



Sustaining Livelihoods or Saving Lives? Economic System Justification in the Time of COVID-19

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Abstract

An ongoing debate in the United States relating to COVID-19 features the purported tension between containing the coronavirus to save lives or opening the economy to sustain livelihoods, with ethical overtones on both sides. Proponents of opening the economy argue that sustaining livelihoods should be prioritized over virus containment, with ethicists asking, “What about the risk to human life?” Defendants of restricting the spread of the virus endorse saving lives through virus containment but contend with the ethical concern “What about people’s livelihoods and individual freedoms?” A commonly held belief is that political ideology drives these differential preferences: liberals are more focused on saving lives, whereas conservatives favor sustaining livelihoods with no additional government intervention in the free-market economy. We examine these lay beliefs among US residents in four studies and find that economic system justification (ESJ), an ideology that defends the prevailing economic system when under threat, is a reliable psychological predictor beyond political ideology. Specifically, compared to those who scored low on ESJ, people who scored high on ESJ judged China as more justified in downplaying the spread of virus to protect its interest in the global free-market economy, supported in-person over online learning, viewed shelter in place as less desirable, and perceived the opening of the Texas economy as more legitimate. We also find that multiple psychological mechanisms might be at work—resistance to market interventions, perceived legitimacy of opening the economy, perceived seriousness of the health crisis, and violation of human rights.

Keywords COVID · Economic system justification · Political ideology · Sustaining livelihoods · Saving lives · Shelter in place

“Should we risk the lives of hundreds of thousands of Americans by reopening the economy too soon or

risk the livelihood of tens of millions of Americans by opening the economy too late?”¹

Besides the uncertainty associated with its origins, prevention, and cure, COVID-19’s consequences are under immense scrutiny. On the economic side, work life has been interrupted seriously, and innumerable industries (e.g., restaurant, hotel, cruise, airline, and education) have come to a standstill. In the airline industry, in particular, several CEOs have taken a cut in their salaries.² Speculations of employee mistreatment are on the rise³ and up to 44 million Americans

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¹ Fein, Richard (2020, May 24). COVID-19: Saving lives or livelihoods? <https://www.gazettenet.com/Columnist-Richard-Fein-34383794>.

² Mann, E.W. (2020, March 30). Here is a list of CEOs taking pay cuts amid the coronavirus crisis. *Yahoo! Finance*, <https://finance.yahoo.com/news/heres-a-list-of-ce-os-taking-pay-cuts-amidst-the-coronavirus-crisis-171206258.html>.

³ Sweney, M (2020, April 22). Legal & General warns firms to act fairly during coronavirus crisis. *The Guardian*, <https://www.theguardian.com/business/2020/apr/22/legal-general-warns-firms-act-fairly-during-coronavirus-crisis>.

have received unemployment even as the unemployment rate (14.8%) has peaked at a level not seen since tracking began in 1948 (CRS, 2021). Social services such as food pantries have seen a dramatic uptick in demand as the growing number of unemployed seek help to provide basic necessities for themselves and their families.⁴ In partial response, companies like NationSwell are trying to assist workers and businesses experiencing inequity, job losses, and COVID-19 related financial misery.⁵ Yet, despite the US government's unprecedented emergency relief funding, more than 100,000 small businesses have closed in response to the pandemic, taking jobs and health insurance away from thousands of Americans who depend on them.^{6,7} Delay in opening the economy is raising ethical concerns among businesses pertaining to people's livelihoods, especially in countries whose citizens have limited financial and social safety nets such as savings, employment protection, and government assistance.

On the public health side, as of March 24, 2021 there have been more than 125 million confirmed cases and 2.75 million deaths in 219 countries.⁸ The US leads with close to a quarter of the globe's infections (30.6 million+) and over one-fifth of deaths (557,089). Aggressive R&D efforts have generated a few vaccines with varying efficacy, accompanied by rapidly emerging and more contagious new strains that may be resistant to the vaccines and thrive in winter temperatures. As of February 2021, more than 100,000 Americans were dying of COVID per week.⁹ Not surprisingly, calls for Saving Lives through virus containment are high and anxiety relating to morbidity and mortality as well as Sustaining Livelihoods prevails.

Unfortunately, opening the economy may lead to greater virus exposure that could increase mortality, and mandating the populace to stay at home to contain the virus may put many individuals in dire financial straits (Bethune & Korinek, 2020; Ngo et al., 2022), with these effects more likely in the short run. Consequently, the debate rages

globally as to how soon to open economies and to what extent to focus on restricting the spread of the virus.¹⁰ In the US, previous inconsistent guidelines from the federal government, state legislature, and Centers for Disease Control on everything from masks to schooling has resulted in confusion and a new wave of coronavirus cases.¹¹ Enmeshed within this situation are angry citizens claiming violation of their individual rights.¹² Some researchers have suggested that "containing the spread of the disease should be prioritized over resuming economic activities, at least from the perspective of maintaining positive economic expectations among individuals" (Li, 2020, p. 1).

Though containing the virus may benefit the global economy in the long run, many Americans are more concerned about immediate risks of losing their livelihoods and inability to care for their families (Nisa et al., 2021). Clearly, people differ on the extent to which they hold these two viewpoints (henceforth, "Sustaining Livelihoods" and "Saving Lives," respectively). In fact, a April 19, 2020 NBC News/WSJ poll reported that "Fifty-eight percent [of respondents] are more worried about stopping the virus' spread, while 32 percent are more concerned with the economic fallout."¹³ Supporters of Sustaining Livelihoods emphasize the need for economies to be revived, people to get back to work, and businesses to begin making a profit again. Endorsers of Saving Lives place primacy on safety and restricting the spread of the virus before opening the economy, lest the situation gets exacerbated (Das et al., 2021). Indeed, U.S. public health experts opined that states that did open the economy may have done it too soon.¹⁴

In short, several parts of the world are facing a binary and seemingly impossible choice, each having its supporters and naysayers. In countries like the US, Brazil, and India which on the date of writing this section of the paper were ranked, respectively, #1, 2, and 3 in terms of number of COVID-19 infections, and #1, 3, and 2 in terms of number of deaths, these ostensibly zero-sum game options appear particularly relevant. The costs and benefits of these two choices are

⁴ <https://www.nytimes.com/2020/04/08/business/economy/coronavirus-food-banks.html>.

⁵ Aziz, A. (2020, April 29). How NationSwell Is Mobilizing Business and Philanthropy to Help Build it Back Better. <https://www.forbes.com/sites/afdelaziz/2020/04/29/how-nationswell-is-mobilizing-business-and-philanthropy-to-help-build-it-back-better/#3ff350ae51e4>.

⁶ <https://www.washingtonpost.com/business/2020/05/12/small-business-used-define-americas-economy-pandemic-could-end-that-forever/>.

⁷ Sraders, A, and Lambert, L. (2020, September 28). Nearly 100,000 establishments that temporarily shut down due to the pandemic are now out of business. <https://fortune.com/2020/09/28/covid-businesses-shut-down-closed/>.

⁸ <https://www.worldometers.info/coronavirus/>.

⁹ <https://ourworldindata.org/coronavirus/country/united-states?country=~USA>.

¹⁰ Tucker, J. (2020, March 8). Why this Draconian Response to COVID-19? *American Institute for Economic Research* <https://www.aier.org/article/why-this-draconian-response-to-covid-19/>.

¹¹ <https://www.wsj.com/articles/us-policy-covid-19-coronavirus-outbreaks-california-texas-florida-arizona-11594134950>.

¹² <https://www.natlawreview.com/article/human-rights-abuses-enforcement-coronavirus-security-measures>.

¹³ Murray, M. (2020, April 19). In new poll, 60 percent support keeping stay-at-home restrictions to fight coronavirus. *NBC News*, <https://www.nbcnews.com/politics/meet-the-press/poll-six-10-support-keeping-stay-home-restrictions-fight-coronavirus-n1187011>.

¹⁴ Fedal, Leila (2020, May 9). Public Health Experts Say Many States are Opening Too Soon to do so Safely. *NPR*, <https://www.npr.org/2020/05/09/853052174/public-health-experts-say-many-states-are-opening-too-soon-to-do-so-safely>.

riddled with ethical challenges, many of which directly and inexorably impact public health, businesses, and entire economies. The primary ethical dilemma is contained in the very tradeoff between two choices that businesses and policy makers are debating—lives or livelihoods? To address this question, researchers have attempted to place a dollar value on a human life, an analysis replete with its own complexities and controversies.¹⁵

In this research, we explore the characteristics of those who may be more or less favorably disposed to Sustaining Livelihoods versus Saving Lives viewpoints. These human dispositions are important to investigate as people's expectations at an individual and group level influence their choices and may impact economic, employment, and health-related outcomes (Coibion et al., 2019; Coibion & Gorodnichenko, 2015; Leduc & Sill, 2013). One commonly held belief in US about the current COVID context is that "It's all politics," i.e., Political Ideology predicts preference for Sustaining Livelihoods versus Saving Lives, with conservatives favoring the former and liberals favoring the latter. This belief perhaps carries over from the age-old notion that conservatives believe in the free-market system more than liberals (Fuller & Geide-Stevenson, 2007; Fuller et al., 1995). In fact, some recent opinion polls and other anecdotal evidence may support this political divide vis-a-vis the differential preference for Sustaining Livelihoods or Saving Lives. For instance, in the US, while Democrats and Independents perceive COVID-19 as deadlier than the seasonal flu and believe that the death toll from COVID-19 is understated, Republicans opine that the virus is like the common flu and that the death toll is exaggerated.¹⁶

There is evidence that suggests that the complete picture is more nuanced than straight partisan preferences. As per the NBC News/WSJ poll cited earlier, only 32% were concerned about the economic fallout while the proportion of conservatives in the US is closer to 40%.¹⁷ In a poll conducted by Axios/Ipsos, 62% of Americans say that they wear masks at all times outside of their homes while liberals are only 26% of the country's population.¹⁸ Barrios and Hochberg (2020) using county-level data find that the Trump bloc of voters considers the virus as less risky and are more in favor of Sustaining Livelihoods than others. These findings,

while interesting, do not reveal the underlying psychological characteristics associated with this phenomenon. In sum, it is unclear whether emphasis on Sustaining Livelihoods over Saving Lives can be attributed singularly, or even primarily, to the Trump bloc or political conservatism per se.

