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Nina SIROLA

Singapore Management University, nsirola@smu.edu.sg

Marko PITESA

Singapore Management University, mpitesa@smu.edu.sg

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ECONOMIC DOWNTURNS UNDERMINE WORKPLACE HELPING BY PROMOTING A ZERO-SUM CONSTRUAL OF SUCCESS

NINA SIROLA
INSEAD

MARKO PITESA
Singapore Management University

Workplace helping is essential to the success of organizations and economies. Given the economic benefits of helping, it seems important that, during difficult economic periods, the amount of helping does not decline. Yet, in this research, we propose and show that it does. We argue that cues that signal the economy is performing poorly prompt a construal that the success of one person implies less success for others. This zero-sum construal of success in turn makes employees less inclined to help. Four studies found evidence consistent with our theory. Study 1 found that worse economic periods are associated with a more zero-sum construal of success, using data from 59,694 respondents surveyed across 51 countries and 17 years and objective indicators of their macroeconomic environments. Studies 2 and 3 experimentally induced the perception that the U.S. economy was performing poorly with a sample of U.S. employees and found that this perception led employees to have a more zero-sum construal of success and made them less inclined to help. Study 4 was an unobtrusive experiment carried out among freelance professionals from 47 countries, and it found that participants' perception that the economy in their country was in a downturn was associated with a more zero-sum construal of success and less helping behavior. This research demonstrates the importance of bridging the macro-micro divide in organizational sciences and considering the impact of macroeconomic changes on individual employee psychology and behavior.

In many everyday situations at work, employees help coworkers perform better. “Workplace helping” consists of voluntary behaviors that are aimed at assisting coworkers attain their work goals in a way that is not contractually enforced by the organization (Sparrowe, Soetjijto, & Kraimer, 2006). For example, employees may get a coworker who has been absent up to speed with relevant developments in the organization, or may adjust their work schedule to accommodate another employee’s desired schedule (Lee & Allen, 2002). Although overemphasis on helping might, in some cases, detract from task performance (Bergeron, 2007; Rubin, Dierdorff, & Bachrach, 2013), workplace helping is, on average, positively associated with performance of teams and organizations (Podsakoff, Ahearne, & MacKenzie, 1997) and with the growth and dynamism of entire economies (Knack & Keefer, 1997). Given the economic benefits of helping to broader economic units, it seems important that,

during difficult economic periods, the amount of this behavior does not decline. Yet, in this research, we propose and show that it does.

We argue that exposure to cues that signal the economy is performing poorly prompts a more “zero-sum construal of success,” defined as a generalized view that success for some implies a loss for others (Esses, Jackson, & Armstrong, 1998; Foster, 1965). Economic downturns, relative to upturns, are objectively associated with success being more of an exclusive good, so exposure to cues of economic downturns should make a zero-sum construal of success more salient, which, in turn, will likely influence how people approach everyday situations at work in which coworkers need help. People make sense of workplace situations in terms of how others’ success affects their own. For example, a colleague’s bonus gain might mean a personal loss (e.g., bonuses are given only to the top performer), but, in many cases, it does not (e.g., bonuses are given to all who attain a certain performance goal). People are unlikely to exhaustively scrutinize every situation they

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face (e.g., a situation that affords an opportunity to help a coworker's success) and are likely to rely on a generalized construal of relevant situations (e.g., a view of whether, in general, helping another person's success implies less success for others). Thus, even when the situation offering an opportunity to help is the same, a salient zero-sum construal of success (which, we argue, will be more pronounced during economic downturns) will, we expect, reduce an employee's tendency to help others succeed.

We report four studies testing this theory. Study 1 used data from 59,694 respondents surveyed across 51 countries and 17 years alongside objective indicators of their macroeconomic environments to test whether worse economic periods are associated with a more zero-sum construal of success. Studies 2 and 3 were experiments conducted among employees of U.S. organizations in which we manipulated participants' perception of the state of the U.S. economy and tested whether exposure to cues that the economy was performing poorly made a zero-sum construal of success salient, and, in turn, made people less inclined to help. Study 4 was an unobtrusive experiment carried out among freelance professionals from 47 countries in which we tested how participants' perception of their economic environment was related to a zero-sum construal of success and helping behavior. Across these studies, we focused on situations in which helping did not come at a cost to the self, as a way to provide evidence of the counterproductive nature of the effect.

Economic downturns have always been thought to be fueled and perpetuated in part by counterproductive individual reactions to initial cues that the economy was performing poorly. Examples of such behavior involve bank runs and panic selling. Our work identifies what is likely another counterproductive individual reaction to cues of economic downturns. As cited at the outset of the paper, past research has documented benefits of helping for the success of organizations and economies. By showing that people reduce their level of helping behavior when it is needed the most, our work may point to an organizationally and economically problematic individual response to difficult economic periods, with practical implications for managers and policymakers. This contribution is also theoretically noteworthy because past work on counterproductive individual reactions to economic downturns was primarily focused on actors other than employees (e.g., bank customers), or looked at work behaviors that do not concern the majority of employees (e.g., professional stock investing). We highlight that

economic downturns can cause counterproductive individual reactions among the general population of employees, and with respect to a core workplace behavior—coworker helping.

By demonstrating that macroeconomic contexts shape the behavior of individuals, our work opens up avenues for future research to bridge micro and macro levels of analyses in explaining employee behavior. The organizational literature has traditionally studied phenomena at the level of individuals and teams separately from those at the level of industries and economies (Buckley, Hamdani, Klotz, & Valcea, 2011). An implicit assumption of this approach is that individual behavior is largely unaffected by the state of the broader economic environment. Yet, employees have much interest in and information about the state of the economy, making this a very salient feature of their everyday psychological experience, and, as we show, an important determinant of how they act at work. On average, the U.S. economy has fluctuated between economic downturns and upturns roughly every five years over the last 150 years (National Bureau of Economic Research, 2011). Such economic changes profoundly affect employees' livelihood (Bureau of Labor Statistics, 2012; Hurley, Mandl, Storrie, & Ward, 2009). Employees can read about even minor macroeconomic changes in every newspaper, and smartphones provide instantaneous updates about the stock market. Given the importance and salience of macroeconomic changes to employees, it is unrealistic to build models of organizational behavior by assuming that employees act in a vacuum, oblivious to broader economic trends. By examining how economic changes shape a core organizational behavior—helping—our work presents an important step toward understanding individual employees in the context of a broader economic environment.

THEORY

We propose that one important psychological factor that affects employees' decisions to help their coworkers is their construal of the extent to which the success of one person implies less success for others. Broadly, the generalized construal of success can fall somewhere along a spectrum ranging from a zero-sum view, whereby another's success is construed as exhausting a limited pool of successful outcomes, to a more integrative view according to which success is seen more as a good that can grow so there is enough for everyone. Variation in the construal of success has been documented in a range of domains. For example, Esses et al. (1998) found

substantial variation in the extent to which people construe gains of one social group to imply losses for other groups, and a more zero-sum construal of success was related to more negative attitudes of natives toward immigrants. Norton and Sommers (2011) found differences between social groups, wherein Whites construed improvements in the outcomes of Blacks in a zero-sum manner and therefore as threatening their own outcomes, while Blacks construed successes of other social groups in less of a zero-sum manner, believing instead that all social groups can enjoy good outcomes.

Much debate in relation to economic and organizational phenomena can be viewed as a product of diverging philosophical assumptions about the extent to which success is a zero-sum good. Malthus (1798) saw wealth as a zero-sum good, in that improvements in the position of some would mean less wealth remaining for others. Conversely, de Condorcet (1795) believed that wealth was not a zero-sum good because of technological innovation, which he believed had the potential to generate new wealth and thus ensure that improvements in the position of some would not necessarily have to come at the expense of others' success. In the popular business strategy literature, there is an effort to alter people's construal of success from the one that emphasizes defeating one's competitors in the market ("red ocean") to the view that wealth can be generated anew and that the success of one firm does not have to come at the expense of others ("blue ocean"; Kim & Mauborgne, 2015). Popular management and self-improvement books make a similar point. For example, in the book *The Seven Habits of Highly Effective People*, Covey (2004: 219) suggested that people often "see life as a finite pie: If someone gets a big piece of pie, it means less for everyone else—and, most importantly, for them. Our thinking should be that there is plenty out there for everybody." Such anecdotal evidence is suggestive of the relevance of people's construal of success in a more or less zero-sum manner in the context of economic and business processes.

