 180,000, 160,000, 140,000, 120,000, and 100,000 kroner; current salaries were 300,000, 275,000, 250,000, 225,000, 200,000, 180,000, 160,000, 140,000, 120,000, 100,000, and 80,000 kroner.

Participants answered, in a random order, all possible combinations of past and current salaries with the constraint that current salary was strictly less than the past salary. Past and current salary were both recoded to range from 0 to 1.

### Results

*Do absolute needs predict compassion and welfare entitlement?* As predicted by the absolute-needs heuristic, people with lower current salaries received greater compassion and welfare support in all three samples, shown in Figures 1–3.

We confirmed these results using multilevel regression analysis with fixed effects for participants (Table 1). In Study 1, U.S. students felt more compassion for people who were currently making less money, as revealed by a negative main effect of current salary ( $p < .001$ ; Table 1). However, there was a positive interaction with past salary, which would mitigate the effect of current salary as

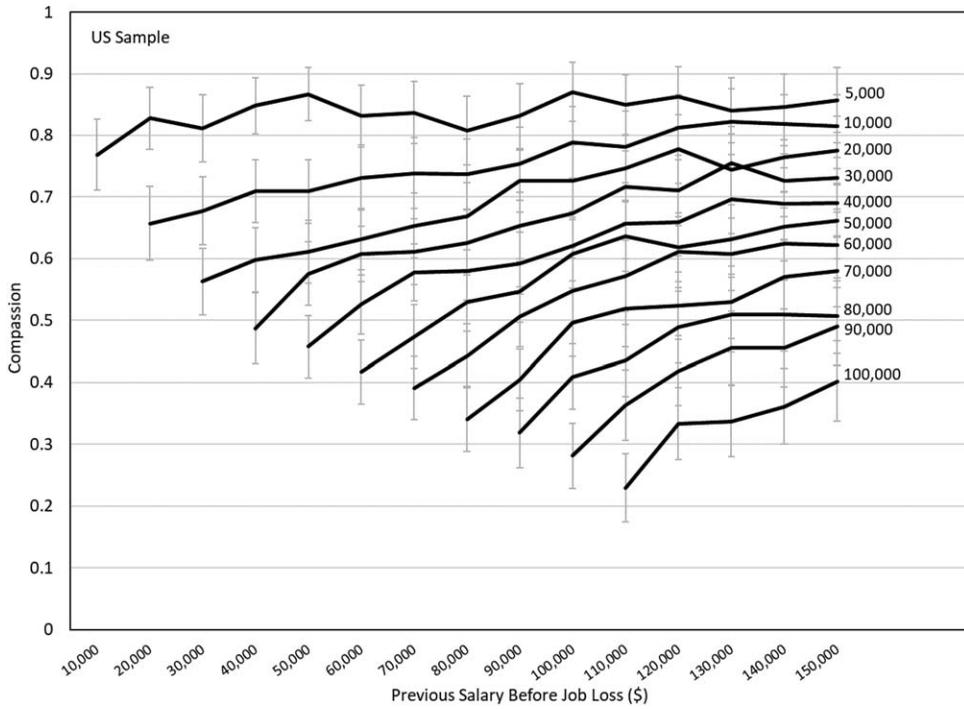


Figure 1. Compassion in a U.S. sample. Labels on lines represent target's current salary in dollars. Means and 95% CIs.

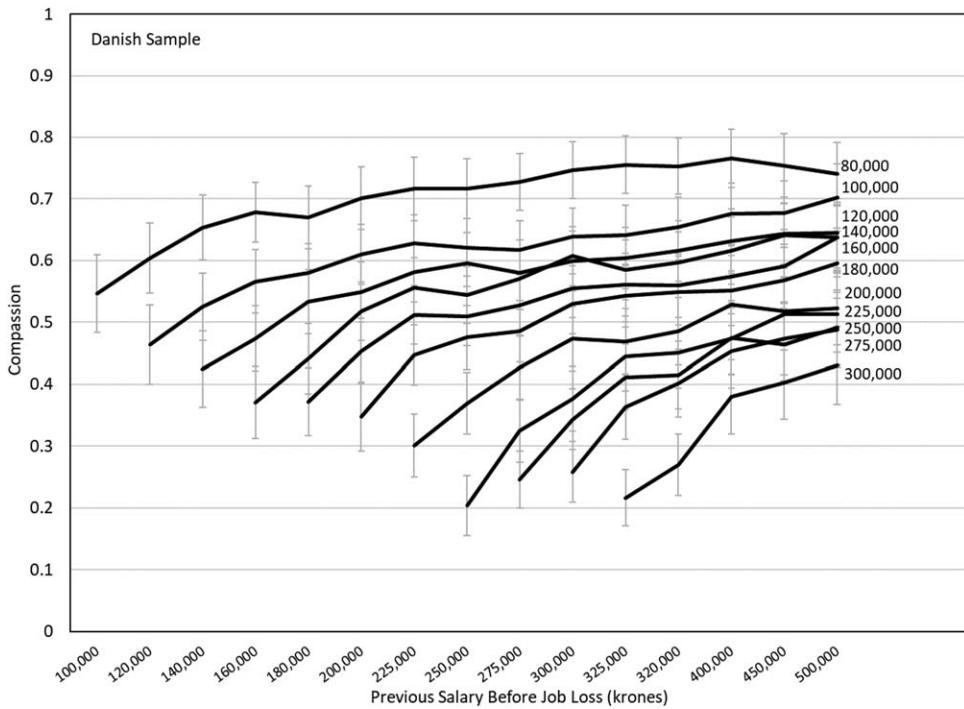
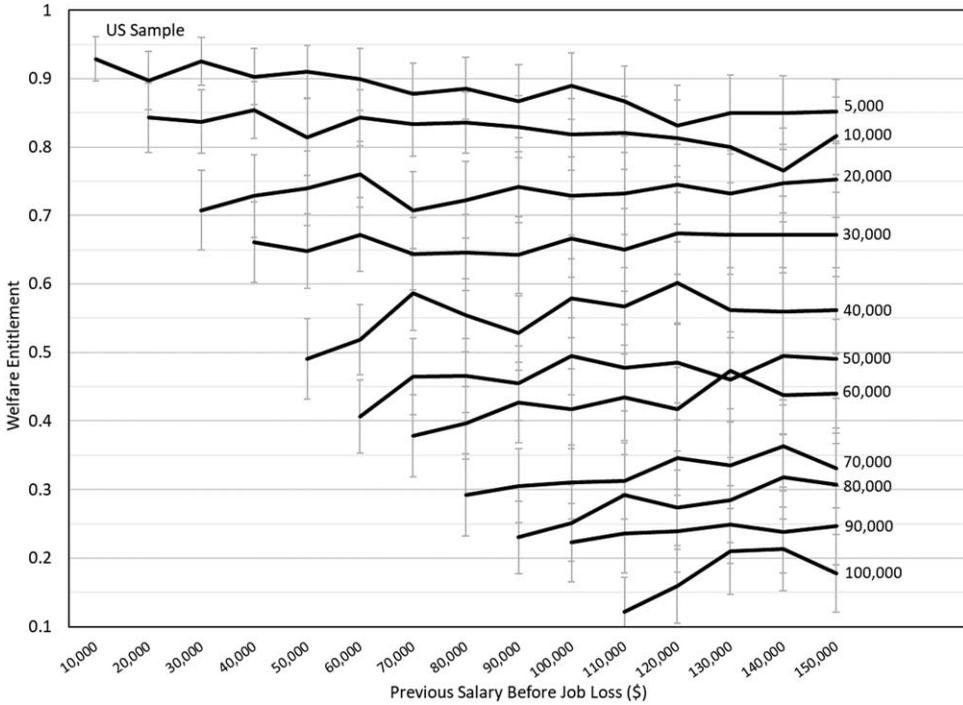