Economic System Justification

To help illuminate these psychological characteristics, we rely on Economic System Justification (ESJ) as the construct. ESJ (Jost, 2020; Jost & Thompson, 2000) is a dispositional variable that belongs to the constellation of various *system justifying beliefs*, e.g., Belief in a Just World (BJW; Hafer, 2000; Lerner & Miller, 1978) and Social Dominance Orientation (SDO; Umphress et al., 2008). System justification in general is conceptualized as the psychological "process by which existing social arrangements are legitimized" (Jost & Banaji, 1994, p. 2). People have been found to vary in the extent to which they hold system justifying beliefs and this variation has led to a compelling research program that demonstrates system justification's import for a host of outcomes, e.g., subjective well-being (Okulicz-Kozaryn et al., 2014), status quo maintenance (Kay et al., 2002), inequality legitimization (Operario & Fiske, 2001), and stereotype reliance (Baron & Pfeffer, 1994). Importantly, "System-justifying tendencies...may stem, at least partially, from epistemic...needs to manage uncertainty and threat" (Jost et al., 2003a, b, p. 60).

ESJ is a specific form of system justification that assesses the extent to which an individual justifies and endorses the current *economic system*. In the US, system justification of the free-market economic system (ESJ) spurs rationalizing that it is just and fair and everyone receives what is merited. Economic system justifiers perceive the free-market system as performing a powerful and consequential role in safeguarding this justice and fairness. This perception in turn, prompts them to defend the free-market system against intervention, changes, or proposals for alternative systems. COVID has disrupted the status quo vis-à-vis human health and the economy, posing a threat to both these dimensions of our existence. The health dimension captures infections, mortality (numbers and rate), and short- and long-term effects of infection. The economic dimension represents increased unemployment and the consequent financial stress, changing the way people perform their jobs, restriction on the type of work that can be done in-person versus digitally, how and when schools and universities might begin to operate normally, a re-conceptualization of the type of jobs that are essential, and firms' resources and capabilities leading to threat of closure. ESJ concerns itself with the economic system and consequently, we expect its motivation to justify the economic status quo as opposed to any intervention

¹⁵ <https://medium.com/datadriveninvestor/how-much-is-a-human-life-worth-744ded9a2640>.

¹⁶ <https://news.gallup.com/poll/311408/republicans-skeptical-covid-lethality.aspx>.

¹⁷ Jones, J. (2019, February 22). Conservatives Greatly Outnumber Liberals in 19 U.S. States. *Gallup*, <https://news.gallup.com/poll/247016/conservatives-greatly-outnumber-liberals-states.aspx>.

¹⁸ Saad, L. (2019, January 8). U.S. Still Leans Conservative, but Liberals Keep Recent Gain. *Gallup*, <https://news.gallup.com/poll/245813/leans-conservative-liberals-keep-recent-gains.aspx>.

or change. Rather than valuing economic over health outcomes, the reason why economic system justifiers would be associated with the tendency to emphasize Sustaining Livelihoods over Saving Lives is because the former implies fewer or no interventions in what they perceive to be a well-oiled economy. Specifically, as with other system justifying beliefs, if the existing economic system is threatened (as it is in the current COVID context of an unexpected natural disaster), high ESJ individuals subscribing to less government intervention will be motivated to defend and bolster it “even at the expense of personal and group interest” (Jost & Banaji, 1994, p. 2). In short, higher (versus lower) ESJ scores should predict support for the Sustaining Livelihoods (versus Saving Lives) viewpoint.

Political Ideology

We also investigate Political Ideology (PI) as an additional predictor in our testing, for several reasons. First and foremost, it has been posited that one of the elements of PI architecture is acceptance/rejection of economic inequality. In other words, PI and economic considerations are theoretically enmeshed (Conover & Feldman, 1981; Jost et al., 2003a, b, 2008). Second, as stated earlier, some believe that US partisan political divisions drive the differential emphasis on Sustaining Livelihoods and Saving Lives. Including PI in the conceptual model enables us to test this belief empirically. Third, ESJ and PI have been found to be related (Jost et al., 2003a, b). If so, ignoring the effect of PI on dependent variables of interest could lead to results that are conflated.

An important recent development in PI scholarship has been the challenge to the empirical capture of PI in terms of a unidimensional bipolar conservative-liberal scale (Bouchard et al., 2003; Smith et al., 2017; Treier & Hillygus, 2009). It has been argued and shown that such a conceptualization may be too broad a generalization of an individual’s political ideology. In accord, more fine-grained perspectives and frameworks have emerged that draw distinctions between economic and social dimensions of PI. Our operationalization takes this into account by featuring the Social and Economic Conservatism Scale (Everett, 2013).

Psychological Mechanisms

To illuminate the psychological foundations of the phenomenon fully and thoroughly, we examine four potential psychological mechanisms/processes predicated on our predictions of preference for Sustaining Livelihoods for high ESJ individuals and Saving Lives for low ESJ individuals in the United States.

1. *Free enterprise*. Previous research shows that free-market system justifiers are motivated to see the system as legitimate, fair, and powerful (Jost et al., 2003a, b). This belief prompts people to defend the economic system against interventions and changes to the status quo. System justifiers are more likely to endorse the Sustaining Livelihoods perspective because it implies the absence of interventions in the economy and allows workers to carry on as usual. Measures enacted to Save Lives, on the other hand, require government involvement in the free market (e.g., lockdowns, mandates).
2. *Perceived COVID-19 Severity*. People justify their preferred belief system by minimizing concerns that conflict with their preferences (Kunda, 1990). This well-researched behavior, called motivated reasoning (Jain & Maheswaran, 2000), as a human processing and judgment strategy is robust and is observed in innumerable settings (Ditto & Lopez, 1992; Kruglanski, 1980, 1990). For instance, de Mello, MacInnis, and Steward (2007) found that people are more likely to selectively search for favorable information about products that help them reach a goal, and view that information as more credible and trustworthy when their hopes of attaining the goal are threatened. Similarly, Paharia et al. (2013) found that people who want to justify vacationing in a locale that uses sweatshop labor are more likely to concur with economic justifications for such labor. In the COVID context, the “tradeoff” in people’s preferences is between maintaining the economic status quo (Sustaining Livelihoods) and economic disruption by intervening to address health concerns (Saving Lives). Those who prioritize the prevailing economic system (Sustaining Livelihoods) should minimize concerns relating to virus containment (Saving Lives) to justify their bias. This should be reflected in high scoring ESJ individuals’ judgments of the severity of the health implications of COVID-19: they view the virus as less dangerous than warranted based on the available evidence and hence judge the seriousness of the health consequences to be lower than those who score low on ESJ.
3. *Fairness/Legitimacy*. Judgments of the fairness and legitimacy of a system are at the heart of a system justifying belief and its defense. For instance, American respondents who scored higher on the general system justification belief scale accorded greater fairness to typical dimensions of a society (van der Toorn et al., 2010). Further, when the system’s legitimacy is threatened, people try and justify inequalities and defend the status quo (Kay et al., 2005). Consequently, perceived fairness and legitimacy is a viable candidate for the psychological process. Those who score high on ESJ when faced with a threat to the economic system should defend the

prevailing economic system and perceive actions that support it as fairer and more legitimate.

4. *Individual freedom.* Mandates on lockdowns and business closures may signify a fundamental challenge to the freedom to make individual choices. Previous research has found a positive correlation between ESJ and neoliberal ideology, “a theory of political economic practices proposing that human well-being can best be advanced by liberating individual entrepreneurial freedoms and skills within an institutional framework characterized by strong private property rights, free markets, and free trade” (Harvey, [44], p. 2; Azevedo et al., 2019). Neoliberals prioritize personal freedom and choice above all else and believe that it should be up to individuals to decide what is best for themselves and their families. As such, high ESJ individuals should judge economic reopening and the freedom to go to work as aligned with their inalienable human rights and liberties.

Empirics

Four studies—three conducted during April–May 2020 and one during January 2021, all on Amazon Mechanical Turk (MTurk) with participants living in the United States—examine ESJ’s and PI’s association with COVID-19 specific beliefs. There are costs and benefits of using MTurk samples for experimental research (Crump et al., 2013; Goodman et al., 2012). However, Berinsky et al., (2012) and Gosling and colleagues (Buhrmester et al., 2011; Gosling et al., 2004) contend that MTurk data represent more diversity than US university samples, are less expensive, quicker to obtain, more efficient, and importantly, as reliable as those recruited from conventional research methods. In addition, in their study comparing a large MTurk sample with two national benchmark samples—one online and one face-to-face—Clifford et al. (2015) found the results to be identical and concluded MTurk to be a valid recruitment tool for psychological research on political ideology. Specific to the domain of our inquiry, undergraduates, the prototypical sample in much of psychology lab studies, may be less appropriate than MTurkers because of the lower perceived COVID-19 related threat to their age group. We provide more details of the sample for each study separately.

Study 1 explored ESJ’s and PI’s association with perceptions pertaining to the oft-mentioned rumor that China volitionally concealed the extent of the virus spread in its early evolution, presumably to protect its economic interests in the globalized free-market economy. We expected that the appropriateness of this concealment will be positively correlated with ESJ due to the mechanisms described above.

Study 2 focused on support for school closures and investigated ESJ’s and PI’s correlation with beliefs and judgments about online and in-person education during the pandemic. The mechanisms of free enterprise and perceived disease severity were examined in this study as well. In study 3, respondents imagined being small business (restaurant) owners and made judgments about the mandate to ‘shelter in place,’ and we examined the extent to which these judgments were linked with ESJ and PI. Study 4 investigated the relationship between ESJ, PI, and responses to Texas announcing the reopening of its economy in May 2020. It also tested the psychological mechanisms delineated earlier (See Supplementary Appendix).