We draw on social cognition principles (Baldwin, 1992; Fiske, 1992; Lord, 1982; Niedenthal, Cantor, & Kihlstrom, 1985; Trzebinski, 1985) to propose that the salience of a zero-sum construal of success should make people less inclined to help. One basic principle of social cognition is that people are influenced in their approach to a particular situation both by the information contained in the situation as well as by their generalized construal of relevant situations. For example, when making a decision about whether they should trust a particular individual, people are

influenced by their construal of whether trusting others is risky in general (Colquitt, Scott, & LePine, 2007). In this example, when a person's salient generalized construal is that trusting others is risky, they would be less likely to trust a particular individual, even when the information contained in the situation (e.g., reputational information) is identical. People rely on a generalized construal of relevant situations when making decisions about particular situations because doing so is generally more efficient and less time and energy consuming than engaging in an exhaustive scrutiny of every particular situational detail (Bodenhausen & Wyer, 1985; Macrae, Milne, & Bodenhausen, 1994; Macrae, Stangor, & Milne, 1994). Exhaustive scrutiny may be particularly unlikely in the work setting, which is often marked by substantial time pressure and cognitive load (Mintzberg, 1975; Perlow, 1997).

People are thus likely to be influenced in their approach to a particular situation affording the opportunity to help (e.g., "Should I help this particular coworker perform her work successfully?") both by the features of the situation as well as the generalized construal of relevant situations (i.e., "In general, does another person's success imply less or more success for others?"). To the extent that the construal that the success of some (such as an employee in need of help) is something that might take away from the success of others (potentially including themselves) is salient, people should be more likely to act as if aiding others' success is less of a desirable action. Thus, even when the situation is the same (e.g., helping would involve little or no personal cost to the self), it might be expected that a salient zero-sum construal of success will make people less likely to help.

Consistent with this notion, there is evidence that, even in situations in which success is by definition not a zero-sum good, people may still act in accordance with a generalized zero-sum construal of success. Negotiation research has found that negotiators sometimes assume that negotiation outcomes are zero-sum—that is, that their own and the other party's gains obtained through negotiation are mutually exclusive, even when the situation is defined such that both parties can attain good outcomes (Bazerman & Neale, 1983). Educational research has provided further demonstration that people can be guided by a zero-sum construal of success in particular situations over and beyond specific situational details. This work found that people often think of grades as a zero-sum good even when they are not. For example, people predicted that students graded later would receive lower grades if students graded earlier

received high grades, even when grading was absolute and not relative (Meegan, 2010). These examples are consistent with the idea that, when a zero-sum construal of success is salient, it impacts people's interpretations of and approach to particular situations over and above the features of the situation.

We argue that the exposure to cues that the economy is performing poorly (relative to well) will make a zero-sum construal of success salient. In worse economic periods, such as during economic downturns, less wealth is generated anew (Pfeffer, Danziger, & Schoeni, 2013). Economic success is objectively more of an exclusive good during more difficult economic times. Wealth by definition does not grow much during economic downturns, so, during economically difficult times, it is relatively more correct that success can only be accrued at the expense of existing wealth than it is during economically prosperous times. For that reason, we expect that exposure to cues of economic downturns will make a zero-sum construal of success salient. While this construal will be relatively accurate with respect to the general economic situation, as we argued above, it may lead people to apply the generalized construal to particular situations in which one can decide whether or not to aid others' success. In the context of workplace helping, this means that, even when the particular situation affording the opportunity to help that employees face is the same, we expect that employees will behave in a less helpful manner, due to a more zero-sum construal of success, when exposed to cues of economic downturns. In fact, to the extent that people rely on a generalized construal of success rather than exclusively relying on the information contained in the situation, exposure to cues of economic downturns may reduce helping even when helping would not come at any cost to the success of others.

Anthropological work by Foster (1965) has suggested the possibility that harsher economic environments make a zero-sum construal of success salient, which in turn makes people less likely to aid the success of others, even when doing so involves no personal cost. He argued that the harsh economic conditions of peasant economies promote an "image of a limited good," such that people "see their universe as one in which the good things in life are in limited and unexpandable quantities, and hence personal gain must be at the expense of others" (Foster, 1965: 301). This zero-sum construal of success is believed to stem from the difficult conditions of laborer economies: "When the peasant views his economic world as one in which Limited Good prevails, and he can progress only at the expense of another, he is usually

very near the truth" (Foster, 1965: 297). Foster argued that the zero-sum construal of success among peasants made them less likely to benefit others through cooperative efforts, even when cooperation could potentially have been personally beneficial: "If the 'good' in life is seen as finite and nonexpandable, and if apart from luck an individual can progress only at the expense of others, what does one stand to gain from a cooperative project?" (Foster, 1965: 308)

Foster's observations focused on a context that is very different from business organizations of the modern economy, but a similar psychological process may be one explanation for a variation in workplace helping as a function of macroeconomic changes. Because people perceive a lower likelihood of new wealth generation at the level of the economy, a more zero-sum generalized construal of success might be expected to become salient. This, in turn, should make people less likely to aid the success of other employees even when the particular situation in which a coworker is in need of help is the same. Thus, formally stated, our theory is as follows:

Hypothesis 1. Economic downturns promote a zero-sum construal of success.

Hypothesis 2. Economic downturns reduce workplace helping by promoting a zero-sum construal of success.

OVERVIEW OF STUDIES

We start by reporting a large-scale study across 51 countries and 17 years that examined how the extent to which people construe success in a zero-sum fashion varies as a function of their objective macroeconomic environment. Study 1 thus tests Hypothesis 1 only. Studies 2–4 test both hypotheses and exclude changes in mood as alternative explanations for the effect of economic downturns on helping. Specifically, prior research has shown that both positive and negative moods, independently, can affect whether people are willing to help others (Weyant, 1978). Economic downturns are marked by adverse events such as unemployment and financial hardship. It is thus possible that exposure to cues of economic downturns puts people in a more negative and less positive mood, which might conceivably explain the effect of economic downturns on helping. Although we deemed it informative to test these alternative explanations, we thought the explanation focusing on the salience of a zero-sum construal of success was more likely, as prior work on the psychological effects of environmental resource scarcity has not found effects on either

positive or negative moods (e.g., Hill, Rodeheffer, Giskevicius, Durante, & White, 2012). Figure 1 summarizes the test of mediators conducted in Studies 2–4.

Studies 2 and 3 use experimental methodology to manipulate employees' perception of the state of the economy, while Study 4 capitalizes on natural variation in the state of the economy by sampling workers from 47 countries. In these studies, we operationalize helping behavior by examining responses to a hypothetical workplace situation (Study 2), by administering an established self-report measure of workplace helping (Study 3), and by measuring actual helping behavior (Study 4). Thus, taken together, we test our theory using both externally and internally valid methods, and conceptually replicate our theory tests through different operationalizations of the key constructs. Across the studies, we focus on situations in which helping comes at no apparent cost to the self. Our reasoning was that demonstrating that people choose not to help in such situations provides a particularly powerful demonstration of the irrational and counterproductive nature of the response. Except for data that are already publicly available through the webpages of the relevant institutions (as detailed below), materials, data, and syntax for all our studies are available at the following "Economic Downturns Undermine Helping" project page on the Open Science Framework website: https://osf.io/shxuc/?view_only=d1a7eb92003642c7839fbc6e04f8db40. The web page also contains the syntax for all of the robustness checks mentioned in the paper.

STUDY 1: LARGE-SCALE FIELD STUDY

Survey Data

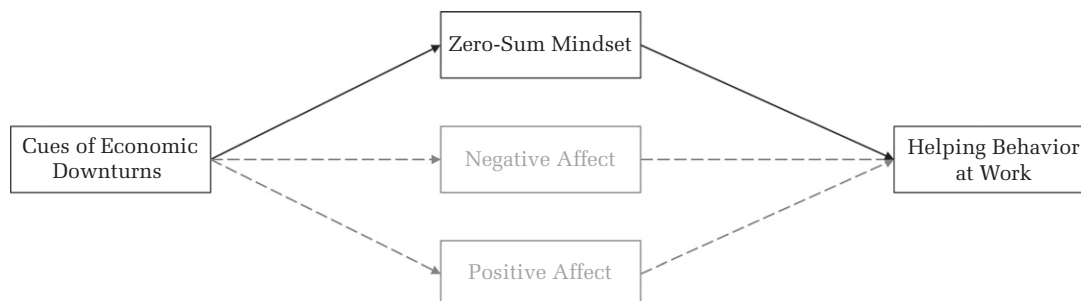
Individual-level data were obtained from the World Values Survey (WVS) (World Values Survey, 2014,

2015), a research project focusing on sociocultural changes that has, since 1981, surveyed representative random samples from numerous countries, with more than 100 countries being currently represented. The WVS is conducted in cross-sectional waves with non-repeat observations several years apart. The data are available for download at the web page given above. For the combination of variables that were relevant to our theory, data were available from 59,694 respondents from 51 countries and responses were distributed across years ranging from 1995 to 2012. Respondents were roughly balanced in terms of gender (51.58% were women), were 41.17 years old on average ($SD = 16.24$), and 68.47% were employed.