Figure 2. Compassion in a Danish sample. Labels on lines represent target's current salary in kroner. Means and 95% CIs.



**Figure 3.** Welfare entitlement in a U.S. sample. Labels on lines represent target’s current salary in dollars. Means and 95% CIs.

**Table 1.** Compassion and Welfare Attitudes as Predicted by Current Salary and Previous Salary

	Coefficient	SE	t	p
<b>Compassion in United States (Study 1)</b>				
Current Salary	-0.87	0.02	-37.50	<.001
Previous Salary	0.12	0.01	11.84	<.001
Current Salary × Previous Salary	0.46	0.03	15.51	<.001
Constant	0.74	0.01	109.59	<.001
<b>Compassion in Denmark (Study 2)</b>				
Current Salary	-0.68	0.02	-43.56	<.001
Previous Salary	0.16	0.01	17.47	<.001
Current Salary × Previous Salary	0.36	0.02	15.57	<.001
Constant	0.63	0.01	121.11	<.001
<b>Welfare Attitudes in United States (Study 3)</b>				
Current Salary	-1.02	0.03	-40.61	<.001
Previous Salary	-0.08	0.01	-7.26	<.001
Current Salary × Previous Salary	0.39	0.03	12.07	<.001
Constant	0.91	0.01	123.03	<.001

Note. Based on OLS regression with fixed effects for participants.

previous salary increases. Nonetheless, the marginal effect of current salary was significantly negative through the range of previous salary (-0.41 to -0.86,  $ps < .05$ ).

In Study 2, Danish students also felt more compassion for people who were currently making less money: Lower current salaries caused more compassion ( $p < .001$ ; Table 1). But again the interaction between current and past salary was significant and had the opposite sign. Nonetheless, the

marginal effect of current salary was significantly negative through the entire range of previous salary ( $-0.35$  to  $-0.68$ ,  $ps < .05$ ).

In Study 3, U.S. students viewed people as more entitled to welfare when those people were making less money. As shown Table 1, lower current salaries caused more compassion ( $p < .001$ ). But again the interaction between current and past salary was significant and had the opposite sign. Nonetheless, the marginal effect of current salary was always significantly negative ( $-0.63$  to  $-1.1$ ,  $ps < .05$ ).

*Do acute needs predict compassion and welfare entitlement?* As predicted by the acute-needs heuristic, people who fall farther received more compassion and welfare support (shown by the generally positive slopes in Figures 1–3).

This was confirmed by regression results for past salary (Table 1). In Study 1, U.S. students felt more compassion for people who had fallen farther. This is revealed by a significant positive coefficient for past salary ( $p < .001$ ). Because the sign of this coefficient and the interaction coefficient are the same, they work synergistically; the marginal effect of past salary only increases as current salary gets larger (from  $.12$  to  $.63$ ,  $ps < .05$ ). This model shows that when *current* salary is at its midpoint of \$50,000, moving from the smallest to the largest *past* salary covers 36% of the range of the compassion measure. We can also look at the raw means: For instance, considering only people with current salaries of \$50,000, they elicited a compassion rating of  $.42$  when they were previously making \$60,000 and  $.66$  when they were previously making \$150,000,  $\sim 25\%$  of the range of the compassion measure. Looking at people with current salaries of \$20,000, which is in the bottom quintile of U.S. incomes, the comparable span is 22%.

In Study 2, Danish students also felt more compassion for people who had fallen farther; past salary positively predicts compassion ( $p < .001$ , Table 1), and the interaction only enhances the effect (marginal effects of past salary range from  $.17$  to  $.53$ ,  $ps < .05$ ).