Each of these scenarios was taken from the evolution of the current pandemic in the United States and represents a phenomenon of relevance to the debate concerning Sustaining Livelihoods versus Saving Lives. For instance, China’s rumored downplaying of the virus continues to be a question in the media as international relations with the country hit a road bump.^{19,20} In study 1, we examine the idea that people who support China’s purported downplaying of the virus believe that it is warranted in that it averted a disruption to businesses and hence people’s ability to Sustain Livelihoods. Study 2 examines attitudes toward virtual and in-person learning during the pandemic, an issue that has been widely debated on both sides. The shift toward virtual learning is aimed at Saving Lives, but some Americans argue that it has done more harm than good. One of the criticisms of this measure is that virtual classes make it all but impossible for parents, especially those already struggling financially, to work full time to support their families.²¹ We thus hypothesized that economic system justifiers will be more supportive of in-person instruction. Study 3 captures judgments of ‘shelter in place’ and is situated in the context of a restaurant as a small business. Finally, Study 4 examines Americans’ attitudes toward Texas’ reopening its economy. One reason for using Texas as an exemplar is that the state is primarily conservative and our prediction of ESJ as the driver of our DVs over and above political ideology faces a more stringent test in this context. Notably, even after almost two years of the onset of COVID-19, each of these scenarios is still representative of the questions facing policy makers, businesses, and citizens, presumably because they capture abiding concerns relating to this pandemic.

¹⁹ <https://www.nytimes.com/2020/04/08/world/asia/coronavirus-china-narrative.html>.

²⁰ <https://www.nytimes.com/2020/06/06/world/coronavirus-update-usa.html>.

²¹ <https://www.pewresearch.org/fact-tank/2020/10/22/fewer-mothers-and-fathers-in-u-s-are-working-due-to-covid-19-downturn-those-at-work-have-cut-hours/>.

A consistent picture emerges across the four studies—ESJ predicts support for Sustaining Livelihoods over Saving Lives. As compared to low ESJ respondents, high ESJ participants are more likely to judge China as justified in downplaying the extent of COVID-19 incidence within its borders (study 1), support in-person over online learning (study 2), perceive ‘shelter in place’ as undesirable (study 3), and view Texas’ economy reopening as more legitimate and desirable (study 4). Study 2 also documents belief in free enterprise and perceived severity of the pandemic and Study 4 documents perceived severity, individual freedom, and fairness/legitimacy as playing significant roles in the outcomes associated with ESJ.

Study 1: Appropriateness of China’s Perceived Downplaying of the Pandemic

“Blaming China for coronavirus isn’t just dangerous. It misses the point.”²²

The origins of COVID-19 have been debated since its early days. Some people believe that China volitionally minimized the extent of COVID within its borders and its contagiousness. As a backdrop, the first COVID case came to light on December 8, 2019. There were 571 cases on 22 January 2020 that increased to 2800+ by January 27. It is widely speculated that prior to the epidemic going global, there may have been lack of transparency in China about the extent and seriousness of the crisis. *YiMagazine*, an online journal, published a special report titled “The Puzzle of No New Case for 12 Days after 6 January,” revealing that from January 6 to 18, no new cases were reported in Wuhan. This raised concerns of deliberate concealment, potential of misleading the public, and loss of an opportunity to contain the virus spread. Subsequently, several news reports either omitted updates on the epidemic or reported misleading information to shift the public’s attention and underplay the problem. While China’s concealment/downplaying is still speculative, study 1 focuses on this speculation and examines who might be more supportive of this concealment, that many consider was unethical.

Participants and Method

Participants were recruited using the Mturk Toolkit from Cloudresearch (Litman et al., 2017). Workers were required to be from the United States, have an approval rating of at least 95%, and have more than 100 hits. 159 MTurk workers

matching these criteria participated for a monetary incentive of \$0.50. Their demographics were as follows: *Gender*: female: 45.9%, unreported gender: 1.9%; *Age*: median age range: 35–44 years; *Ethnicity*: Caucasian American: 70.4%; Asian: 12.6%; African American: 8.2%; Hispanic: 4.4%; Others: 3.4%; *Location*²³: Northeast: 16.3%; Midwest: 21.4%; South: 30.8%; West: 31.5%.

Participants first responded to the 17-item ESJ scale ($\alpha=0.82$; Jost et al., 2003a, b). Examples of these statements include “Economic positions are legitimate reflections of people’s achievements” and “Most people who don’t get ahead in our society should not blame the system; they have only themselves to blame” (anchored by 1 = Strong Disagree; 9 = Strongly Agree). After reverse scoring the relevant items, higher scores reflect higher ESJ.

Participants then responded to the Social Economic and Conservatism Scale (SEC Scale; $\alpha=0.825$) as a proxy for PI. The social and economic subscales were significantly correlated ($r=0.405$, $p<0.001$) and additional analyses with separate subscales are reported in the Supplementary Appendix (Table 1a). This measure taps into the extent to which a respondent is conservative and serves as a more detailed and layered proxy for PI (Everett, 2013). It has been used successfully in examining the relationship between conservatism and parenting (Kerry & Murray, 2018), analytical cognitive style (Saribay & Yilmaz, 2017), and confirmation bias vis-à-vis fake news (Kim et al., 2019). Participants gave a score between 0 (more negative feelings) and 100 (more positive feelings) toward 7 social and 5 economics domains believed to separate liberals from conservatives in the US (social: abortion (reverse-scored), religion, military and national security, traditional marriage, traditional values, family unit, and patriotism; economic: welfare benefits (reverse-scored), limited government, gun ownership, fiscal responsibility, and business). Social items reflect endorsement of traditional values while economic items reflect attitudes toward government involvement and regulation of the economy. After reverse scoring as indicated, the aggregate score served as a measure of political orientation, with a higher aggregate score indicating a more

²² The Guardian (2020, April 10). <https://www.theguardian.com/commentisfree/2020/apr/10/blaming-china-coronavirus-pandemic-capitalist-globalisation-scapegoat>.

²³ *Northeastern States*: New England, Connecticut, Maine, Massachusetts, New Hampshire,

Rhode Island, Vermont, New Jersey, New York, and Pennsylvania; *Midwestern States*: Illinois, Indiana, Michigan, Ohio, Wisconsin, Iowa, Kansas, Minnesota, Missouri, Nebraska,

North Dakota, and South Dakota;

Southern States: Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, District of Columbia, West Virginia, Alabama, Kentucky, Mississippi, Tennessee, Arkansas, Louisiana, Oklahoma, Texas; *Western States*: Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming, Alaska, California, Hawaii, Oregon, and Washington.

conservative ideology. Consistent with earlier research, ESJ and SEC were moderately correlated ($r=0.60$).

Next, participants read an excerpt from a news article published on *Bloomberg.com* on April 1, 2020. The article highlighted the US intelligence community's belief that China made efforts to conceal the initial outbreak of COVID-19 (see Supplementary Appendix). Respondents were asked to assume that the article was accurate, and to judge China's choice of masking COVID-19's reality within its borders, using two questions, "If China concealed the coronavirus outbreak in its country to prevent damage to its businesses, to what extent do you agree that it did the right thing?" and "If China concealed the coronavirus outbreak in its country to prevent widespread panic, to what extent do you agree that it did the right thing?" (1 = Disagree; 9 = Agree). These responses were positively correlated ($r=0.71$, $p<0.001$) and aggregated into an index of judgments about the appropriateness of China's actions. Higher scores indicate higher perceived appropriateness. Finally, respondents shared demographic information including gender, ethnicity, age, and occupational status.

Results and Discussion

A three-step hierarchical regression analysis (HRA) tested the impact of ESJ and SEC on appropriateness judgments. The first step included only control variables (i.e., gender, age, occupation, and ethnicity), the second included control variables and SEC (mean-centered), and the third added ESJ (mean-centered) to the aforementioned variables. Table 1 reports means, standard deviations, and intercorrelations between the variables.

The results reveal that the control variables did not contribute significantly to the model (see Table 2). Adding SEC explained about 6.7% of the variation in perceived appropriateness of China's actions over and above the control variables, $F(1, 139) = 11.764$, $p < 0.001$. Importantly, including ESJ to the model explained an additional 5.5% of the variation, and this change in R^2 was significant $F(1, 138) = 10.389$, $p = 0.002$. The full model was also significant, $F(20, 138) = 2.472$, $p = 0.001$. In the final step, ESJ was a significant predictor of judgments of China's attempt to conceal the virus ($B = 0.587$, $s.e. = 0.182$, $t(138) = 3.223$, $p = 0.002$) while SEC was not ($B = 0.014$, $s.e. = 0.014$, $t(138) = 0.986$, $p > 0.32$). We reran the analyses using separate SEC subscales. In the final step of this model, neither the social nor economic subscale significantly predicted judgments of China's actions ($ps > 0.21$).

As a robustness check, an HRA was conducted without the control variables (see Supplementary Appendix Tables 1b, c). SEC was entered in the first step and ESJ was entered in the second step. The results of this analysis are consistent with those reported above. ESJ was a

significant predictor of judgments ($B = 0.536$, $s.e. = 0.177$, $t(158) = 3.02$, $p = 0.003$) while SEC was not ($B = 0.010$, $s.e. = 0.012$, $t(158) = 0.779$, $p > 0.43$).

The results of study 1 support our hypothesis that ESJ is a significant predictor of judgments of China's handling of the virus, even after accounting for the effect of political ideology. In fact, once the effect of ESJ was accounted for, SEC was no longer a significant predictor of judgments.