Zero-sum construal of success. The WVS included a measure of zero-sum construal of success that asked participants to indicate how they viewed success on a scale ranging from 1 = "people can only get rich at the expense of others" to 10 = "wealth can grow so there is enough for everyone." We reversed the scale so that higher values indicate a more zero-sum construal of success.

Controls. We controlled for several individual characteristics of WVS respondents. The selection of control variables was informed by prior research on a zero-sum construal of success. Specifically, consistent with Bobo and Hutchings (1996), we controlled for respondents' sex (0 = "female", 1 = "male"), age, whether the respondent was working, whether the respondent was religious, and respondents' income level (ranging from 1 to 10, with 10 being the highest income level; for details, see World Values Survey, 2015). Next, we controlled for respondents' occupational status, classified based on the International Socio-Economic Index of occupational status (Ganzeboom, de Graaf, & Treiman, 1992), and for educational attainment, classified based on the CASMIN classification of educational attainment (Braun & Müller, 1997). Both

FIGURE 1
Mediation Model Tested in Studies 2–4



these measures are widely used and are designed such that higher scores indicate a higher occupation status and a higher educational attainment, respectively. The documentation cited above contains additional details. Finally, to more directly account for psychological responses due to participants' social standing, the indicators of which were found to be associated with a zero-sum construal of success in Bobo and Hutchings (1996), we also controlled for self-reported social class. The scale ranged from 1 = "upper class" to 5 = "lower class" (see also Kraus, Piff, & Keltner, 2009). It was reversed so that higher scores indicate a higher subjective social class.

Data on Macroeconomic Situation

To examine whether participants' view of success was shaped by their macroeconomic context, we merged the WVS with the World Development Indicators (WDI) database produced by the World Bank (2015a). The WDI database contains internationally comparable macroeconomic indicators covering more than 150 economies. The WDI data are available for download from the World Bank web page cited above. We merged the two datasets so that, for each individual response from the WVS, there was a corresponding statistic from the WDI database for the country and year in which the response was collected.

As a proxy for the current state of the economy, we used the unemployment rate in each respondent's country in the year in which their response was collected. Unemployment has been used as a proxy for economic downturns versus upturns in past organizational (Bianchi, 2013) and psychological research (Hill et al., 2012). The National Bureau of

Economic Research (2015), an institution that provides official estimates of economic cycles, also looks at unemployment to determine when the economy is in a downturn or upturn. Nevertheless, we note that some prior work operationalized whether an economy was in a downturn versus upturn by looking at GDP change rates (e.g., Sobotka, Skirbekk, & Philipov, 2011). Thus, as described below, we also checked the robustness of our findings by rerunning the analysis using GDP change rates as an alternative operationalization of the state of the economy.

Table 1 delineates details of Study 1's variables.

STUDY 1: RESULTS AND DISCUSSION

To test Hypothesis 1, we conducted a multilevel regression analysis with cases nested within countries (see Table 2). The control variables were entered as predictors of zero-sum construal of success in the first step (Model 1), and the independent variable (unemployment rate) was added in the second step (Model 2). We also note that in this and all other studies reported in the paper, the results hold without control variables. The results are displayed in Table 2 and show that, when the economy was in a downturn, as indicated by a higher relative to lower unemployment rate, respondents construed success in a more zero-sum fashion ($b = 0.05$, $SE < 0.01$, $p < .001$). The results thus support Hypothesis 1.

Given the large sample, we deemed it informative to examine the size of the effect of economic cycles relative to other predictors. First, we note that, while the variance explained was admittedly not large in either model, the addition of the unemployment variable doubled the variance explained over major

TABLE 1
Study 1: Variable Details^a

	Mean	SD	1	2	3	4	5	6	7	8	9
1. Zero-Sum Construal of Success	4.62	2.77									
2. Unemployment	8.80	6.01	.02								
3. Male	0.48	0.50	.02	-.01							
4. Age	41.17	16.24	-.01	-.03	.00						
5. Income Level	4.68	2.31	-.03	-.10	.04	-.09					
6. Employed	0.68	0.46	-.02	-.11	-.03	-.15	.13				
7. Educational Attainment	4.79	2.20	-.02	-.02	.03	-.18	.29	.07			
8. Occupational Status	4.93	2.45	.03	.09	-.09	-.11	-.25	-.20	-.39		
9. Subjective Social Class	2.70	0.98	-.04	-.07	.01	-.05	.44	.07	.33	-.28	
10. Religiosity	1.31	0.46	.03	-.12	.10	-.02	.05	.03	.07	-.05	.02

^a $N = 59,694$. All correlations are significant at $p < .05$, with the exception of the correlations between variable pairs 3–4 and 3–8.

TABLE 2
Study 1: Zero-Sum Construal of Success Regression Analysis Results^a

Predictors	Model 1: Controls			Model 2: Unemployment		
	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>
Constant	4.70	0.14	.000	4.15	0.18	.000
Male	0.12	0.02	.000	0.12	0.02	.000
Age	-0.00	0.00	.000	-0.00	0.00	.000
Income Level	-0.02	0.01	.000	-0.02	0.01	.000
Employed	-0.02	0.03	.431	-0.01	0.03	.652
Educational Attainment	-0.00	0.01	.801	0.00	0.01	.992
Occupational Status	0.03	0.01	.000	0.03	0.01	.000
Subjective Social Class	-0.14	0.01	.000	-0.14	0.01	.000
Religiosity	0.32	0.02	.000	0.32	0.02	.000
Unemployment				0.05	0.01	.000
<i>R</i> ²	.0077			.0144		

^a *N* = 59,694. Multilevel linear regression with cases nested within countries. *R*² was calculated following the Snijders and Bosker (1999) formula.

factors affecting attitudes such as gender, income, employment, education, occupation, subjective social class, and religiosity (see Table 2). Second, we computed standardized coefficients to facilitate effect size comparisons across predictors (see the online syntax for details). The standardized coefficient for unemployment was .14, which significantly surpassed the standardized coefficients of all other variables. The next largest standardized coefficient, that for religiosity, was almost three times smaller (.05) than the standardized coefficient for unemployment. Taken together, this analysis suggests that changes in macroeconomic environment constitute a notable explanation for people's generalized construal of success.

Robustness Checks

We conducted several robustness checks to probe the reliability of our findings. First, we group-mean centered the unemployment rate to reflect deviations from the average unemployment rate in the given country (Hofmann & Gavin, 1998), and, in that way, take into account countries' historical averages and trends. Second, as noted above, we also reran the analysis using GDP change as an alternative independent variable, which also captures economic changes in a country relative to that country's past economic situation. Third, instead of using multi-level modeling, we reran the analysis using ordinary least squares (OLS) with Huber-White (robust) standard errors (Froot, 1989). Fourth, we tried adding fixed effects for year to this analysis to account for

any time effects. In all cases, the results led to the same conclusions as in the main analysis.

STUDY 2: FIRST EXPERIMENT AMONG EMPLOYEES IN ORGANIZATIONS

Study 1 provided a large-scale demonstration that people construe success in a more zero-sum manner when the economy performs poorly. In Study 2, we sought to replicate this finding and test its implications for helping behavior (Hypothesis 2). We used an experimental approach to test the effect of economic downturns on individuals, which ensured a high degree of internal validity. Specifically, we recruited U.S. employees working in organizations and we manipulated their perception of how well the U.S. economy was performing by asking them to read an article that purportedly described the actual state of the economy. Half of the participants read that the economy was in a downturn, and the other half that it was in an upturn. Afterward, we observed whether the manipulation made participants less inclined to engage in helping behavior at work, and whether the effect was due to a more zero-sum construal of success. We also examined mood as a potential alternative explanation for the effect.

Participants and Design

We recruited 231 employees (average age = 48.57, *SD* = 11.29; 61.47% were women) working in various U.S.-based firms, in exchange for \$4.90. Participants

were recruited through ClearVoice, a market research and intelligence firm, which confirmed participants' employment status through a comprehensive verification process. On average, participants had 25.74 years of work experience ($SD = 11.29$) and had worked in the current organization for the past 11.42 years ($SD = 9.53$). Participants worked in different industries, with the most concentration in the health care and social assistance sector (12.99%), followed by professional, scientific, technical services (11.69%), finance and insurance (8.23%), retail trade (8.23%), and manufacturing (8.23%). The average size of the organization in which participants worked was in the 1,701–1,800 range. Participants' average yearly income was in the \$50,001–\$60,000 range. We randomly assigned participants to either the economic downturn condition or the economic upturn condition.