In Study 3, U.S. students generally viewed people as more entitled to welfare when those people had fallen farther. However, as shown in Table 1, the past-salary coefficient is actually significantly negative ( $p < .001$ ). But this coefficient only reveals the effect of past salary when current salary is at its lowest level. Importantly, a marginal-effects analysis shows the effect of past salary is positive in the majority ( $\sim 3/4$ ) of the range of current salary. Specifically, starting with a current salary of \$30,000 and up to the maximum of \$100,000, the marginal effect of past salary ranges  $0.02$  to  $0.30$ ,  $ps < .05$ . At the midpoint of current salary, moving from smallest to largest past salary led to an increase in welfare support spanning 11% of the welfare measure's range. At low current salaries (starting with \$30,000), support for welfare was uniformly high and did not generally vary based on past salary, presumably because acute needs were being swamped by more influential absolute needs.

*Is it something other than acute need that drives judgments of compassion and welfare entitlement?* There is a set of related alternative explanations for why we see more compassion and welfare entitlement the farther people fall that do not involve the acute-needs heuristic. All of these alternatives center upon some quality of the rich: Participants might feel especially sorry for the rich, view them as more deserving, or view them as especially valuable to society and thus see providing them with benefits as especially important. Additionally, participants might view rich people who have fallen far as especially mismatched with their current job. Or, participants might view the rich as especially unlikely to lose their jobs and, thus, as having suffered greater misfortune than low-income people who lost their jobs.

To test against these alternatives, we created a new regression model for each study. Each model had three predictors: past salary, drop in salary (computed as past salary minus current salary), and their interaction (Table 2). Three important results came from these analyses. First, for all three studies, the marginal effects for past salary were negative across all values of drop in salary (all  $ps < .001$ ). This means that having been richer was always associated with *less* compassion or welfare entitlement. (This conclusion follows because the coefficient for past salary is significantly negative, as is

**Table 2.** Compassion and Welfare Attitudes as Predicted by Drop in Salary and Previous Salary

	Coefficient	SE	<i>t</i>	<i>p</i>
Compassion in United States (Study 1)				
Drop in Salary	0.93	0.03	31.45	<.001
Previous Salary	-0.50	0.01	-38.19	<.001
Drop in Salary × Previous Salary	-0.20	0.04	-5.71	<.001
Constant	0.64	0.01	82.54	<.001
Compassion in Denmark (Study 2)				
Drop in Salary	1.07	0.02	53.74	<.001
Previous Salary	-0.42	0.01	-39.50	<.001
Drop in Salary × Previous Salary	-0.41	0.02	-17.45	<.001
Constant	0.50	0.005	106.91	<.001
Welfare Attitudes in United States (Study 3)				
Drop in Salary	1.14	0.03	35.37	<.001
Previous Salary	-1.06	0.01	-74.91	<.001
Drop in Salary × Previous Salary	-0.07	0.04	-1.93	.053
Constant	0.84	0.01	99.41	<.001

*Note.* Based on OLS regression with fixed effects for participants. For Study 1, as Previous Salary went from its lowest to highest value, the marginal effects of Drop In Salary ranged from .93 to .73,  $ps < .001$ . For Study 2, as Previous Salary went from its lowest to highest value, the marginal effects of Drop In Salary ranged from 1.07 to .66,  $ps < .001$ . For Study 3, as Previous Salary went from its lowest to highest value, the marginal effects of Drop In Salary ranged from 1.14 to 1.06,  $ps < .001$ .

the interaction coefficient. Thus, the effect of past salary is significantly negative when drop in salary is zero, and the effect becomes even more negative as drop in salary increases.)

Second, for all three studies, the marginal effects for drop in salary were positive across all levels of past salary ( $ps < .001$ ). This means that larger drops in past salary are always associated with *more* compassion or welfare entitlement. The ranges of the marginal effects are shown in the note to Table 2. Third, the coefficients for the interactions were all negative, meaning that the effect of drop in salary *weakened* as past salary increased. That is, having been rich reduced the effects of sudden hardship.

If having been rich—or any trait inferred from being rich, such as a skill mismatch with one's current job—was the cause of increased compassion, we would expect that greater past salary would predict greater compassion and welfare attitudes. This was not the case. Instead, drops in salary predicted greater compassion and welfare entitlement, and this effect increased with lower past salaries. People appear to be responding to how far people have fallen and, if anything, they respond more strongly to people who were less well-off before losing their job. In other words, if two people fell the same distance, the person who started at a lower salary received more compassionate responses. These results are inconsistent with the alternative hypotheses. Instead, it is drops in salary per se, not positivity toward the rich or some other inference about them, that predict compassion and welfare support.

#### STUDY 4

In Study 4, we measure both compassion and welfare support among the same participants to see whether people who feel more compassion show greater support for welfare. We use a nonstudent sample to assess whether the acute-needs heuristic depends on particular demographics or ideologies. For example, since liberals traditionally show greater support for welfare programs, it is possible that the acute-needs heuristic is limited to liberal participants. We particularly test whether different demographic and ideological groups show an effect in the same *direction*, even if absolute effect size differs (Shadish, Cook, & Campbell, 2002). Because the study was conducted over the internet, we shortened

it to 10 vignettes by holding constant current salary while varying past salary, focusing on the less-studied acute-needs heuristic.

### Method

*Participants.* Six hundred and thirty-five people participated through Amazon's Mechanical Turk (Mturk) (Buhrmester, Kwang, & Gosling, 2011; Horton, Rand, & Zeckhauser, 2011). Mturk is more diverse than typical student samples (Berinsky, Huber, & Lenz, 2012) and approximates some of the advantages of representative samples (Mullinix, Leeper, Druckman, & Freese, 2015). Krupnikov and Levine (2014) systematically compared student, national, and Mturk samples; whenever student and Mturk samples returned the same conclusion, so did a national sample.