Study 2: Support for School Closures

"And in many communities across the country, the CDC guidelines are just the latest data point in arguments between adults who want children back in classrooms now and those hesitant to reopen due to Covid-19 risks."²⁴

Participants and Method

Participants were recruited using MTurk. Workers were required to be from the United States, have an approval rating of at least 95%, and have more than 100 hits. 201 MTurkers who fit these criteria participated in the study in exchange for \$0.50. Their demographic characteristics were *Gender*: female: 49.3%, unreported gender: 1.0%; *Median age* range: 35–44 years; *Ethnicity*: White: 72.1%; Asian: 6.5%; African American: 14.4%; Hispanic: 5.5%; Others: 1.5%; *Location*: Northeast: 20.5%; Midwest: 19%; South: 41%; West: 20%; *Annual Household Income*: Mean: \$72,696, S.D.: \$82,960. This study was preregistered on aspredicted.org (<https://aspredicted.org/6vy4g.pdf>).

Participants first responded to the 17-item ESJ scale ($\alpha = 0.83$; Jost et al., 2003a, b). After reverse scoring the relevant items, higher scores reflect greater economic system justification. Participants then reported their attitudes toward free enterprise on six items adapted from Heath et al. (1994). These items were modified to address the COVID-19 pandemic: "Government planning is essential to safeguard America's economic interests during COVID-19" (reverse-scored); "The less governments intervene in the economy during COVID-19 the better"; "Private enterprise is the best way to solve America's economic problems from COVID-19"; "Major public services and industries ought to be regulated by the government during COVID-19" (reverse-scored); "Even the most important public services and industries are best left to private enterprise during COVID-19"; and "Private industries are just as efficient as nationalized industries during COVID-19." Participants expressed their

²⁴ <https://edition.cnn.com/2021/02/17/health/cdc-school-guidance-debate-wellness/index.html>.

Table 1 Means, Standard Deviations, and Intercorrelations for Study 1 Variables (N = 159)

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. ESJ	4.53	1.12	1	0.599**	0.490**	0.550**	0.328**	0.146	-0.107	-0.144	0.048	-0.050	-0.074	0.093	0.001
2. SEC Combined	59.0	16.0	0.599**	1	0.927**	0.718**	0.244**	0.114	-0.081	-0.120	0.087	-0.129	-0.185*	0.192*	0.079
3. SEC Social	60.3	20.8	0.490**	0.927**	1	0.405**	0.231**	0.092	-0.066	-0.096	0.068	-0.106	-0.145	0.141	0.081
4. SEC Economic	57.05	15.72	0.550**	0.718**	0.405**	1	0.166*	0.107	-0.076	-0.114	0.086	-0.117	-0.182*	0.206**	0.042
5. Attitudes	3.36	2.11	0.328**	0.244**	0.231**	0.166*	1	-0.054	0.085	-0.112	0.197*	-0.228**	0.015	0.003	-0.037
6. Gender (M)	0.52	0.501	0.146	0.114	0.092	0.107	-0.054	1	-0.963**	-0.145	-0.036	0.075	0.105	-0.044	-0.040
7. Gender (F)	0.46	0.500	-0.107	-0.081	-0.066	-0.076	0.085	-0.963**	1	-0.128	0.076	-0.064	-0.097	0.051	0.048
8. Gender (UR)	0.02	0.136	-0.144	-0.120	-0.096	-0.114	-0.112	-0.145	-0.128	1	-0.146	-0.043	-0.032	-0.025	-0.030
9. Occupation (E)	0.77	0.420	0.048	0.087	0.068	0.086	0.197*	-0.036	0.076	-0.146	1	-0.574**	-0.425**	-0.335**	-0.397**
10. Occupation (UE)	0.09	0.284	-0.050	-0.129	-0.106	-0.117	-0.228**	0.075	-0.064	-0.043	-0.574**	1	-0.072	-0.056	-0.067
11. Occupation (S)	0.05	0.219	-0.074	-0.185*	-0.145	-0.182*	0.015	0.105	-0.097	-0.032	-0.425**	-0.072	1	-0.041	-0.049
12. Occupation (R)	0.03	0.175	0.093	0.192*	0.141	0.206**	0.003	-0.044	0.051	-0.025	-0.333**	-0.056	-0.041	1	-0.039
13. Occupation (O)	0.04	0.206	0.001	0.079	0.081	0.042	-0.037	-0.040	0.048	-0.030	-0.397**	-0.067	-0.049	-0.039	1
14. Occupation (UR)	0.01	0.112	-0.054	-0.083	-0.072	-0.068	-0.127	-0.118	-0.104	0.814**	-0.209**	-0.035	-0.026	-0.020	-0.024
15. Age (18–24)	0.13	0.340	-0.144	-0.233**	-0.227**	-0.148	0.088	0.076	-0.098	0.082	-0.233**	0.141	0.420**	-0.070	-0.084
16. Age (25–34)	0.35	0.479	-0.079	-0.160*	-0.116	-0.176*	0.105	-0.164*	0.166*	-0.005	0.210**	-0.090	-0.109	-0.133	-0.094
17. Age (35–44)	0.21	0.407	0.023	0.010	0.005	0.014	-0.125	0.055	-0.036	-0.071	0.017	-0.050	-0.047	-0.003	0.117
18. Age (45–54)	0.18	0.382	0.091	0.250**	0.251**	0.144	0.007	0.046	-0.028	-0.064	0.013	0.031	-0.106	0.011	0.062
19. Age (55–64)	0.11	0.318	0.099	0.136	0.088	0.166*	-0.095	0.024	-0.011	-0.050	-0.044	0.029	-0.082	0.163*	0.020
20. Age (>65)	0.01	0.112	0.131	0.176*	0.108	0.229**	0.048	0.108	-0.104	-0.016	-0.074	-0.035	-0.026	0.303**	-0.024
21. Age (UR)	0.01	0.079	-0.042	-0.076	-0.070	-0.057	-0.089	-0.083	-0.073	0.574**	-0.147	-0.025	-0.018	-0.014	-0.017
22. Ethnicity (W)	0.70	0.458	0.026	0.069	0.015	0.142	0.052	0.042	-0.012	-0.113	0.176*	-0.139	-0.103	0.117	-0.063
23. Ethnicity (H)	0.04	0.206	-0.012	0.066	0.122	-0.065	0.080	0.021	-0.013	-0.030	-0.030	0.042	0.091	-0.039	-0.046
24. Ethnicity (B)	0.08	0.275	-0.029	0.076	0.115	-0.029	-0.040	0.010	0.001	-0.041	-0.113	0.069	0.141	-0.054	0.048
25. Ethnicity (A)	0.13	0.333	0.055	-0.148	-0.127	-0.124	-0.025	-0.055	0.069	-0.053	-0.112	0.150	-0.001	-0.068	0.103
26. Ethnicity (O)	0.03	0.157	-0.121	-0.048	-0.088	0.046	-0.075	0.073	-0.067	-0.022	0.087	-0.050	-0.037	-0.029	-0.034
27. Ethnicity (UR)	0.02	0.136	-0.005	-0.070	-0.054	-0.069	-0.068	-0.145	-0.035	0.660**	-0.146	-0.043	-0.032	-0.025	-0.030
14	15	16	17	18	19	20	21	22	23	24	25	26	27		
1. ESJ	-0.054	-0.144	-0.079	0.023	0.091	0.099	0.131	-0.042	0.026	-0.012	-0.029	0.055	-0.121	-0.005	
2. SEC Combined	-0.083	-0.233**	-0.160*	0.010	0.250**	0.136	0.176*	-0.076	0.069	0.066	0.076	-0.148	-0.048	-0.070	
3. SEC Social	-0.072	-0.227**	-0.116	0.005	0.251**	0.088	0.108	-0.070	0.015	0.122	0.115	-0.127	-0.088	-0.054	
4. SEC Economic	-0.068	-0.148	-0.176*	0.014	0.166*	0.144	0.229**	-0.057	0.142	-0.073	-0.029	-0.029	-0.124	-0.069	
5. Attitudes	-0.127	0.088	0.105	-0.125	0.007	-0.095	0.048	-0.089	-0.067	0.080	-0.040	-0.040	-0.025	-0.068	
6. Gender (M)	-0.118	0.076	-0.164*	0.055	0.046	0.108	0.108	-0.083	-0.089	0.052	0.080	-0.040	-0.025	-0.068	
7. Gender (F)	-0.104	-0.098	0.166*	-0.036	-0.028	-0.104	-0.073	-0.073	-0.073	0.042	0.021	0.010	-0.055	-0.145	
8. Gender (UR)	0.814**	0.082	-0.005	-0.071	-0.064	-0.016	0.574**	-0.113	-0.113	-0.030	-0.041	0.001	-0.053	0.660**	
9. Occupation (E)	-0.209**	-0.233**	0.210**	0.017	0.013	-0.044	-0.074	-0.147	0.176*	-0.030	-0.113	-0.113	-0.112	-0.146	

Table 1 (continued)