Procedure and Materials

After signing the consent form, participants were informed that they would be taking part in a study about economy and workplace decisions, and were then asked to report their demographic information. Unless otherwise noted, all measures in this and the subsequent studies used a five-point scale (1 = "strongly disagree" to 5 = "strongly agree").

Macroeconomic situation manipulation. After reporting demographic information, participants were asked to read an article about the state of the U.S. economy. In reality, the article described the economy as either in an upturn or a downturn. We designed the article to appear like a genuine newspaper article, similar to prior research on psychological consequences of poor economic conditions (Griskevicius et al., 2013; Hill et al., 2012). Economic upturn was used as the natural control condition, as economic cycles generally consist of periods of more or less pronounced growth that is intermittently interrupted by economic downturns (World Bank, 2015b). The length (498 vs. 493 words), structure, style, and wording of both articles were highly standardized. To minimize the risk of participants' suspicion about the articles' authenticity, both articles relied on actual facts about the U.S. economy to illustrate its overall state as good or bad. Appendix A presents the articles.

Manipulation check. The effectiveness of the manipulation was checked by asking participants to indicate to what extent they agreed with the following three statements: "The state of the economy is bad," "The economy is in a downturn," and "An economic recession is likely" ($\alpha = .93$).

Hypothesized mediator: zero-sum construal of success. Next, we administered a six-item measure of the extent to which participants construed success in a zero-sum fashion. We adapted this measure from prior work on a zero-sum construal of success (Esses et al., 1998). The items were: "When some workers make economic gains, others lose out economically," "People who want to get ahead economically must do so at the expense of others," "The more employees a company employs, the harder it is for existing employees to advance," "More good jobs for some employees means fewer good jobs for other employees," "Not everyone can be wealthy," "For every rich person, there is usually a person experiencing financial hardship." The items were internally consistent ($\alpha = .80$).

Alternative mediator: mood. We measured mood using the Positive Affect Negative Affect Schedule (PANAS) measure of mood (Watson, Clark, & Tellegen, 1988). Participants were asked to indicate to what extent ten positive mood states (e.g., enthusiastic, inspired, proud; $\alpha = .94$) and ten negative mood states (e.g., scared, nervous, upset; $\alpha = .94$) described how they felt (1 = "very slightly or not at all"; 5 = "extremely").

Dependent variable: helping behavior. Next, participants were presented with a scenario describing a work situation in which they could help a coworker in need without any apparent personal cost. The scenario read as follows:

At the department meeting, your superiors inform you that the company is planning to implement a new marketing strategy focused more aggressively on on-line platforms. They asked all department members to contribute by formulating their strategy proposals. High-quality proposals will be rewarded with a standard bonus. One day, you notice that a colleague from your department had obviously misunderstood the purpose of the plan and was not emphasizing on-line platforms. Would you point this colleague in the right direction?

The scenario intended to specify that the coworker's success would not mean a lower likelihood of own success because all proposals that satisfied a standard of quality would receive a bonus (see online for details of a supplementary data collection that verified that people reading the scenario generally thought that bonuses were determined in an absolute rather than relative fashion, and that helping in this situation would not come at a cost to the self). At the same time, as in a real-world workplace setting, the situation was meant to be subtle and ambiguous enough for participants to still be able to impute a zero-sum construal of success in the

situation. Participants indicated whether or not they would help the coworker (0 = “no”; 1 = “yes”).

Table 3 presents details of Study 2’s variables.

STUDY 2: RESULTS AND DISCUSSION

Manipulation Check

Participants in the economic downturn condition indicated believing that the economy was in a worse state (mean = 3.64, *SD* = 0.99) than participants in the economic upturn condition (mean = 2.59, *SD* = 1.08), $t_{229} = 7.69, p < .001$. Thus, the manipulation was effective.

Consequences of Economic Downturns

Participants in the economic downturn condition, compared to participants in the economic upturn condition, reported a more zero-sum construal of success (economic downturn: mean = 3.48, *SD* = 0.79; economic upturn: mean = 3.18, *SD* = 0.73; $t_{229} = 2.95, p = .004$) and were less likely to make a decision to help (economic downturn: 66.67%; economic upturn: 82.91%; $\chi^2 = 8.10, p = .004$). The macroeconomic situation manipulation had no effect on mood ($ps > .070$).

The Role of Zero-Sum Construal of Success

Table 4 (“Study 2: Helping Behavior” column) presents logistic regression analysis results showing that a zero-sum construal of success (which we found to be amplified in the economic downturn condition) was associated with less helping, controlling for mood ($b = -1.22, SE = 0.27, p < .001$).

To test whether a zero-sum construal of success mediated the effect of the economic situation manipulation on helping, we analyzed the multiple mediator model depicted in Figure 1 using generalized

structural equation modeling, with paths toward continuous variables estimated using OLS regression and paths toward helping decisions estimated using logistic regression (the online syntax contains details, including the random seed used). The significance of indirect effects was tested by computing bias-corrected confidence intervals of the product of the relevant paths using the bootstrap method with 5,000 bootstrap samples (Shrout & Bolger, 2002). The analysis found that reading that the economy was in a downturn significantly reduced the likelihood of helping by promoting a zero-sum construal of success (95% confidence interval = $[-.78, -.11]$). As summarized in Table 5, confidence intervals of indirect effects through positive and negative mood included zero, ruling out these alternative explanations. The results thus support Hypotheses 1 and 2.

STUDY 3: SECOND EXPERIMENT AMONG EMPLOYEES IN ORGANIZATIONS

In Study 2, we found support for our hypotheses using a measure of helping that was designed to map onto the situational features on which our theory focuses. Nevertheless, the measure used in Study 2 was developed anew, so we considered it desirable to replicate the findings by adapting an established, validated measure of workplace helping in Study 3. The design of Study 3 is thus similar to the design of Study 2, with the main difference being that we adapted an existing measure of the extent to which people are willing to go beyond their job requirements to help a coworker (Lee & Allen, 2002).

Participants and Design

We recruited 212 employees (mean age = 52.54, *SD* = 11.55; 53.77% were women) working in

TABLE 3
Studies 2 and 3: Variable Details^a

	Study 2				Study 3							
	Mean	<i>SD</i>	1	2	3	4	Mean	<i>SD</i>	1	2	3	4
1. Helping Behavior	0.75	0.43	—				0.77	0.25	(.78)			
2. Zero-Sum Construal of Success	3.33	0.77	-.39	(.80)			3.38	0.74	-.24	(.79)		
3. Negative Mood	1.38	0.65	-.30	.30	(.94)		2.15	0.81	-.03	.13	(.93)	
4. Positive Mood	2.97	0.95	.07	-.13	.02	(.94)	3.55	0.70	.14	-.06	-.34	(.88)
5. Macroeconomic Situation Manipulation ^b	0.49	0.50	-.19	.19	.09	-.12	0.49	0.50	-.14	.21	-.04	.04

^a Study 2, *N* = 231; Study 3, *N* = 212. Correlations above |.13| are significant at $p < .05$. Cronbach’s alphas are displayed on the diagonal.
^b Coded “1” for economic downturn and “0” for economic upturn.

TABLE 4
Studies 2 and 3: Helping Behavior Regression Analysis Results^a

Predictors	Study 2: Helping Behavior			Study 3: Helping Behavior		
	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>
Constant	6.55	1.19	.000	0.83	0.14	.000
Macroeconomic Situation Manipulation ^b	-0.60	0.36	.095	-0.05	0.03	.141
Negative Mood	-0.70	0.27	.011	0.01	0.02	.553
Positive Mood	0.06	0.18	.756	0.05	0.03	.039
Zero-Sum Construal of Success	-1.22	0.27	.000	-0.07	0.02	.002
<i>R</i> ²	.290			.085		

^a Study 2, *N* = 231; Study 3, *N* = 212. Study 2 helping behavior is binary, so logistic regression results are reported. Study 2 (pseudo) *R*² is computed using the Cragg-Uhler/Nagelkerke formula. Study 3 helping behavior is continuous, so OLS regression results are reported.