Our sample was 62% male (one subject not reporting). Forty-two percent reported as Democrat, 37% as Independent, 17% as Republican, 5% as another party, and <1% did not report their party. Seventy-nine percent reported as White/European-American, 8% as Asian/Asian-American, 6% as Latino/Hispanic, 4% as Black/African American, 2% as mixed/biracial, and <1% as Native American. The median education was "some college," and the median salary was within the bracket of \$40,000 to \$49,000. The average age was 33 years, with a range from 18 to 77 years.

Although Mturk is more liberal than a representative sample, as long as there is reasonable variability in potential moderators (e.g., ideology), a skewed sample can still produce unbiased estimates of interactions (Druckman & Kam, 2011). Ideology was assessed with: "We hear a lot of talk these days about liberals and conservatives. Here is a 7-point scale on which the political views people might hold are arranged. Where would you place yourself on this scale?" A rating of 1 was most liberal and 7 most conservative. Participants' ideologies (recoded 0–1) were  $M = .39$ ,  $SD = .27$ , so although the sample leaned liberal, there was still sufficient variability in ideology. See the online supporting information for additional demographic information.

*Survey.* The survey was identical to Studies 1 and 3 with two exceptions. First, all participants answered both the compassion and welfare-attitude questions. Second, participants only responded to salary combinations with a current salary of \$50,000 and past salaries ranging from \$150,000 to \$60,000 in \$10,000 increments (10 combinations total).

Sometimes inducing people to answer intuitively (versus deliberately) increases prosocial behavior (Rand et al., 2012). We attempted a between-subjects manipulation of this, but preliminary analysis revealed no effect, and we do not discuss it further (the present analyses are based on all data and ignore participants' group assignment).

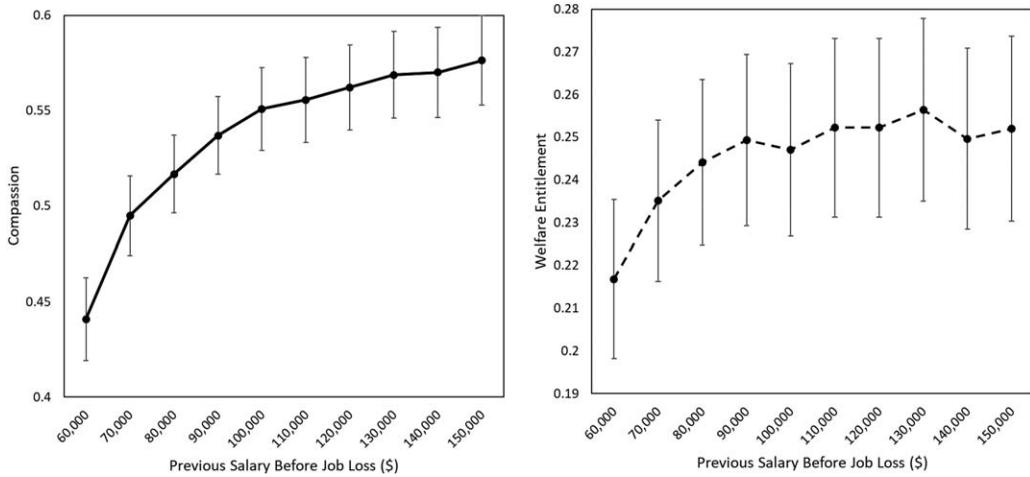
All questions were recoded to range between 0 and 1.

### Results

*Do acute needs predict compassion and welfare support?* Mturk workers felt more compassion for acute needs (coefficient = .11,  $p < .001$ ) and supported more welfare for people with acute needs (coefficient = .03,  $p < .001$ ); see Figure 4 and supplement.

*Within a person, does compassion predict welfare support?* Yes: Greater compassion predicted greater welfare support (coefficient = .23,  $SE = .01$ ,  $p < .001$ ).

*Can demographics explain the effects of acute needs?* Perhaps the above effects only occur for particular people, reflecting self-interest or social identification. For instance, high earners might expect more benefits from policies benefiting former high earners and might feel more compassion for other high earners. As shown in the online supporting information, the demographic variables—participants' income, education, age, or sex—did not change the directional effects of acute need. Although the size of the marginal effects sometimes varied, the direction was predicted by acute needs in nearly all cases—regardless of demographics, people felt more compassion and welfare support for greater acute needs. The lone exception was that older adults did not show the effect for welfare support.



**Figure 4.** Compassion (left panel) and welfare entitlement (right panel) in the same sample (Study 4). Means and 95% CIs.

*Can ideology or partisanship explain effects of acute needs?* For instance, liberals are stereotypically more compassionate, so they might be more susceptible to our manipulation. Or conservatives might identify with former high earners and thus show stronger effects. In fact, the effect of past salary on welfare support was unrelated to conservatism (for the interaction,  $p = .13$ ; see the online supporting information for regression table), though conservatives overall supported welfare less than liberals (coefficient =  $-.08$ ,  $p = .024$ ). For compassion, however, conservatives were *more* affected by acute needs ( $p < .001$ ). Nonetheless, the direction of the effect was always positive through the range of ideology (marginal effects ranged from  $.07$  to  $.17$ ;  $ps < .001$ ). Thus, while the size of the acute-needs effect varies by ideology, its existence does not.

We also tested whether Republicans, Democrats, and independents differed. There were some differences in the magnitude with which different partisans responded to how far others fell. As shown in the figure in the online supporting information, however, all three groups were more compassionate and offered more welfare support as people fell farther.

Across demographics, partisanship, and ideology, people consistently felt more compassion and supported more welfare for other citizens who had fallen farther.

## General Discussion

Across four studies, we found support for the hypothesis that compassion and welfare attitudes are shaped by two heuristics of care. First, the absolute-needs heuristic causes people to feel more compassion for others who have greater absolute needs. Studies 1–3 found that people in fact felt more compassion for those currently making less money and thought they were more entitled to welfare benefits. Second, the acute-needs heuristic causes people to feel more compassion for others who have experienced sudden misfortune. Studies 1–4 showed that people in fact felt more compassion for individuals who experienced larger drops in income and viewed them as more entitled to welfare. Study 4 also showed that the acute-needs effect was not limited to certain demographic or ideological groups.