	14	15	16	17	18	19	20	21	22	23	24	25	26	27
10. Occupation (UE)	-0.035	0.141	-0.090	-0.050	0.031	0.029	-0.035	-0.025	-0.139	0.042	0.069	0.150	-0.050	-0.043
11. Occupation (S)	-0.026	0.420**	-0.109	-0.047	-0.106	-0.082	-0.026	-0.018	-0.103	0.091	0.141	-0.001	-0.037	-0.032
12. Occupation (R)	-0.020	-0.070	-0.133	-0.003	0.011	0.163*	0.303**	-0.014	0.117	-0.039	-0.054	-0.068	-0.029	-0.025
13. Occupation (O)	-0.024	-0.084	-0.094	0.117	0.062	0.020	-0.024	-0.017	-0.063	-0.046	0.048	0.103	-0.034	-0.030
14. Occupation (UR)	1	-0.044	0.035	-0.058	-0.052	-0.040	-0.013	0.705**	-0.174*	-0.024	-0.034	-0.043	-0.018	0.814**
15. Age (18-24)	-0.044	1	-0.288**	-0.200*	-0.180*	-0.139	-0.044	-0.031	-0.114	-0.084	0.155	0.076	-0.063	0.082
16. Age (25-34)	0.035	-0.288**	1	-0.377**	-0.341**	-0.263**	-0.083	-0.059	-0.013	0.034	-0.076	0.038	0.050	-0.005
17. Age (35-44)	-0.058	-0.200*	-0.377**	1	-0.237**	-0.183*	-0.058	-0.041	-0.144	0.117	0.017	0.086	0.116	-0.071
18. Age (45-54)	-0.052	-0.180*	-0.341**	-0.237**	1	-0.165*	-0.052	-0.037	0.119	-0.019	0.043	-0.126	-0.074	-0.064
19. Age (55-64)	-0.040	-0.139	-0.263**	-0.183*	-0.165*	1	-0.040	-0.028	0.188*	-0.077	-0.107	-0.076	-0.057	-0.050
20. Age (>65)	-0.013	-0.044	-0.083	-0.058	-0.052	-0.040	1	-0.009	0.073	-0.024	-0.034	-0.043	-0.018	-0.016
21. Age (UR)	0.705**	-0.031	-0.059	-0.041	-0.037	-0.028	-0.009	1	-0.123	-0.017	-0.024	-0.030	-0.013	0.574**
22. Ethnicity (W)	-0.174*	-0.114	-0.013	-0.144	0.119	0.188*	0.073	-0.123	1	-0.331**	-0.461**	-0.586**	-0.248**	-0.214**
23. Ethnicity (H)	-0.024	-0.084	0.034	0.117	-0.019	-0.077	-0.024	-0.017	-0.331**	1	-0.064	-0.081	-0.034	-0.030
24. Ethnicity (B)	-0.034	0.155	-0.076	0.017	0.043	-0.107	-0.034	-0.024	-0.461**	-0.064	1	-0.113	-0.048	-0.041
25. Ethnicity (A)	-0.043	0.076	0.038	0.086	-0.126	-0.076	-0.043	-0.030	-0.586**	-0.081	-0.113	1	-0.061	-0.053
26. Ethnicity (O)	-0.018	-0.063	0.050	0.116	-0.074	-0.057	-0.018	-0.013	-0.248**	-0.034	-0.048	-0.061	1	-0.022
27. Ethnicity (UR)	0.814**	0.082	-0.005	-0.071	-0.064	-0.050	-0.016	0.574**	-0.214**	-0.030	-0.041	-0.053	-0.022	1

Coding Key: Gender: Male (M); Female (F); Unreported (UR). Occupation: Employed (E); Unemployed (UE); Student (S); Retired (R); Other (O); Unreported (UR). Ethnicity: White (W); Hispanic (H); Black (B); Asian (A); Other (O); Unreported (UR)

* $p < 0.05$, ** $p < 0.01$

Table 2 Regression Results for Study 1 on Judgments Relating to China's Perceived Concealment of COVID-19

Variable	<i>B</i>	SE <i>B</i>	<i>T</i>	<i>R</i>	<i>R</i> ²	ΔR^2
Step 1				0.376	0.141	0.141
Gender (F)	0.435	0.328	1.327			
Gender (UR)	-0.015	2.042	-0.007			
Occupation (UE)	-1.677	0.580	-2.893**			
Occupation (S)	-0.543	0.822	-0.660			
Occupation (R)	-0.319	0.959	-0.332			
Occupation (O)	-0.218	0.774	-0.281			
Occupation (UR)	-1.626	3.540	-0.459			
Age (18–24)	1.897	0.635	2.990**			
Age (25–34)	0.901	0.438	2.055*			
Age (45–54)	0.404	0.520	0.777			
Age (55–64)	-0.187	0.594	-0.315			
Age (> 65)	0.537	1.508	0.356			
Age (UR)	1.069	2.773	0.385			
Ethnicity (H)	1.021	0.785	1.301			
Ethnicity (B)	-0.421	0.595	-0.707			
Ethnicity (Asian)	-0.170	0.500	-0.341			
Ethnicity (O)	-0.405	1.013	-0.399			
Ethnicity (UR)	-0.652	2.036	-0.320			
Step 2				0.456	0.208	0.067***
SEC (Mean-Centered)	0.014	0.014	0.986			
Step 3				0.514	0.264	0.055**
ESJ (Mean-Centered)	0.587	0.182	3.223**			

Coding Key: Gender: Male (M); Female (F); Unreported (UR). Occupation: Employed (E); Unemployed (UE); Student (S); Retired (R); Other (O); Unreported (UR). Ethnicity: White (W); Hispanic (H); Black (B); Asian (A); Other (O); Unreported (UR)

N = 159. Unstandardized coefficients are reported. Results presented are from the final model, though Step 1 and Step 2 *R*, *R*², and ΔR^2 are included for completeness. For each control variable, the most common option was used as the reference category: Gender (male), Occupation (employed), Age (35–44 years), Ethnicity (White)

p* < 0.05, *p* < 0.01, ****p* < 0.001

opinion on each of these statements on a scale from 0 to 100 (0 = Strong Disagree; 100 = Strongly Agree). After reverse scoring the relevant items, higher scores reflect greater support for free enterprise ($\alpha = 0.88$).

Next, participants responded to four items probing the perceived severity of COVID-19, “How serious is the COVID-19 pandemic in the United States right now?”; “How dangerous is COVID-19 to the average American?”; “How concerned should Americans be about catching COVID-19?”; and “How likely is COVID-19 to negatively affect your health?” ($\alpha = 0.92$), followed by the SEC Scale ($\alpha_{\text{Social}} = 0.89$, $\alpha_{\text{Economic}} = 0.76$). The social and economic subscales were significantly correlated ($r = 0.658$, $p < 0.001$) and additional analyses with separate subscales are reported in Table 2a (Supplementary Appendix).

Subsequently, participants read an excerpt from a news article published on *Medium.com* in July 2020, which addresses the debate surrounding online learning and school reopening. After reading the article, respondents

were asked “To what extent do you support online learning during COVID-19” and “To what extent do you support in-person learning during COVID-19?” (1 = not at all, 9 = completely). Finally, participants reported their demographics including annual household income, gender, ethnicity, age, and occupational status.

Results and Discussion

A series of three-step hierarchical regression analyses (HRA) were conducted. The first step included only control variables (i.e., gender, age, occupation, and ethnicity), the second included control variables and SEC (mean-centered), and the third added ESJ (mean-centered) to the aforementioned variables. The same analysis was repeated using the SEC subscales separately rather than as an aggregate scale. Table 3 reports means, standard deviations, and intercorrelations between the variables.

Table 3 Means, Standard Deviations, and Intercorrelations for Study 2 Variables (N = 201)

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. ESJ	4.53	1.06	1	0.641**	0.518**	0.704**	-0.357**	0.393**	0.683**	-0.357**	0.212**	-0.191**	-0.106	0.079	-0.063	0.068
2. SEC Com- bined	60.8	20.5	0.641**	1	0.952**	0.856**	-0.381**	0.418**	0.630**	-0.369**	0.049	-0.030	-0.093	-0.002	-0.082	0.010
3. SEC Social	62.17	24.17	0.518**	0.952**	1	0.658**	-0.317**	0.354**	0.522**	-0.280**	0.011	0.009	-1.00	-0.015	-0.076	-0.004
4. SEC Eco- nomic	58.87	19.96	0.704**	0.856**	0.658**	1	-0.404**	0.434**	0.672**	-0.436**	0.102	-0.090	-0.059	0.020	-0.073	0.031
5. Online	7.07	1.99	-0.357**	-0.381**	-0.317**	-0.404**	1	-0.543**	-0.416**	0.643**	0.000	-0.020	0.098	0.089	-0.044	-0.046
6. In-Person	5.00	2.60	0.393**	0.418**	0.354**	0.434**	-0.543**	1	0.505**	-0.392**	0.015	0.015	-0.155*	-0.017	-0.030	0.016
7. Free Enter- prise	43.7	23.6	0.683**	0.630**	0.522**	0.672**	-0.416**	0.505**	1	-0.483**	0.115	-0.101	-0.072	0.002	-0.007	0.011
8. Serious	6.84	1.92	-0.357**	-0.369**	-0.280**	-0.436**	0.643**	-0.392**	-0.483**	1	-0.038	0.024	0.067	0.128	-0.081	-0.033
9. Gender (M)	0.50	0.50	0.212**	0.049	0.011	0.102	0.000	0.015	0.115	-0.038	1	-0.980**	-0.100	0.144*	-0.121	0.124
10. Gender (F)	0.49	0.50	-0.191**	-0.030	0.009	-0.090	-0.020	0.015	-0.101	0.024	-0.980**	1	-0.099	-0.156*	0.128	-0.121
11. Gender (UR)	0.01	0.10	-0.106	-0.093	-1.00	-0.059	0.098	-0.155*	-0.072	0.067	-0.100	-0.099	1	0.060	-0.037	-0.012
12. Occupa- tion (E)	0.736	0.441	0.079	-0.002	-0.015	0.020	0.089	-0.017	0.002	0.128	0.144*	-0.156*	0.060	1	-0.615**	-0.206**
13. Occupa- tion (UE)	0.119	0.325	-0.063	-0.082	-0.076	-0.073	-0.044	-0.030	-0.007	-0.081	-0.121	0.128	-0.037	-0.615**	1	-0.045
14. Occupa- tion (S)	0.015	0.122	0.068	0.010	-0.004	0.031	-0.046	0.016	0.011	-0.033	0.124	-0.121	-0.012	-0.206**	-0.045	1
15. Occupa- tion (R)	0.095	0.293	-0.027	0.090	0.102	0.050	-0.063	0.046	0.008	-0.014	-0.083	0.090	-0.032	-0.540**	-0.119	-0.040
16. Occupa- tion (O)	0.030	0.171	-0.060	-0.021	-0.009	-0.036	-0.036	0.023	-0.054	-0.070	-0.058	0.061	-0.018	-0.293**	-0.065	-0.022
17. Occupa- tion (UR)	0.005	0.071	-0.059	0.046	0.045	0.037	0.069	-0.027	0.101	-0.142*	-0.070	0.072	-0.007	-0.118	-0.026	-0.009
18. Age (18-24)	0.050	0.218	0.003	-0.071	-0.068	-0.061	-0.020	-0.018	0.005	-0.036	0.093	-0.088	-0.023	0.033	-0.084	0.349**
19. Age (25-34)	0.309	0.463	-0.225**	-0.317**	-0.313	-0.252**	0.156*	-0.196**	-0.251**	0.076	-0.083	0.053	0.150*	0.180*	-0.047	0.007
20. Age (35-44)	0.234	0.424	0.091	-0.007	-0.002	-0.013	-0.061	0.054	0.108	-0.117	0.156*	-0.145*	-0.055	0.091	-0.022	-0.068
21. Age (45-54)	0.184	0.389	0.176*	0.186**	0.146*	0.211**	0.009	0.144*	0.153*	0.028	0.041	-0.031	-0.048	0.022	0.102	-0.058
22. Age (55-64)	0.139	0.347	0.009	0.174*	0.194**	0.100	-0.036	0.039	-0.016	-0.001	-0.170*	0.178*	-0.040	-0.118	0.029	-0.050
23. Age (>65)	0.085	0.279	-0.025	0.118	0.132	0.067	-0.119	0.007	0.055	0.042	-0.016	0.022	-0.030	-0.346**	-0.002	-0.037
24. Ethnicity (W)	0.721	0.449	-0.041	-0.001	-0.005	0.005	-0.085	-0.060	-0.073	-0.090	-0.203**	0.213**	-0.050	-0.196**	0.092	-0.107
25. Ethnicity (H)	0.055	0.228	-0.043	-0.121	-0.089	-0.149*	-0.031	-0.051	-0.008	-0.018	0.067	-0.062	-0.024	0.094	-0.021	-0.030