^b Coded "1" for economic downturn and "0" for economic upturn.

various U.S.-based firms, again in exchange for \$4.90 and through the same organization used to recruit Study 2's participants. On average, participants had 28.57 years of work experience (*SD* = 11.80) and had worked in the current organization for the past 11.38 years (*SD* = 9.22). Participants worked in different industries, with the most concentration in the health care and social assistance sector (11.79%), followed by retail trade (8.49%), manufacturing (7.55%), arts, entertainment, and recreation (4.72%), and construction (4.72%). The average size of the organization for which participants worked was in the 1,501–1,600 range. Participants' average yearly income was in the \$50,001–\$60,000 range. We randomly assigned participants to either the economic downturn condition or the economic upturn condition.

Procedure and Materials

The study procedure and measures were the same as those used in Study 2, except for two differences. One difference was that we measured participant's mood using a shorter, ten-item version of PANAS (Kercher, 1992), to minimize the risk of fatigue and

inattention among participants. We reasoned that the longer PANAS scale might have been taxing, as it asked for introspection concerning 20 states in a sequence. Because we had no theoretical basis for testing the effects of specific emotional states, and were only interested in the effects of an overall positive or negative mood, we thought it might be more efficient to capture these constructs using a shorter measure. Also, the specific measure has been validated in prior work (Kercher, 1992).

The second and more important difference between the designs of Studies 2 and 3 was that, in Study 3, we used an established scale designed to measure willingness to help. We adapted a widely used, eight-item scale of interpersonal organizational citizenship behavior developed by Lee and Allen (2002). The measure is designed to capture voluntary employee behaviors that facilitate organizational functioning and are aimed at coworkers, "primarily involving helping individuals at work" (Lee & Allen, 2002). Thus, this operational definition fitted our theoretical focus on explaining a decline in helping behavior that would otherwise be useful to the success of organizations and their employees.

TABLE 5
Studies 2–4: Mediation Analysis Results^a

Mediators	Study 2		Study 3		Study 4: Binary Measure of Helping		Study 4: Continuous Measure of Helping	
	LLCI	ULCI	LLCI	ULCI	LLCI	ULCI	LLCI	ULCI
Zero-Sum Construal of Success	-0.78	-0.11	-0.05	-0.01	-0.27	-0.01	-0.46	-0.03
Negative Mood	-0.26	0.02	-0.01	0.00	-0.04	0.11	-0.05	0.23
Positive Mood	-0.14	0.06	-0.00	0.02	-0.05	0.09	-0.23	0.03

^a Study 2, *N* = 231; Study 3, *N* = 212; Study 4, *N* = 101. LLCI (ULCI) denotes lower (upper) limit of the 95% confidence interval of the specific indirect effect of economic downturns on helping through the relevant mediator (listed in the first column on the left).

We first described a work situation in which there was no interdependence between the participant and the person in need of help. Thus, lower levels of helping as a function of exposure to cues of economic downturns in this situation would show a decline in helping, as it occurs in a form in which it is actually not threatening to one's success and is thus particularly productive and desirable for organizations. Participants read the following text: "The situations below describe some behaviors you might engage in with respect to an employee in your organization. Imagine that this employee is working in another department, on a different type of work than yours. In a typical day, neither too busy nor too slow, would you be willing to do the following for this employee?"

Participants then responded to items from Lee and Allen (2002), each of which described a situation that afforded the opportunity to help another employee. Sample items included "Help the employee because s/he has been absent," "Willingly give your time to help the employee because s/he has work-related problems," "Assist the employee with his/her duties." For each situation described, participants were asked to indicate whether or not they would help the employee in need of help (0 = "no"; 1 = "yes"). We averaged the responses to form a scale of helping behavior at work ($\alpha = .79$).

Table 3 presents details of Study 3's variables. As displayed in the table, in addition to the "helping behavior" measure, all other measures (which were the same as in Study 2, with the exception of the PANAS measure, as described above) also exhibited adequate internal consistency.

STUDY 3: RESULTS AND DISCUSSION

Manipulation Check

Participants in the economic downturn condition indicated believing that the economy was in a worse state (mean = 3.79, $SD = 0.95$) than participants in the economic upturn condition (mean = 2.64, $SD = 1.07$), $t(210) = 8.34$, $p < .001$. Thus, the manipulation was effective.

Consequences of Economic Downturns

Participants in the economic downturn condition, compared to participants in the economic upturn condition, reported a more zero-sum construal of success (economic downturn: mean = 3.54, $SD = 0.73$; economic upturn: mean = 3.23, $SD = 0.72$; $t_{210} = 3.10$, $p = .002$) and on average helped less (economic

downturn: mean = 0.74, $SD = 0.26$; economic upturn: mean = 0.81, $SD = 0.24$; $t_{210} = 2.07$, $p = .040$). The macroeconomic situation manipulation had no effect on mood ($ps > .574$).

The Role of Zero-Sum Construal of Success

Table 4 ("Study 3: Helping Behavior" column) presents OLS regression analysis results showing that a zero-sum construal of success (which was amplified in the economic downturn condition) was associated with less helping, controlling for mood ($b = -0.07$, $SE = 0.02$, $p = .002$).

We tested the multiple mediator model depicted in Figure 1 with all paths estimated using OLS regression. The same strategy for testing indirect effects was used as in Study 2. The analysis found that reading that the economy was in a downturn significantly reduced helping decisions by promoting a zero-sum construal of success (95% confidence interval = $[-.05, -.01]$). As summarized in Table 5, confidence intervals of indirect effects through positive and negative moods included zero, ruling out these alternative explanations. The results thus support Hypotheses 1 and 2.

Robustness Checks

We ran two robustness checks. As noted above, the dependent variable consisted of an average of a series of either "1" or "0" values (denoting either a decision to help or not to help, respectively, for each item). As such, it could be meaningfully interpreted as the proportion of times the participant decided to help, in which case a fractional logit model would be appropriate (Papke & Wooldridge, 1996). Rerunning the analyses with a fractional logit model yielded the same results as the results reported above. In addition, the dependent variable can be computed not as an average of decisions to help versus not to help, but as a sum of instances in which the participant decided to help. Computed this way, the dependent variable can be meaningfully interpreted as a count response (the number of times the participant decided to help), in which case a Poisson model would be appropriate. Rerunning the analyses with a Poisson model also yielded the same results. We thus concluded that the results are robust.

STUDY 4: FIELD STUDY AMONG FREELANCERS

Studies 2 and 3 provided internally valid tests of our theory by manipulating participants' perception of the state of the economy. In Study 4, we sought to

bolster the external validity of our conclusions by once again capitalizing on natural variation in economic conditions across countries, as we did in Study 1, but, adding to Study 1, we were able to test our full theoretical model because we also measured helping. We recruited freelance professionals from 47 countries and gave them an opportunity to engage in helping behavior toward a professional in the same domain. The study was conducted unobtrusively; that is, freelancers were not aware they were participating in a study, which added to the psychological realism of this theory test. The final methodological advantage of Study 4 was that we were able to measure freelancers' perception of the state of the economy, and, in that way, not only operationalize our independent variable in a more direct manner, but also test the assumption of our theory that people are aware of the economic conditions in their country. We accomplished this goal by examining the relationship between people's perceptions of whether the economy was in a downturn or upturn and objective macroeconomic indicators (the same ones we used in Study 1, thus also providing evidence of the convergent validity for our independent variable operationalizations across studies).

Participants

The study was conducted through Upwork, a global platform that facilitates the online hiring of freelance professionals from different industries. Upwork is currently used by more than 1 million businesses and offers access to more than 5 million freelance professionals. The platform enables businesses to find, interview, and hire freelance professionals who possess specific skills. Freelance professionals offering their services through Upwork are fully identifiable and possess profiles with details of their professional track record. Many of them are highly skilled and earn high hourly wages, including as software developers, graphic designers, copywriters, and legal consultants.

We employed 101 freelance professionals from the domain of marketing and sales. The focus on marketing and sales was in line with our cover story, which we describe below. All professionals were highly rated by prior clients and had significant experience working on jobs related to marketing and sales. We contacted each of them individually and offered them a small job from their area of expertise. We paid special attention to their place of residence, trying to recruit professionals from as many different

countries as possible to ensure there was a natural variation in economic conditions across countries from which participants came. The sample consisted of freelance professionals from 47 different countries across six continents. Countries represented included Armenia, Austria, Bangladesh, China, Colombia, Egypt, France, Malaysia, New Zealand, Ukraine, and the United States, among others. Those who accepted the job signed individual contracts specifying that they would engage in a short task concerning their area of expertise in exchange for \$6. Participants had 34.67 years on average ($SD = 9.67$) and were roughly balanced in terms of gender (53.47% were women).