Recall that in these studies we focused on one particular form of welfare benefits, wage insurance. This was particularly useful for quantitatively manipulating absolute and acute needs by varying previous and current salary. However, there are other important forms of welfare benefits including unemployment benefits, government health care, housing subsidies, and food provisions. These

different types of benefits may elicit different mixtures of the two compassion heuristics. Future research can use analogous studies to examine other types of benefits. For instance, in the domain of health care, we can test whether participants show greater support for government health care coverage for sudden ailments compared to ongoing health problems with similar absolute effects. This future research can help understand how heuristics of care shape political attitudes beyond the economic domain of income, including policies about health, housing, food, and public safety.

One consequence of these heuristics is that people's intuitions may lead them to prefer inefficient policy choices. When asked to reflect on the matter, people would probably agree that social welfare spending should be primarily targeted at the neediest citizens. But the acute-needs heuristic focuses attention on different targets: people who have fallen far even if they are still doing well in absolute terms. Hence, this heuristic could cause citizens to support policies that target relatively well-off people, at the expense of the neediest. Economic analyses show that people on the lowest socioeconomic rung are especially hard hit as nationwide unemployment increases (Gramlich, 1974). Yet the acute-needs heuristic would not respond to these people—being already low in socioeconomic status, they simply cannot fall far. The acute-needs heuristic can cause potentially inefficient judgments, sometimes making it pay to have been rich.

Heuristics of caring can help explain why so many citizens—liberals and conservatives, Democrats and Republicans—are willing to support compassionate and humanitarian public services (Gilens, 1999; Howard, 2007). As argued in a number of studies, compassion, and related concepts like humanitarianism, are different from egalitarianism, another often cited source of welfare support (Feldman & Steenbergen, 2001; Newman et al., 2015). Egalitarianism focuses on leveling or equalizing outcomes. This is a comparative process: Citizens must compare the wealth, opportunities, or outcomes of each other and, under an egalitarian motive, seek to equalize these. Compassion is different; it is oriented toward improving the situation of a targeted other. It does not necessarily require that people compare the person in need to others. Instead, citizens must merely recognize the need and seek to ameliorate it. The heuristics identified in the present article provide insights on the psychology underlying compassionate responses and, hence, illuminate when and towards whom citizens who are not egalitarians nonetheless respond with compassion.

The results of these studies are aligned with the broader literature in political science on the key role of heuristics in the formation of political attitudes. The next pressing question is about which specific heuristics are the main drivers of public opinion in each specific policy area. We have advanced this agenda by uncovering a novel heuristic—one attuned to acute need—that shapes people's views about social welfare policy, in addition to the more well-known heuristic of absolute needs (see, e.g., van Oorschot, 2000). Together, these two heuristics influence whether a citizen will support or oppose particular social welfare policies.

Moreover, this finding speaks to a core debate about the nature of heuristics and their effects. Within political science, a traditional view has been that citizens use heuristics as shortcuts to evaluate a policy's ideological position (Lau & Redlawsk, 2001; Lupia & McCubbins, 1998; Sniderman, Brody, & Tetlock, 1993). Another view, however, has emerged recently, building on theories from cognitive science and evolutionary psychology (Druckman, Kuklinski, & Sigelman, 2009; Kuklinski & Quirk, 2000; Petersen, 2015). This perspective holds that people use a mental toolbox of heuristics to pursue a variety of social goals (e.g., helping those in need, cooperating with partners, negotiating trades, or confronting a menacing rival), and these psychological mechanisms then influence how people think about specific political policies with similar content (e.g., policies about welfare, economics, or war). These psychological mechanisms originally evolved by natural selection to carry out specialized functions over human evolutionary history, and they continue to shape people's social and political behavior in modern times.

The present article lends further evidence to this emerging view. Rather than operating only as ideological shortcuts, heuristics can also move people away from their ideological preferences. For

example, some past studies have compared the effects of cues that should activate a heuristic (e.g., a cue about the source of a policy proposal) with the effects of more substantive ideological considerations (e.g., policy information) and have shown that people, under some circumstances, prioritize heuristic cues over ideological considerations, such as supporting a policy proposed by their party even if the policy is one that they would generally not support (see, e.g., Leeper & Slothuus, 2014). The present article takes an important step further and shows that even the different heuristics within an individual are not always aligned, sometimes creating clashing intuitions in the citizen's mind. For instance, the acute-needs heuristic might push citizens towards favoring social welfare, while the absolute-needs heuristic pulls in the opposite direction against welfare. This finding suggests that heuristics do not serve a single goal of achieving ideological preferences or coherence. Rather, citizens have a variety of heuristics which are undergirded by separate psychological systems, each with its own goals and its own logic. And, as demonstrated in this article, we can dissect the structure and nature of these goals and logics using evolutionary theory and psychological experiments.

### Conclusion

Institutions of social welfare depend on citizen support. Ultimately, such support will be determined by citizens' psychological reactions to others in need, which are eventually refracted through current institutions. As we discussed above, a large literature has addressed how citizens' attitudes about welfare and redistribution are affected by prevailing economic conditions (e.g., Kam & Nam, 2007). Although there are some conflicting results, many studies show that citizens are in fact more willing to use the welfare state to help other citizens during bad or worsening economic conditions. This is preliminary evidence for microlevel foundations built on compassion and care (Feldman & Steenbergen, 2001).

In the present studies, we have sought to provide further understanding of these microlevel foundations by studying how heuristics of care combine to produce attitudes about welfare and redistribution. Heuristics of care are one psychological mechanism by which welfare institutions receive support. To the extent that our analysis is correct and these heuristics are rooted in human psychology, this is in many respects good for proponents of the welfare state. The intuitions behind support for welfare can be found in all minds, so long as those minds receive the right cues. Many appeals for compassion are designed to illustrate extreme need, such as commercials showing poverty-stricken children in Africa. Here, we have shown the potential for another distinct source of compassion: sudden misfortune.