Table 3 (continued)

M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
26. Ethnicity (B)	0.144	-0.019	0.061	0.073	0.026	0.107	0.142*	0.045	0.136	0.158*	-0.150*	-0.041	0.214**	-0.108	-0.051
27. Ethnicity (A)	0.065	0.136	0.003	-0.024	0.048	0.011	-0.008	0.081	0.000	0.102	-0.097	-0.026	0.020	0.028	0.134
28. Ethnicity (UR)	0.015	0.011	0.051	0.021	0.089	0.037	-0.079	-0.008	-0.028	-0.040	-0.039	0.401**	-0.113	-0.045	0.323**
29. HH Income	72,697	0.119	0.119	0.022	0.106	-0.148*	0.010	0.079	-0.115	0.091	-0.082	-0.049	0.113	-0.130	-0.092
15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	
1. ESJ	-0.027	-0.059	0.003	-0.225**	0.091	0.176*	0.009	-0.025	-0.041	-0.043	-0.019	0.136	0.011	0.119	
2. SEC Combined	0.090	0.046	-0.071	-0.317**	-0.007	0.186**	0.174*	0.118	-0.001	-0.121	0.061	0.003	0.051	0.058	
3. SEC Social	0.102	-0.009	0.045	-0.313	-0.002	0.146*	0.194**	0.132	-0.005	-0.089	0.073	-0.024	0.02	0.022	
4. SEC Economic	0.050	-0.036	0.037	-0.252**	-0.013	0.211**	0.100	0.067	0.005	-0.149*	0.026	0.048	0.089	0.106	
5. Online	-0.063	-0.036	0.069	0.156*	-0.061	0.009	-0.036	-0.119	-0.085	-0.031	0.107	0.011	0.037	-0.148*	
6. In-Person	0.046	-0.027	-0.018	-0.196**	0.054	0.144*	0.039	0.007	-0.060	-0.051	0.142*	-0.008	-0.079	0.010	
7. Free Enterprise	0.008	0.101	0.005	-0.251**	0.108	0.153*	-0.016	0.055	-0.073	-0.008	0.045	0.081	-0.008	0.079	
8. Serious	-0.014	-0.070	-0.036	0.076	-0.117	0.028	-0.001	0.042	-0.090	-0.018	0.136	0.000	-0.028	-0.115	
9. Gender (M)	-0.083	-0.058	0.093	-0.083	0.156*	0.041	-0.170*	-0.016	-0.203	0.067	0.158*	0.102	-0.040	0.091	
10. Gender (F)	0.090	0.061	0.072	0.053	-0.145*	-0.031	0.178*	0.022	0.213*	-0.062	-0.150*	-0.097	-0.039	-0.082	
11. Gender (UR)	-0.032	-0.018	-0.007	0.150*	-0.055	-0.048	-0.040	-0.030	-0.050	-0.024	-0.041	-0.026	0.401**	-0.049	
12. Occupation (E)	-0.540**	-0.293**	-0.118	0.180*	0.091	0.022	-0.118	-0.346**	-0.196**	0.094	0.214**	0.020	-0.113	0.113	
13. Occupation (UE)	-0.119	-0.065	-0.026	-0.047	-0.022	0.102	0.029	-0.002	0.092	-0.021	-0.108	0.028	-0.045	-0.130	
14. Occupation (S)	-0.040	-0.022	-0.009	0.349**	0.007	-0.068	-0.050	-0.037	-0.107	-0.030	-0.051	0.134	0.323**	-0.092	
15. Occupation (R)	1	-0.057	-0.023	-0.074	-0.216**	-0.178	0.214**	0.574**	0.163*	-0.078	-0.133	-0.085	0.100	-0.024	
16. Occupation (O)	-0.057	1	-0.012	-0.040	0.009	0.110	-0.008	-0.071	-0.053	0.109	-0.042	-0.072	-0.046	0.072	
17. Occupation (UR)	-0.023	-0.012	1	-0.016	-0.047	0.128	-0.034	-0.028	-0.021	0.044	-0.017	-0.029	-0.019	-0.009	
18. Age (18-24)	-0.074	-0.040	-0.016	1	-0.153*	-0.126	-0.109	-0.092	-0.070	-0.055	0.036	0.126	-0.028	-0.102	
19. Age (25-34)	-0.216**	0.009	-0.047	-0.153*	1	-0.369**	-0.317**	-0.269**	-0.203**	-0.017	0.123	-0.044	0.095	0.091	

Table 3 (continued)

	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
20. Age (35–44)	-0.178*	0.110	0.128	-0.126	-0.369**	1	-0.262**	-0.222**	-0.168*	-0.129	0.074	0.108	0.046	-0.068	0.020
21. Age (45–54)	-0.110	-0.008	-0.034	-0.109	-0.317**	-0.262**	1	-0.191**	-0.144*	-0.020	-0.114	0.134	-0.021	-0.058	-0.032
22. Age (55–64)	0.214**	-0.071	-0.028	-0.092	-0.269**	-0.222**	-0.191**	1	-0.122	0.154*	-0.034	-0.124	-0.047	-0.050	-0.016
23. Age (> 65)	0.574**	-0.053	-0.021	-0.070	-0.203**	-0.168*	-0.144*	-0.122	1	0.109	-0.073	-0.125	-0.007	0.110	-0.037
24. Ethnicity (W)	0.163*	0.109	0.044	-0.062	-0.017	-0.129	-0.020	0.154*	0.109	1	-0.387**	-0.661**	-0.423**	-0.198**	0.098
25. Ethnicity (H)	-0.078	-0.042	-0.017	-0.055	0.123	0.074	-0.114	-0.034	-0.073	-0.387*	1	-0.099	-0.063	-0.030	-0.026
26. Ethnicity (B)	-0.133	-0.072	-0.029	0.036	-0.060	0.108	0.134	-0.124	-0.125	-0.661**	-0.099	1	-0.108	-0.051	-0.065
27. Ethnicity (A)	-0.085	-0.046	-0.019	0.126	-0.044	0.046	-0.021	-0.047	-0.007	-0.423**	-0.063	-0.108	1	-0.032	-0.018
28. Ethnicity (UR)	0.100	-0.022	-0.009	-0.028	0.095	-0.068	-0.058	-0.050	0.110	-0.198**	-0.030	-0.051	-0.032	1	-0.088
29. HH Income	-0.024	0.072	-0.025	-0.102	0.091	0.020	-0.032	-0.016	-0.037	0.098	-0.026	-0.065	-0.018	-0.088	1

Coding Key: Gender: Male (M); Female (F); Unreported (UR). Occupation: Employed (E); Unemployed (UE); Student (S); Retired (R); Other (O); Unreported (UR). Ethnicity: White (W); Hispanic (H); Black (B); Asian (A); Middle Eastern (ME); Native Hawaiian or Pacific Islander (PI)

* $p < 0.05$, ** $p < 0.01$

Table 4 Regression results for Study 2 on Support for Online Learning

Variable	<i>B</i>	SE <i>B</i>	<i>T</i>	<i>R</i>	<i>R</i> ²	ΔR^2
Step 1				0.256	0.066	0.066
Gender (M)	0.239	0.281	0.848			
Gender (UR)	0.423	1.47	0.288			
Occupation (UE)	-0.472	0.420	-1.12			
Occupation (S)	-0.921	1.256	-0.733			
Occupation (R)	-0.028	0.592	-0.047			
Occupation (O)	-0.504	0.781	-0.645			
Occupation (UR)	2.38	1.88	1.27			
Age (18–24)	-0.483	0.676	-0.714			
Age (35–44)	-0.340	0.374	-0.910			
Age (45–54)	0.277	0.413	0.671			
Age (55–64)	0.127	0.475	0.268			
Age (> 65)	-0.667	0.656	-1.02			
Ethnicity (H)	-0.553	0.589	-0.939			
Ethnicity (B)	0.552	0.399	1.384			
Ethnicity (A)	0.502	0.549	0.914			
Ethnicity (UR)	1.24	1.29	0.964			
Step 2				0.458	0.210	0.144***
SEC (Mean-Centered)	-0.028	0.009	-3.11**			
Step 3				0.478	0.229	0.019*
ESJ (Mean-Centered)	-0.362	0.172	-2.106*			