Procedure and Measures

Freelancers were informed that they were hired by a mid-Atlantic university to work on a real job. Until the end of the study, they were unaware that the job was research related. The job they were required to perform purportedly consisted of assisting the university in evaluating the work of a marketing intern who created a new slogan for the sale of the university's merchandise (apparel, collectibles, etc.). We explained that the university sometimes seeks external input on the work of its business-sector employees from professionals in the same domain to increase the objectivity of work evaluations and the quality of selection and promotion decisions. Freelancers were first introduced to the merchandise that the intern was hired to promote. To strengthen the cover story, we described the actual name used for the merchandise and the actual marketing slogan used for its promotion that the marketing intern was ostensibly working on. After responding to some filler items about the intern's work, participants were given an opportunity to engage in helping behavior toward the intern, which constituted our dependent variable.

Dependent variable: helping behavior. We gave participants the option to advise the intern on how to improve—that is, to give the intern some professional advice on how to become a marketing specialist and succeed in the field. Participants were told that doing so was optional and would in no way affect their remuneration. Moreover, to highlight that helping the intern had no potential to come at the expense of participants' own career outcomes, we explicitly noted that participants could not be considered for work in a similar position and that we were merely soliciting external input.

Economic downturn perception measure. Following the option to give the intern advice, participants

were informed that it is the standard practice of the university to inquire about personal demographics, preferences, outlook on life, etc. It was explained that the university administers such a battery of measures as part of its human resources procedure for employees hired online. Participants were first asked for demographic information, including their country of residence. After the question about country of residence, we asked participants about their view of the current state of the economy in their country. The answers to these questions served as the independent variable. The measure consisted of the same three items administered in Studies 2 and 3: “The state of the economy is bad,” “The economy is in a downturn,” and “An economic recession is likely” ($\alpha = .90$).

Because the freelancers were based in a range of different countries, we were able to test whether their perception of the macroeconomic situation correlated with the objective state of the economy in their countries. We extracted data on unemployment and GDP change rate from the WDI dataset (used in Study 1; this information was missing for almost half of the sample because the data for the relevant year had not yet been published). Freelancers’ perceptions that the economy was in a worse state correlated positively with the unemployment rate and negatively with the GDP change rate in their country ($r_s > |.20|$, $ps < .048$). These results demonstrate the convergent validity of our operationalizations of the independent variable across studies. In addition, this correlation is relevant for our theory more generally because it provides support for our assumption that people are sensitive to the objective state of their macroeconomic environment.

Hypothesized and alternative mediators. Next, we administered the same measures of the hypothesized (zero-sum construal of success) and alternative

mediators (positive mood and negative mood) as in Study 3. By omission, we did not administer one item (“distressed”) from the negative mood subscale of the PANAS measure. Nevertheless, the measure exhibited good internal consistency ($\alpha = .77$). Internal consistency statistics for all measures are summarized in Table 6.

Controls. Next, we administered several measures intended as control variables. Specifically, in Studies 2 and 3, we used random assignment to experimental conditions so any differences in zero-sum construal of success and helping behavior between experimental groups could only have been due to our manipulation. Study 4, like Study 1, relied on passive observational data, so we sought to account for several potentially relevant individual differences. The selection of control variables was guided by the same rationale as was applied in Study 1. We asked participant to report their age, gender, and education level, operationalized as total years of schooling (Schneider, 2007). We administered an item asking about participants’ income, but more than a third of the sample chose not to report their income, so we could not use this variable in the analysis. Nevertheless, we also measured participants’ overall socioeconomic status using the MacArthur Scale of Subjective Social Status (Adler, Epel, Castellazzo, & Ickovics, 2000). Participants were asked to respond to the following question: “Think of a ladder with 10 steps representing where people stand in your country. At step 10 are people who are the best off—those who have the most money, the most education, and the most respected jobs. At step 1 are the people who are worst off—those who have the least money, least education, and the least respected jobs or no job. Where would you place yourself on this ladder?” Responses were recorded on a scale ranging from 1 to 10.

TABLE 6
Study 4: Variable Details^a

	Mean	SD	1	2	3	4	5	6	7	8	9
1. Helping Behavior (Binary)	0.45	0.50	—								
2. Helping Behavior (Continuous)	152.37	233.75	.73	—							
3. Economic Downturn Perception	2.98	1.28	-.26	-.25	(.90)						
4. Zero-Sum Construal of Success	2.85	0.87	-.31	-.36	.24	(.79)					
5. Negative Mood	1.96	0.68	-.08	-.08	-.02	.08	(.77)				
6. Positive Mood	3.91	0.59	.06	.13	-.12	-.19	.09	(.72)			
7. Male	0.47	0.50	.08	.17	.02	-.11	-.07	-.19	—		
8. Age	34.67	9.67	.03	.02	-.17	.06	-.13	-.05	-.04	—	
9. Education (Years)	17.02	2.82	.06	.04	.07	-.24	.01	.20	.03	-0.02	
10. Subjective Social Status	6.70	1.47	.11	.17	-.11	-.20	-.08	.38	.00	-0.12	0.31

^a $N = 101$. Correlations above $|.19|$ are significant at $p < .05$. Cronbach’s alphas are displayed on the diagonal.

Finally, we informed participants that they had participated in a research study and explained the purpose of the study and the rationale for the deception. We asked for a post-hoc consent and gave participants an option to opt out of the study, in which case their data would not be used. No participant opted out.

Table 6, above, presents details of Study 4’s variables.

STUDY 4: RESULTS AND DISCUSSION

For all analyses below, we report the results of regression models with robust standard errors (Froot, 1989). The results hold when multilevel models with cases nested within countries are used.

Consequences of Economic Downturns

As indicated in the Table 7, a perception that the economy was in a downturn was associated with a more zero-sum construal of success ($b = 0.18, SE = 0.06, p = .003$) and had no effect on mood ($ps > .522$).

Helping behavior consisted of written suggestions. There were thus two ways to analyze this variable. The first was to analyze whether participants attempted to help or not (44.55% did), in which case a logistic regression analysis is appropriate. Table 8 (Model 1) shows that the perception that the economy was in a downturn was associated with a lower likelihood that participants would help ($b = -0.44, SE = 0.17, p = .011$). In addition, another way to analyze helping behavior is to look at the extent of helping; that is, to analyze how much participants wrote. Analyzed this way, the dependent variable is a count of characters written. Count variables are usually analyzed using Poisson regression, but, in this case, there was an overdispersion (mean = 152.36, variance = 54638.37), so negative binomial regression was more appropriate (Long & Freese, 2006). Table 8

(Model 3) shows that the perception that the economy was in a downturn was associated with less helping ($b = -0.40, SE = 0.15, p = .007$). We also note that the results hold when a Poisson model is used.

The Role of Zero-Sum Construal of Success

Table 8 (Models 2 and 4) show that a zero-sum construal of success (which was amplified when the participant perceived the economy to be in a downturn) was related to a lower likelihood of helping ($b = -0.65, SE = 0.28, p = .023$; Model 2) as well as less helping ($b = -0.82, SE = 0.26, p = .001$; Model 4), controlling for mood.

We tested the multiple mediator model depicted in Figure 1 with first-stage paths estimated using OLS regression and second-stage paths estimated using logistic regression (to predict binary helping responses) or negative binomial regression (to predict continuous helping responses). The same strategy for testing indirect effects was used as in previous studies. The analysis found that participants’ perceptions that the economy was in a downturn indirectly reduced the likelihood of helping (95% confidence interval = $[-.28, -.01]$) as well as the extent of helping (95% confidence interval = $[-.43, -.02]$) by promoting a zero-sum construal of success. As summarized in Table 5, confidence intervals of indirect effects through positive and negative moods included zero, ruling out these alternative explanations. The results thus support Hypotheses 1 and 2.

GENERAL DISCUSSION

Four studies found support for the idea that worse macroeconomic conditions bring about a more zero-sum construal of success, which, in turn, makes people less likely to help others at work. In Study 1,

TABLE 7
Study 4: Mediators Regression Analysis Results^a

Predictors	Zero-Sum Construal of Success			Negative Mood			Positive Mood		
	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>
Constant	3.68	0.67	.000	2.69	0.64	.000	2.90	0.50	.000
Male	-0.18	0.16	.275	-0.10	0.13	.465	-0.23	0.11	.043
Age	0.01	0.01	.366	-0.01	0.01	.123	0.00	0.01	.789
Education (Years)	-0.07	0.03	.039	0.01	0.03	.641	0.02	0.02	.302
Subjective Social Class	-0.06	0.07	.398	-0.06	0.06	.323	0.14	0.04	.000
Economic Downturn Perception	0.18	0.06	.003	-0.04	0.06	.540	-0.04	0.04	.361
<i>R</i> ²	.149			.040			.197		

^a *N* = 101. OLS regression with robust standard errors (Froot, 1989).