### ACKNOWLEDGMENTS

We thank Daniel Szyncer, Philip Paolino, Vittorio Merola, two anonymous reviewers, and the editor for comments that greatly improved this project. Correspondence concerning this article should be addressed to Andrew W. Delton, Department of Political Science, Stony Brook University, Stony Brook, NY 11794-4392. E-mail: [andrew.delton@stonybrook.edu](mailto:andrew.delton@stonybrook.edu)

### REFERENCES

- Aarøe, L., & Petersen, M. B. (2013). Hunger games fluctuations in blood glucose levels influence support for social welfare. *Psychological Science, 24*, 2550–2556.
- Aarøe, L., & Petersen, M. B. (2014). Crowding out culture: Scandinavians and Americans agree on social welfare in the face of deservingness Cues. *Journal of Politics, 76*, 684–697.
- Aktipis, C. A., Cronk, L., & de Aguiar, R. (2011). Risk-pooling and herd survival: An agent-based model of a Maasai gift-giving system. *Human Ecology, 39*, 131–140.

- Alesina, A., Glaeser, E., & Sacerdote, B. (2001). Why doesn't the United States have a European-style welfare state? *Brookings Papers*, 187–278.
- Alford, J. R., & Hibbing, J. R. (2004). The origin of politics: An evolutionary theory of political behavior. *Perspectives on Politics*, 2, 707–723.
- Barth, E., Finseraas, H., & Moene, K. O. (2015). Political reinforcement: How rising inequality curbs manifested welfare generosity. *American Journal of Political Science*, 59, 565–577.
- Batson, C. D. (1991). *The altruism question: Toward a social-psychological answer*. Hillsdale, NJ: Lawrence Erlbaum.
- Batson, C. D., Lishner, D. A., Cook, J., & Sawyer, S. (2005). Similarity and nurturance: Two possible sources of empathy for strangers. *Basic and Applied Social Psychology*, 27, 15–25.
- Batson, C. D., O'Quin, K., Fultz, J., Vanderplas, M., & Isen, A. M. (1983). Influence of self-reported distress and empathy on egoistic versus altruistic motivation to help. *Journal of Personality and Social Psychology*, 45, 706–718.
- Bénabou, R. (2000). Unequal societies: Income distribution and the social contract. *American Economic Review*, 90, 96–129.
- Berinsky, A. J., Huber, G. A., & Lenz, G. S. (2012). Evaluating online labor markets for experimental research: Amazon.com's Mechanical Turk. *Political Analysis*, 20, 351–368.
- Blekesaune, M. (2007). Economic conditions and public attitudes to welfare policies. *European Sociological Review*, 23, 393–403.
- Blekesaune, M., & Quadagno, J. (2003). Public attitudes toward welfare state policies: A comparative analysis of 24 nations. *European Sociological Review*, 19, 415–427.
- Brader, T., Valentino, N. A., & Suhay, E. (2008). What triggers public opposition to immigration? Anxiety, group cues, and immigration threat. *American Journal of Political Science*, 52, 959–978.
- Brandt, M. J. (2013). Onset and offset deservingness: The case of home foreclosures. *Political Psychology*, 34, 221–238.
- Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science*, 6, 3–5.
- Cosmides, L., & Tooby, J. (2005). Neurocognitive adaptations designed for social exchange. In D. M. Buss (Ed.), *The handbook of evolutionary psychology* (pp. 584–627). Hoboken, NJ: Wiley.
- Dawes, C. T., Fowler, J. H., Johnson, T., McElreath, R., & Smirnov, O. (2007). Egalitarian motives in humans. *Nature*, 446, 794–796.
- Delton, A. W., Cosmides, L., Guemo, M., Robertson, T. E., & Tooby, J. (2012). The psychosemantics of free riding: Dissecting the architecture of a moral concept. *Journal of Personality and Social Psychology*, 102, 1252–1270.
- Delton, A. W., Nemirow, J., Robertson, T. E., Cimino, A., & Cosmides, L. (2013). Merely opting out of a public good is moralized: An error management approach to cooperation. *Journal of Personality and Social Psychology*, 105, 621–638.
- DeScioli, P., Shaw, A., & Delton, A. W. (in press). Share the wealth: Redistribution can increase economic efficiency. *Political Behavior*.
- Druckman, J. N., Green, D. P., Kuklinski, J. H., & Lupia, A. (2006). The growth and development of experimental research in political science. *American Political Science Review*, 100, 627–635.
- Druckman, J. N., & Kam, C. D. (2011). Students as experimental participants: A defense of the narrow data base. In J. N. Druckman, D. P. Green, J. H. Kuklinski, & A. Lupia (Eds.), *Cambridge Handbook of Experimental Political Science* (pp. 41–57). Cambridge, United Kingdom: Cambridge University Press.
- Druckman, J. N., Kuklinski, J. H., & Sigelman, L. (2009). The unmet potential of interdisciplinary research: Political psychological approaches to voting and public opinion. *Political Behavior*, 31, 485–510.
- Durr, R. H. (1993). What moves policy sentiment? *American Political Science Review*, 87, 158–170.
- Erikson, R. S., MacKuen, M. B., & Stimson, J. A. (2002). *The macro polity*. New York, NY: Cambridge University Press.
- Ewalt, J. A. G., & Jennings, E. T., Jr. (2014). The Great Recession and social welfare spending in the American States. *International Review of Public Administration*, 19, 308–323.
- Feldman, S., & Steenbergen, M. R. (2001). The humanitarian foundation of public support for social welfare. *American Journal of Political Science*, 45, 658–677.
- Fong, C. (2001). Social preferences, self-interest, and the demand for redistribution. *Journal of Public Economics*, 82, 225–246.
- Fowler, J. H., & Schreiber, D. (2008). Biology, politics, and the emerging science of human nature. *Science*, 322, 912–914.
- Gilens, M. (1999). *Why Americans hate welfare: Race, media, and the politics of antipoverty policy*. Chicago, IL: University of Chicago Press.