Coding Key: Gender: Male (M); Female (F); Unreported (UR). Occupation: Employed (E); Unemployed (UE); Student (S); Retired (R); Other (O); Unreported (UR). Ethnicity: White (W); Hispanic (H); Black (B); Asian (A); Other (O); Unreported (UR)

N = 201. Unstandardized coefficients are reported. Results presented are from the final model, though Step 1 and Step 2 *R*, *R*², and ΔR^2 are included for completeness. For each control variable, the most common option was used as the reference category: Gender (female), Occupation (employed), Age (25–34 years), Ethnicity (White)

p* < 0.05, *p* < 0.01, ****p* < 0.001

DV: Support for Online Learning

We first examined the effect of ESJ on support for online learning. The results revealed that the control variables did not contribute significantly to the model (see Table 4). Adding SEC explained about 14.4% of the variation in support over and above the control variables, $F(1, 183) = 33.387$, $p < 0.001$. Including ESJ to the model explained an additional 1.9% of the variation, and this change in *R*² was significant $F(1, 182) = 4.434$, $p = 0.037$. The full model was also significant, $F(18, 182) = 2.996$, $p < 0.001$. In the final step, ESJ was a significant predictor of rejection of online learning ($B = -0.362$, s.e. = 0.172, $t(182) = -3.106$, $p = 0.037$), as was SEC ($B = -0.028$, s.e. = 0.009, $t(182) = -3.106$, $p = 0.002$). We reran the analyses using separate SEC subscales. In the final step of this model, the economic subscale was a significant negative predictor of support for online learning, ($B = -0.322$, s.e. = 0.111, $t(181) = -3.083$, $p = 0.002$) while the social subscale was not ($p > 0.49$).

DV: Support for In-Person Learning

Next, we tested the effect of ESJ on support for in-person learning. The control variables did not contribute significantly to the model (see Table 5). Adding SEC explained about 13.6% of the variation in support over and above the control variables, $F(1, 183) = 33.387$, $p < 0.001$. Importantly, including ESJ to the model explained an additional 2.8% of the variation, and this change in *R*² was significant $F(1, 182) = 6.728$, $p = 0.010$. The full model was also significant, $F(18, 182) = 3.351$, $p < 0.001$. In the final step, ESJ was a significant predictor of support for in-person learning ($B = 0.575$, s.e. = 0.222, $t(182) = 2.594$, $p = 0.010$), as was SEC ($B = 0.032$, s.e. = 0.012, $t(182) = 2.715$, $p = 0.007$). We reran the analyses using separate SEC subscales. In the final step of this model, the economic subscale was a significant positive predictor of support for in-person learning, ($B = 0.036$, s.e. = 0.014, $t(181) = 2.64$, $p = 0.009$) while the social subscale had no effect ($p > 0.52$).

Table 5 Regression Results for Study 2 on Support for In-Person Learning

Variable	<i>B</i>	SE <i>B</i>	<i>T</i>	<i>R</i>	<i>R</i> ²	ΔR^2
Step 1				0.292	0.086	0.086
Gender (M)	-0.450	0.363	-1.241			
Gender (UR)	-1.81	1.90	-0.955			
Occupation (UE)	0.119	0.541	0.219			
Occupation (S)	1.11	1.62	0.685			
Occupation (R)	0.696	0.763	0.912			
Occupation (O)	0.661	1.01	0.656			
Occupation (UR)	-1.123	2.43	-0.063			
Age (18–24)	0.034	0.533	0.665			
Age (35–44)	0.312	0.482	0.647			
Age (45–54)	0.354	0.533	0.665			
Age (55–64)	-0.039	0.612	-0.063			
Age (> 65)	-0.181	0.847	-0.214			
Ethnicity (H)	0.164	0.760	0.215			
Ethnicity (B)	1.02	0.515	1.98*			
Ethnicity (A)	-0.227	0.708	-0.320			
Ethnicity (UR)	-1.67	1.66	-1.01			
Step 2				0.470	0.221	0.136***
SEC (Mean-Centered)	0.032	0.012	2.71**			
Step 3				0.499	0.249	0.028*
ESJ (Mean-Centered)	0.575	0.222	2.59*			

Coding Key: Gender: Male (M); Female (F); Unreported (UR). Occupation: Employed (E); Unemployed (UE); Student (S); Retired (R); Other (O); Unreported (UR). Ethnicity: White (W); Hispanic (H); Black (B); Asian (A); Other (O); Unreported (UR)

N = 201. Unstandardized coefficients are reported. Results presented are from the final model, though Step 1 and Step 2 *R*, *R*², and ΔR^2 are included for completeness. For each control variable, the most common option was used as the reference category: Gender (female), Occupation (employed), Age (25–34 years), Ethnicity (White)

p* < 0.05, *p* < 0.01, ****p* < 0.001

Mediator 1: Free Enterprise

We also tested the effect of ESJ on belief in free enterprise. The control variables did not contribute significantly to the model (see Table 6). Adding SEC explained about 34.6% of the variation in support over and above the control variables, $F(1, 183) = 114.51, p < 0.001$. Adding ESJ to the model explained an additional 11.5% of the variation, and this change in *R*² was significant $F(1, 182) = 47.96, p < 0.001$. The full model was also significant, $F(18, 182) = 13.00, p < 0.001$. In the final step, both ESJ ($B = 10.66, s.e. = 1.54, t(182) = 6.925, p < 0.001$) and SEC ($B = 0.385, s.e. = 0.082, t(182) = 4.717, p < 0.001$) significantly predicted belief in free enterprise. We reran the analyses using separate SEC subscales. In the final step of this model, the economic subscale was a significant positive predictor, ($B = 0.409, s.e. = 0.095, t(181) = 4.31, p < 0.001$) while the social subscale was not ($p > 0.17$).

Mediator 2: Perceived Severity

We next examined the effect of ESJ on perceived severity of the pandemic. The control variables did not contribute significantly to the model (see Table 7). SEC explained about 16.7% of the variation in perceived severity over and above the control variables, $F(1, 183) = 40.687, p < 0.001$. Adding ESJ to the model explained an additional 1.8% of the variation, and this change in *R*² was significant $F(1, 182) = 4.478, p < 0.001$. The full model was also significant, $F(18, 182) = 3.677, p < 0.001$. In the final step, both ESJ ($B = -0.342, s.e. = 1.62, t(182) = -2.116, p < 0.05$) and SEC ($B = -0.342, s.e. = 0.162, t(182) = -3.563, p < 0.001$) were significant predictors. We reran the analyses using separate SEC subscales. In the final step of this model, the economic subscale was a significant negative predictor of perceived severity, ($B = 0.042, s.e. = 0.010, t(181) = -4.20, p < 0.001$) while the social subscale was not ($p > 0.73$).

Table 6 Regression Results for Study 2 on Free Enterprise

Variable	<i>B</i>	SE <i>B</i>	<i>T</i>	<i>R</i>	<i>R</i> ²	ΔR^2
Step 1				0.319	0.101	0.101
Gender (M)	-0.885	2.52	-0.276			
Gender (UR)	7.69	13.2	0.583			
Occupation (UE)	4.46	3.76	1.19			
Occupation (S)	-3.83	11.3	-0.341			
Occupation (R)	1.26	5.31	0.237			
Occupation (O)	-1.61	7.00	-0.230			
Occupation (UR)	37.0	16.9	2.20*			
Age (18–24)	5.67	6.06	0.937			
Age (35–44)	3.30	3.35	0.984			
Age (45–54)	1.52	3.70	0.410			
Age (55–64)	-3.35	4.25	-0.788			
Age (> 65)	3.87	5.88	0.658			
Ethnicity (H)	6.85	5.28	1.30			
Ethnicity (B)	2.88	3.58	0.805			
Ethnicity (A)	1.73	4.92	0.352			
Ethnicity (UR)	-6.16	11.6	-0.532			
Step 2				0.669	0.447	0.346***
SEC (Mean-Centered)	0.385	0.082	4.72***			
Step 3				0.750	0.563	0.115***
ESJ (Mean-Centered)	10.7	1.54	6.93***			

Coding Key: Gender: Male (M); Female (F); Unreported (UR). Occupation: Employed (E); Unemployed (UE); Student (S); Retired (R); Other (O); Unreported (UR). Ethnicity: White (W); Hispanic (H); Black (B); Asian (A); Other (O); Unreported (UR)

N = 201. Unstandardized coefficients are reported. Results presented are from the final model, though Step 1 and Step 2 *R*, *R*², and ΔR^2 are included for completeness. For each control variable, the most common option was used as the reference category: Gender (female), Occupation (employed), Age (25–34 years), Ethnicity (White)

p* < 0.05, *p* < 0.01, ****p* < 0.001

Robustness Check

As reported in the preregistration (<https://aspredicted.org/6vy4g.pdf>), we explored household income as another potential covariate. The same HRA described above was run with household income added to the first step. These analyses revealed that, in the last step of the model, both ESJ and SEC were significant or marginally significant predictors of in-person (ESJ: *B* = 0.581, *s.e.* = 0.223, *t*(181) = 2.61, *p* < 0.01; SEC: *B* = 0.032, *s.e.* = 0.012, *t*(181) = 2.71, *p* < 0.01) and online learning (ESJ: *B* = -0.334, *s.e.* = 0.171, *t*(181) = -1.95, *p* = 0.053; SEC: *B* = -0.028, *s.e.* = 0.009, *t*(181) = -3.12, *p* < 0.01). Hierarchical regression analyses without the control variables were also conducted for the effect of ESJ on support for in-person and online learning. SEC was entered in the first step and ESJ was entered in the second step. Both SEC and ESJ were significant predictors of in-person (ESJ: *B* = 0.518, *s.e.* = 0.202, *t*(198) = 2.57, *p* < 0.05; SEC: *B* = 0.036, *s.e.* = 0.010, *t*(198) = 3.41, *p* < 0.01) and online learning (ESJ: *B* = -0.356, *s.e.* = 0.158, *t*(198) = -2.26, *p* < 0.05; SEC: *B* = -0.025, *s.e.* = 0.008,

t(198) = -3.06, *p* < 0.01) (see Supplementary Appendix Tables 2e and b). Thus, the results of the two-step HRA are consistent with the three-step HRA.