TABLE 8
Study 4: Helping Behavior Regression Analysis Results^a

Predictors	Model 1: Helping Behavior (Binary)			Model 2: Helping Behavior (Binary)			Model 3: Helping Behavior (Continuous)			Model 4: Helping Behavior (Continuous)		
	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>
Constant	-0.04	2.18	.986	2.40	2.63	.362	5.06	2.27	.026	6.76	2.33	.004
Negative Mood	-0.27	0.30	.369	-0.17	0.31	.586	-0.43	0.35	.222	-0.31	0.33	.340
Positive Mood	0.08	0.40	.850	-0.04	0.40	.925	0.32	0.29	.279	0.31	0.34	.364
Male	0.36	0.45	.413	0.26	0.46	.581	0.58	0.32	.067	-0.05	0.41	.900
Age	0.00	0.02	.862	0.00	0.03	.958	0.00	0.02	.974	0.00	0.02	.857
Education (Years)	0.05	0.10	.634	0.01	0.09	.934	0.01	0.05	.900	-0.02	0.05	.644
Subjective Social Status	0.08	0.17	.663	0.06	0.17	.726	0.03	0.14	.847	0.15	0.14	.267
Economic Downturn Perception	-0.44	0.17	.011	-0.35	0.18	.047	-0.40	0.15	.007	-0.36	0.14	.012
Zero-Sum Construal of Success				-0.65	0.28	.023				-0.82	0.26	.001
<i>R</i> ²	.122			.186			.035			.064		

^a *N* = 101. Binary responses were analyzed using logistic regression, continuous (count) responses using negative binomial regression. *R*² is computed using the Cragg-Uhler/Nagelkerke formula. All analyses used robust standard errors (Froot, 1989).

we used data from 59,694 respondents surveyed across 51 countries and 17 years alongside objective indicators of their macroeconomic environments. We found worse economic periods to be associated with a more zero-sum construal of success. Studies 2 and 3 were experiments among employees of U.S. organizations in which we manipulated participants' perception of the state of the U.S. economy. We found that, when participants were made to think that the economy was in a downturn, they construed success in a more zero-sum fashion and were in turn less inclined to help. Study 4 was an unobtrusive study among freelance professionals from 47 countries in which we found that a participants' perceptions that the economy in their country was in a downturn were associated with a more zero-sum construal of success and less helping behavior. Studies 2–4 excluded changes in mood as a potential alternative explanation. Taken together, these studies provide both externally and internally valid evidence for the idea that economic downturns undermine workplace helping by promoting a zero-sum construal of success.

Theoretical Contributions, Limitations, and Future Directions

The most general theoretical contribution of our work is to demonstrate the importance of considering individual employee reactions to macroeconomic changes. Anecdotal evidence (e.g., Ip & Kulish, 2001) as well as work from domains other than organizational research (e.g., Bacchetta & van

Wincoop, 2013) suggest that people behave differently, perhaps fundamentally differently, in times of economic prosperity than in times of economic downturns. Some of this work highlights that people respond to cues of economic downturns in ways that are likely to exacerbate these economic problems further. For example, in response to cues of economic downturns, people sometimes fear for the stability of the banking system, which prompts them to withdraw money from the bank. Doing so is in itself sufficient to destabilize the banking system and thus exacerbates the very issues that prompted individuals' responses. Yet, most work on such interesting and consequential individual reactions to macroeconomic changes focuses on actors outside organizations, such as bank customers. Less is known about consequences that macroeconomic changes have for key economic agents—employees of business organizations. The complexity of studying organizational phenomena has led to methodological specialization and divisions in organizational sciences that has largely precluded examining influences of macroeconomic contexts on the psychology and behavior of individual employees. Because employees working in organizations are central and the most represented agents of economic dynamics, counterproductive behaviors in response to cues of economic downturns among this population are likely more economically consequential than the reactions exhibited by less central actors, such as bank customers.

The current work documents what is likely one such counterproductive response to cues of economic

downturns among employees: Economic downturns undermine workplace helping. As we noted in the introduction, workplace helping has numerous benefits for organizations and economies. The finding that workplace helping declines in times when it is needed the most thus suggests that counterproductive responses to cues of economic downturns also occur among employees of business organizations. Our focus on counterproductive responses to economic downturns opens up new avenues for research on the interplay between macroeconomic environments and the behavior of individual employees in organizations. At the same time, one limitation of our present work is that we did not examine consequences of the decline in helping as a function of economic downturns for further macroeconomic performance. Future studies are needed to investigate how the lower levels of helping in response to economic downturns aggregate to further aggravate the problematic economic conditions that initiated this individual reaction.

While reduced levels of helping in response to cues of economic downturns likely further impede economic performance of broader economic units, one might wonder whether the reduced helping presents a functional response for the individual employee. In our studies, we focused on situations in which employees had nothing to lose by helping their coworkers. However, in some cases, helping does come at the expense of task performance (Bergeron, 2007; Halbesleben & Wheeler, 2011; Koopman, Lanaj, & Scott, 2015; Rapp, Bachrach, & Rapp, 2013; Rubin et al., 2013). In such situations, employees may intentionally reduce helping in response to cues of economic downturns so as to be able to improve their task performance. However, across situations, employee helping is related to better managerial ratings of employee performance and larger rewards (Podsakoff et al., 1997). Reduced helping is also, in the longer run, likely to harm individual employees by jeopardizing the economic health of the organization for which they work. Thus, the response we document is likely to be counterproductive not just for the organization as a whole, but also for individuals withholding help, except in situations in which the individuals would be of more value for the firm if they helped less. Future research is needed to investigate more systematically what consequences the effect we document has for individual employees, and thus the extent to which the reduced helping in response to cues of economic downturns constitutes

a rational versus a counterproductive response for the individual.

Another potential undesirable individual reaction to cues of economic downturns is that employees might reduce their cooperativeness. Cooperation is at the root of economic value creation—people achieve more by working with others than they could on their own (Smith, 1937/1776). Yet, because cooperation involves interdependence, it also requires one to make oneself vulnerable to the other party's potentially exploitative behavior (Axelrod, 1984). Difficult economic periods might make people risk averse (Smart & Vertinsky, 1977) and wary of the uncertain and potentially threatening implications of cooperation. Relatedly, it is also possible that people adopt a more prevention-focused mindset in response to cues that the economy is performing poorly, which would likely also make them less willing to engage in interactions that involve potential risk but are on average profitable. These processes might lead to a decrease in cooperativeness at the time when it is needed the most.

Another counterproductive reaction to economic downturns among employees might occur due to an effect of a generalized construal paralleling the one documented in our studies, but pertaining to employees' view of the extent of control they have over outcomes. Specifically, because economic downturns highlight the inhibiting and unpredictable nature of the environment, a generalized construal that people in general have less control over outcomes might become more salient to employees. At a general level, the inference that people are less in control over outcomes is objectively more correct during economic downturns. However, it is possible that this generalized construal is also misapplied to specific situations at work in a manner similar to the process we found in our studies. Given the exact same situation and objective chances of success, a reduced generalized sense of control among employees might make them less likely to embark on business endeavors or initiate projects. Prior work has found that employees' generalized sense that they have control over outcomes is a necessary prerequisite for work-related personal initiative (Parker, Williams, & Turner, 2006). It is thus possible that another economically counterproductive reaction to economic downturns among employees is that their sense of control reduces, undermining initiative and thereby further hampering economic prosperity.

The final noteworthy theoretical implication of our work is that it demonstrates the usefulness of

considering people's generalized construal of success for understanding important organizational phenomena. People's tendency to construe success in a zero-sum manner has been recognized as an important explanation for inefficient and even harmful behavior in negotiation (Bazerman & Neale, 1983), but we found virtually no research in other domains of organizational behavior that examined how people construe success and how this construal affects their behavior at work. One conceptually related construct is employee bottom-line mentality, or a focus on financial performance at the exclusion of other priorities, which can also harm interpersonal dynamics at work (e.g., Greenbaum, Mawritz, & Eissa, 2012). The construct of a zero-sum construal of success complements this work because it suggests that, even when employees are focused on financial outcomes, they might behave in an irrational and financially suboptimal way when they incorrectly understand success to be a "fixed pie." We thus believe that the construct of a zero-sum construal of success holds much promise for contributing to extant explanations of employee behavior. Economic success is an important component of why people work and why they join organizations. It seems of fundamental importance to understand how employees' own construal of economic success direct their behavior, and doing so might lead to novel predictions with respect to core organizational behaviors. A zero-sum construal of success is likely to be relevant for organizational phenomena in which considerations of others' success are important, such as processes related to social exchange, distributive justice, and inclusion of others in one's work endeavors. For example, it is possible that people who construe success in a more zero-sum manner are less likely to reach out to others and include them in their business efforts because they are averse to sharing success, even when including others has the potential to lead to better outcomes for the self. Future research is needed to explore the role of a zero-sum construal of success in such important employee behaviors.