- Goetz, J. L., Keltner, D., & Simon-Thomas, E. (2010). Compassion: An evolutionary analysis and empirical review. *Psychological Bulletin*, *136*, 351–374.
- Goren, P. (2013, August). *Race-coded myths? Racial prejudice, racial resentment, and White opposition to big government*. Paper presented at the annual meeting of the American Political Science Association, Chicago, IL.
- Gramlich, E. M. (1974). The distributional effects of higher unemployment. *Brookings Papers on Economic Activity*, *1974*, 293–336.
- Groenendyk, E. W., & Banks, A. J. (2014). Emotional rescue: How affect helps partisans overcome collective action problems. *Political Psychology*, *35*, 359–378.
- Curven, M., Allen-Arave, W., Hill, K., & Hurtado, A. M. (2000). It's a wonderful life: Signaling generosity among the Ache of Paraguay. *Evolution and Human Behavior*, *21*, 263–282.
- Hao, Y., Ambruster, D., Cronk, L., & Aktipis, C. A. (2015). Need-based transfers on a network: A model of risk-pooling in ecologically volatile environments. *Evolution and Human Behavior*, *36*, 265–273.
- Hasenfeld, Y., & Rafferty, J. A. (1989). The determinants of public attitudes toward the welfare state. *Social Forces*, *67*, 1027–1048.
- Hatemi, P. K., & McDermott, R. (2011). Evolution as a theory for political behavior. In P. K. Hatemi & R. McDermott (Eds.), *Man is by nature a political animal: Evolution, biology, and politics* (pp. 13–46). Chicago, IL: University of Chicago Press.
- Henry, P. J., Reyna, C., & Weiner, B. (2004). Hate welfare but help the poor: How the attributional content of stereotypes explains the paradox of reactions to the destitute in America. *Journal of Applied Social Psychology*, *34*, 34–58.
- Horton, J. J., Rand, D. G., & Zeckhauser, R. J. (2011). The online laboratory: Conducting experiments in a real labor market. *Experimental Economics*, *14*, 399–425.
- Howard, C. (2007). *The welfare state nobody knows: Debunking myths about US social policy*. Princeton, NJ: Princeton University Press.
- Hublin, J.-J. (2009). The prehistory of compassion. *Proceedings of the National Academy of Sciences*, *106*, 6429–6430.
- Huddy, L., Feldman, S., & Cassese, E. (2007). On the distinct political effects of anger and anxiety. In W. R. Neuman, G. E. Marcus, A. N. Crigler, & M. MacKuen (Eds.), *The affect effect: Dynamics of emotion in political thinking and behavior* (pp. 202–230). Chicago, IL: University of Chicago Press.
- Huddy, L., Jones, J. M., & Chard, R. E. (2001). Compassionate politics: Support for old-age programs among the non-elderly. *Political Psychology*, *22*, 443–471.
- Huddy, L., Mason, L., & Aarøe, L. (2015). Expressive partisanship: Campaign involvement, political emotion, and partisan identity. *American Political Science Review*, *109*, 1–17.
- Jakobsen, T. G., & Listhaug, O. (2012). Issue ownership, unemployment and support for government intervention. *Work, Employment & Society*, *26*, 396–411.
- Jensen, C. (2007). Fixed or variable needs? Public support and welfare state reform. *Government and Opposition*, *42*, 139–157.
- Jensen, C., & Petersen, M. B. (in press). The deservingness heuristic and the politics of health care. *American Journal of Political Science*.
- Kam, C. D., & Nam, Y. (2007). Reaching out or pulling back: Macroeconomic conditions and public support for social welfare spending. *Political Behavior*, *30*, 223–258.
- Kameda, T., Takezawa, M., & Hastie, R. (2003). The logic of social sharing: An evolutionary game analysis of adaptive norm development. *Personality and Social Psychology Review*, *7*, 2–19.
- Kameda, T., Takezawa, M., Tindale, R. S., & Smith, C. M. (2002). Social sharing and risk reduction: Exploring a computational algorithm for the psychology of windfall gains. *Evolution and Human Behavior*, *23*, 11–33.
- Kaplan, H. S., Hill, K., Lancaster, J., & Hurtado, A. M. (2000). A theory of human life history evolution: Diet, intelligence, and longevity. *Evolutionary Anthropology*, *9*, 156–185.
- Kaplan, H. S., Schniter, E., Smith, V. L., & Wilson, B. J. (2012). Risk and the evolution of human exchange. *Proceedings of the Royal Society B-Biological Sciences*, *279*, 2930–2935.
- Kletzer, L. G. (2004). Trade-related job loss and wage insurance: A synthetic review. *Review of International Economics*, *12*, 724–748.
- Kletzer, L. G., & Litan, R. E. (2001). A prescription to relieve worker anxiety. *Institute for International Economics Policy Brief*, PB01–2.
- Krupnikov, Y., & Levine, A. S. (2014). Cross-sample comparisons and external validity. *Journal of Experimental Political Science*, *1*, 59–80.

- Kuklinski, J. H., & Quirk, P. J. (2000). Reconsidering the rational public: Cognition, heuristics, and mass opinion. In A. Lupia, M. D. McCubbins, & S. L. Popkin (Eds.), *Elements of reason: Cognition, choice, and the bounds of rationality* (pp. 153–182). Cambridge, United Kingdom: Cambridge University Press.
- Larcinese, V. (2007). Voting over redistribution and the size of the welfare state: The role of turnout. *Political Studies*, *55*, 568–585.
- Lau, R. R., & Redlawsk, D. P. (2001). Advantages and disadvantages of cognitive heuristics in political decision making. *American Journal of Political Science*, *45*, 951–971.
- Leeper, T. J., & Slothuus, R. (2014). Political parties, motivated reasoning, and public opinion formation. *Political Psychology*, *35*, 129–156.
- Loewen, P. J., & Dawes, C. T. (2012). The heritability of duty and voter turnout. *Political Psychology*, *33*, 363–373.
- Lopez, A. C., & McDermott, R. (2012). Adaptation, heritability, and the emergence of evolutionary political science. *Political Psychology*, *33*, 343–362.
- Lupia, A., & McCubbins, M. D. (1998). *The democratic dilemma: Can citizens learn what they need to know?* Cambridge, United Kingdom: Cambridge University Press.
- Marcus, G. E., Neuman, W. R., & MacKuen, M. B. (2000). *Affective intelligence and political judgment*. Chicago, IL: University of Chicago Press.
- McDermott, R. (2002). Experimental methodology in political science. *Political Analysis*, *10*, 325–342.
- Mullinix, K. J., Leeper, T. J., Druckman, J. N., & Freese, J. (2015). The generalizability of survey experiments. *Journal of Experimental Political Science*, *2*, 109–138.
- Neuman, W. R., Marcus, G. E., Crigler, A. N., & MacKuen, M. B. (Eds.). (2007). *The affect effect: Dynamics of emotion in political thinking and behavior*. Chicago, IL: University of Chicago Press.
- Newman, B. J., Hartman, T. K., Lown, P. L., & Feldman, S. (2015). Easing the heavy hand: Humanitarian concern, empathy, and opinion on immigration. *British Journal of Political Science*, *45*, 583–607.
- van Oorschot, W. (2000). Who should get what, and why? On deservingness criteria and the conditionality of solidarity among the public. *Policy & Politics*, *28*, 33–48.
- Petersen, M. B. (2010). Distinct emotions, distinct domains: Anger, anxiety and perceptions of intentionality. *Journal of Politics*, *72*, 357–365.
- Petersen, M. B. (2012). Social welfare as small-scale help: Evolutionary psychology and the deservingness heuristic. *American Journal of Political Science*, *56*, 1–16.
- Petersen, M. B. (2015). Evolutionary political psychology: On the origin and structure of heuristics and biases in politics. *Political Psychology*, *36*, 45–78.
- Petersen, M. B., Aarøe, L., Jensen, N. H., & Curry, O. (2014). Social welfare and the psychology of food sharing: Short-term hunger increases support for social welfare. *Political Psychology*, *35*, 757–773.
- Petersen, M. B., Sznycer, D., Cosmides, L., & Tooby, J. (2012). Who deserves help? Evolutionary psychology, social emotions, and public opinion about welfare. *Political Psychology*, *33*, 395–418.
- Preston, S. D. (2013). The origins of altruism in offspring care. *Psychological Bulletin*, *139*, 1305–1341.
- Przeworski, A., & Teune, H. (1970). *The logic of comparative social inquiry*. New York, NY: Wiley.
- Rand, D. G., Greene, J. D., & Nowak, M. A. (2012). Spontaneous giving and calculated greed. *Nature*, *489*, 427–430.
- Schiller, R. J. (2016, March 11). How wage insurance could ease economic inequality. *New York Times*. Retrieved from [https://www.nytimes.com/2016/03/13/upshot/how-wage-insurance-could-ease-economic-inequality.html?\\_r=0](https://www.nytimes.com/2016/03/13/upshot/how-wage-insurance-could-ease-economic-inequality.html?_r=0).
- Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Belmont, CA: Wadsworth.
- Skitka, L. J., & Tetlock, P. E. (1993). Providing public assistance: Cognitive and motivational processes underlying liberal and conservative policy preferences. *Journal of Personality and Social Psychology*, *65*, 1205–1223.
- Sniderman, P. M., Brody, R. A., & Tetlock, P. E. (1993). *Reasoning and choice: Explorations in political psychology*. Cambridge, United Kingdom: Cambridge University Press.
- Sugiyama, L. S. (2004a). Illness, injury, and disability among Shiwiar forager-horticulturists: Implications of health-risk buffering for the evolution of human life history. *American Journal of Physical Anthropology*, *123*, 371–389.
- Sugiyama, L. S. (2004b). Patterns of Shiwiar health insults indicate that provisioning during health crises reduces juvenile mortality. In M. Alvard (Ed.), *Socioeconomic aspects of human behavioral ecology: Research in economic anthropology* (Vol. 23, pp. 377–400). Greenwich, CT: Elsevier.
- Sugiyama, L. S., & Chacon, R. (2000). Effects of illness and injury on foraging among the Yora and Shiwiar: Pathology risk as adaptive problem. In L. Cronk, N. A. Chagnon, & W. Irons (Eds.), *Human behavior and adaptation: An anthropological perspective* (pp. 371–395). New York, NY: Aldine.

### SUPPORTING INFORMATION

Additional supporting information may be found in the online version of this article at the publisher's website:

**Table S1.** Previous Salary Predicting Compassion and Welfare Support (Study 4)

**Figure S1.** Marginal Effects of Past Salary by Party Identification With 95% Confidence Intervals

**Figure S2.** Marginal Effect of Past Salary on Welfare Support as a Function of Age (5th through 95th percentiles; Study 4)

**Table S2.** Sex and Previous Salary Predicting Compassion or Welfare

**Table S3.** Education and Previous Salary Predicting Compassion or Welfare

**Table S4.** Income and Previous Salary Predicting Compassion or Welfare

**Table S5.** Age and Previous Salary Predicting Compassion or Welfare

**Table S6.** Conservatism and Previous Salary Predicting Compassion or Welfare