Implications for Managers

Our findings point to ways in which managers can ward off threats to organizational functioning during economic downturns. Most notably, the mechanism we identify suggests that, to combat the effect of economic downturns on helping, managers should attempt to interfere with the

more zero-sum thinking that economic downturns bring about. One important managerial policy through which this could likely be accomplished is to develop a strong cooperative or collective culture and emphasize it when hard times hit. Prior research in negotiation suggests that people in more collectivist contexts construe success in a less zero-sum manner (Gelfand & Christakopoulou, 1999). Thus, emphasizing the importance of cooperative and communal relationships through managerial interactions with employees offers a promise of buffering against the problematic effect we document.

Managers might also restructure organizational situations during economic downturns in such a way that the positive interdependence (i.e., cooperative nature of relationships) among employees is rendered more salient in the context of those relationships in which helping behavior is particularly needed. Many organizations possess workflow and social network maps of their workforce. This information allows organizations to detect areas in which helping is needed the most; for example, when a newcomer who is not fully familiarized with organizational routines is joining a department. To ensure that helping does not decline during economic downturns in such situations in which it is particularly relevant for organizational functioning, organizations might create more formal interdependence—for example, by adding a joint incentive component to the department. This approach should help employees maintain a view of their coworkers' success as a personally desirable outcome, and in that way buffer against the perils of economic downturns for helping.

A more general managerial implication of our research is that managers need to anticipate individual employees' sensitivity to cues of economic downturns, and therefore additional care is needed to ensure that such employee reactions do not transform into an erosive force within the organization. This general warning is particularly relevant in light of the evidence that, in certain difficult situations, such as when layoffs are necessary, managers engage in less instead of more considerate treatment of employees (Folger & Skarlicki, 1998). Managers must thus be careful not to succumb in their interactions with employees to the stress that economic downturns impose, because such a managerial style is likely to further aggravate the problematic consequences of downturns for individual employee behavior toward coworkers.

CONCLUSION

Four studies found support for the theory that economic downturns undermine workplace helping by promoting a more zero-sum construal of success. Our work identifies a widespread and systemic reason for why employees fail to engage in a behavior that underlies the effective functioning of organizations and economies, with important implications for both theory and practice. More broadly, we show the importance of considering the macroeconomic context for the understanding of core individual employee behaviors.

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Nina Sirola (nina.sirola@insead.edu) is a postdoctoral fellow at INSEAD. She studies how changes in the state of the economy affect the psychology and behavior of individual employees and how organizations can best manage their employees during less prosperous economic periods.

Marko Pitesa (mpitesa@smu.edu.sg) is an associate professor at Singapore Management University. He received his PhD from Grenoble École de Management in France. He studies organizational microfoundations of socioeconomic disadvantage.



APPENDIX A: ARTICLES DESCRIBING THE U.S. ECONOMY AS BEING IN A DOWNTURN (LEFT) VERSUS UPTURN (RIGHT)

Forbes ⁽⁹⁾

 **Jack Mullighan** (<http://www.forbes.com/sites/jackmullighan/>)
Contributor I connect the dots between the economy and business decisions. Opinions expressed by Forbes Contributors are their own.

STRATEGIES (STRATEGIES) 1/06/2015 @ 1:12PM 6,819 views

Economic Forecast 2015-2017

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Five months ago Michael Lowe earned his college degree. Michael was doing well at age 23. He was on the brink of his new adult life. Today, however, Michael is standing in a dreary unemployment line downtown. "I didn't think this could happen to me," he mutters while shaking his head. "I have a college degree and I can't even get a job interview, let alone a job. I just don't know where the money is going to come from."

This depressing story is not unique. Although there has been a lot of talk about recovery from the seven-year-long recessionary period, many economists now believe that hard times are yet to come. Unemployment lines are still horrifying. "Working, in America, is in decline," notes Mark Henderson, the head of the U.S. Economic Commission. The share of prime-age men and women who are not working has more than tripled since the late 1960s, to 16 percent. The United States, which had one of the highest employment rates among developed nations as recently as 1990, has fallen toward the bottom of the list.

What reasons are there for such gloomy economic reality? Perhaps the most important one is the fact that America has lost the ability to compete in the global economy. America's competitiveness is primarily hindered by high labor costs, weak education system and crippling corporate taxes. American workers' wages are drastically higher than those in emerging economies such as China and Brazil. At the same time, these countries are overtaking the US in terms of the quality of education, so American workers are no longer able to generate greater business value, resulting in American economic inferiority in such once-profitable sectors as manufacturing, auto industry, and real estate. The problem is compounded by high and convoluted corporate taxes that push companies and, consequently, jobs, abroad. In fact, the US has the single highest corporate tax rate among all industrialized nations (OECD countries).

Many economists agree that the current dismal economic perspective is the result of a long-term trend that is likely to continue. Mark Henderson notes that job creation had stalled around 2000, the U.S. stock market was heavily outperformed by most emerging economies and most net new jobs being created are in local government and low-paying positions, in no way helping American global competitiveness. In fact, there has been a lot of talk about the next recession being on its way. The Gene Fuller Forecasting Center, based in Mount Kisco, New York report that they see a staggering 75% chance of another difficult recession commencing in 2015. "Clearly the direction of most of the recent global economic news suggests movement toward a 2015 downturn," chairman Gene Fuller told clients in an Oct. 23 2014 edition of a monthly forecasting report. Seeing as the Gene Fuller Forecasting Center correctly predicted that the recession was imminent in October 2007 (it began two months later), their gray predictions for 2015 bear weight and sound very worrying.

Forbes ⁽⁹⁾

 **Jack Mullighan** (<http://www.forbes.com/sites/jackmullighan/>)
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Economic Forecast 2015-2017

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Five months ago Michael Lowe earned his college degree. Michael was doing well at age 23. He was on the brink of his new adult life. Today he is sitting in the lavish foyer of a Chicago based hedge fund. "I didn't dare to hope this would happen to me," he says with a smile. "I earned a college degree and immediately got a job interview. During my studies I had feared this would not be possible due to what was then a poor economic situation."

This reassuring story is not unique. Economists and business people agree that the seven-year-long recessionary period has ended and that the US economy is healthier than it has been in a long time. Unemployment lines are all but gone. "American people are working again," notes Mark Henderson, the head of the U.S. Economic Commission. The share of prime-age men and women who are working has more than tripled since 2009. The United States, which had one of the highest employment rates among developed nations as recently as 1990, managed to regain this status; 2014 was best for job growth since 1999.

What reasons are there for such bright economic reality? Perhaps the most important one is the fact that America has regained the ability to compete in the global economy. America's competitiveness is primarily boosted by high-quality labor, strong education system and efficient corporate taxes. Although wages in the US are higher than those in emerging economies such as China and Brazil, American workers are drastically more skilled and able to generate greater business value, resulting in American economic domination in such highly profitable sectors as high-tech, healthcare, and financial services. In addition, while the media is quick to point out minor imperfections in the US tax code, the US still has one of the lowest and most efficient corporate taxes that attract companies and, consequently, generate jobs at home. In fact, the US has the highest number of deductions available to corporations among all industrialized nations (OECD countries).

Many economists agree that the current promising economic perspective is likely to last. Mark Henderson notes that job creation recently rapidly increased, the U.S. stock market is heavily outperforming most emerging economies and most net new jobs being created are in highly profitable industries, further helping American global competitiveness. In fact, there has been a lot of talk about an even stronger economic growth being on its way. The Gene Fuller Forecasting Center, based in Mount Kisco, New York report that they see a astounding 75% chance of economic expansion of 5% or above in 2015. "Clearly the direction of most of the recent global economic news suggests movement toward a 2015 expansion," chairman Gene Fuller told clients in an Oct. 23 2014 edition of a monthly forecasting report. Seeing as the Gene Fuller Forecasting Center correctly predicted that the recession was imminent in October 2007 (it began two months later), their optimistic predictions for 2015 bear weight and sound very encouraging.