Mediation Analysis

We explored a serial mediation model in which ESJ influences support for in-person and online instruction through belief in free enterprise and perceived seriousness of COVID-19, respectively. First, a serial mediation analysis was conducted with 10,000 bootstrap samples using support for online teaching as the DV (Hayes, 2017, model 6). ESJ (centered) was entered as the predictor and SEC (centered) was included as a covariate. The results revealed a significant total indirect effect for the serial mediation model through free enterprise and perceived severity, *B* = -0.2049, 95% CI [-0.3538, -0.0853] (Fig. 1). Neither the indirect effect of free enterprise nor perceived severity was significant on its own. A similar serial mediation analysis was conducted using support for in-person teaching as the DV. The results again revealed a significant total indirect

Table 7 Regression Results for Study 2 on Perceived Severity of the Pandemic

Variable	<i>B</i>	SE <i>B</i>	<i>T</i>	<i>R</i>	<i>R</i> ²	ΔR^2
Step 1				0.286	0.082	0.082
Gender (M)	-0.073	0.265	-0.276			
Gender (UR)	0.719	1.38	0.520			
Occupation (UE)	-0.909	0.394	-2.30*			
Occupation (S)	0.411	1.18	0.348			
Occupation (R)	-0.791	0.557	-1.42			
Occupation (O)	-0.852	0.734	-1.16			
Occupation (UR)	-3.49	1.77	-1.97			
Age (18–24)	-0.608	0.636	-0.957			
Age (35–44)	-0.108	0.352	-0.307			
Age (45–54)	0.685	0.388	1.765			
Age (55–64)	0.735	0.446	1.65			
Age (> 65)	1.29	0.617	2.09*			
Ethnicity (H)	-0.274	0.554	-0.496			
Ethnicity (B)	0.778	0.375	2.07*			
Ethnicity (A)	0.366	0.516	0.708			
Ethnicity (UR)	-0.511	1.21	-0.422			
Step 2				0.499	0.249	0.167***
SEC (Mean-Centered)	-0.031	0.009	-3.56***			
Step 3				0.516	0.267	0.018*
ESJ (Mean-Centered)	-0.342	0.162	-2.12*			

Coding Key: Gender: Male (M); Female (F); Unreported (UR). Occupation: Employed (E); Unemployed (UE); Student (S); Retired (R); Other (O); Unreported (UR). Ethnicity: White (W); Hispanic (H); Black (B); Asian (A); Other (O); Unreported (UR)

N = 201. Unstandardized coefficients are reported. Results presented are from the final model, though Step 1 and Step 2 *R*, *R*², and ΔR^2 are included for completeness. For each control variable, the most common option was used as the reference category: Gender (female), Occupation (employed), Age (25–34 years), Ethnicity (White)

p* < 0.05, *p* < 0.01, ****p* < 0.001

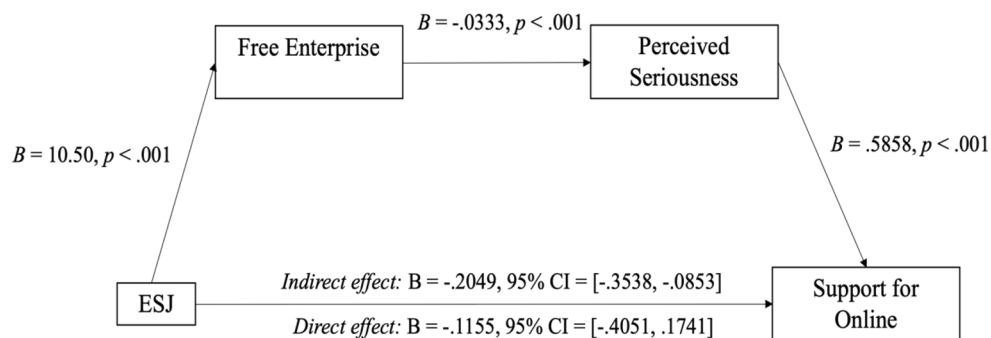


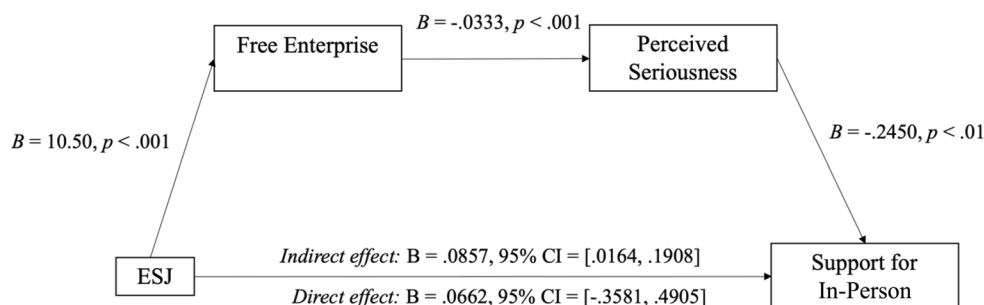
Fig. 1 ESJ's Influence on Support for Online Learning Mediated by Free Enterprise and Perceived Seriousness of COVID-19

effect through the sequential mediators, $B = 0.0857$, 95% CI [0.0174, 0.1896] (Fig. 2). The indirect effect through belief in free enterprise alone was also significant ($B = 0.3612$, 95% CI [0.1227, 0.6185]) but the effect through perceived severity alone was not.

The results of study 2 suggest that high economic system justifiers are against market interventions during COVID-19

and perceive the pandemic as less severe. These individuals are also more likely to be against online learning, which was implemented across the world as a measure to Save Lives. They are more supportive of the status quo in-person learning, which also helps to Sustain Livelihoods by allowing parents to work outside of the home. Study 3 builds on these results by asking participants to report their attitudes on the

Fig. 2 ESJ's Influence on Support for In-Person Instruction Mediated by Free Enterprise and Perceived Seriousness of COVID-19



mandate to ‘shelter in place’ as the owner of a restaurant. We chose this scenario because the tradeoff between Saving Lives and Sustaining Livelihoods should be especially salient to small business owners that are unable to make a living wage during lockdowns.

Study 3: Desirability of ‘Shelter in Place’

“A store filed (a lawsuit) asking that the government’s emergency shelter-in-place ordinance be declared unconstitutional.”²⁵

A strategy used globally to prevent virus contagion is ‘shelter in place’ which is essentially ‘stay at home,’ with some variations. In some parts of the world, people have been mandated to follow this strategy or face monetary fines and/or other legal consequences for violation. While this strategy is considered health-protective, it is also associated with job losses and one of its outcomes is that several parts of the economy come to a standstill. Another criticism of this practice is that it compromises our relationships and curtails Americans’ fundamental freedoms and human rights by eliminating and/or severely constraining social interactions. Finally, individuals who do not think the pandemic is severe are likely to believe such a mandate to be excessive and unwarranted (“we don’t shut down the economy because of the flu”). There are varying degrees of ethicality associated with these consequences of shelter in place, affording us an opportunity to test our prediction that people high (vs. low) on ESJ will be less favorable toward shelter-in-place directives. We also test the possibility that the prevalence of COVID in the community moderates this effect.

Participants and Method

Respondents were recruited from MTurk and were required to be from the United States, have an approval rating of at least 95%, and have more than 100 hits. 275 MTurkers matching

these criteria participated in the study in exchange for \$0.50. Their demographic characteristics were *Gender*: female: 44.4%, unreported gender: 0.4%; *Age*: median age range: 35–44 years; *Ethnicity*: Caucasian American: 74.2%; Asian: 10.9%; African American: 7.6%; Hispanic: 5.8%; Others: 1.5%; *Location*: Northeast: 18.9%; Midwest: 16.4%; South: 36.7%; West: 27.6%. Respondents first completed the ESJ scale and were then randomly assigned to imagine being small business owners in a country that is facing either a high incidence or low incidence of COVID. Further, they were informed that the government was considering shelter in place as a strategy to prevent virus contagion. The high incidence condition is read as follows:

“Imagine you own a popular restaurant on an island nation which is accessible by flight and a water ferry. This restaurant provides you and your family the livelihood you need for sustenance. The population of the island is approximately 100,000. Further, there are over 1000 coronavirus cases reported on the island thus far, with 58 deaths. The head of the country is considering ‘shelter in place’, a practice when residents of a community will be asked to stay at home and avoid any uncertainty outside. This practice encourages that people ‘self-quarantine’ until further notice. Several cities, states, and countries have asked their residents to follow shelter in place guidelines.”

In the low incidence scenario, the number of cases was reported to be 5 and the number of deaths to be 0. Participants were then probed on their support for shelter-in-place orders using 4 items ($\alpha = 0.85$): “How likely are you to support shelter in place if it is put into practice?” (1 = Not at all likely, 9 = Very likely); “Please circle the number that best represents your opinion below regarding whether shelter in place should be optional or mandated” (1 = It should be optional, 9 = It should be mandatory); “Please tell us the extent to which agree or disagree with the statements “Shelter in place helps saves lives,” and “Shelter in place is a violation of human rights” (reverse-scored) (1 = Strongly Disagree, 9 = Strong Agree).

As in studies 1 and 2, participants then completed SECS and reported their demographics. Tables 8 and 9 report the summary results of the hierarchical regression analysis.

²⁵ Athens Banner Herald (2020, April 25). Athens Leaders: Kemp ending shelter in place too soon. <https://www.onlineathens.com/news/20200430/athens-leaders-kemp-ending-shelter-in-place-too-soon>.

Table 8 Means, Standard Deviations, and Intercorrelations for Study 3 Variables (N = 275)

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. ESJ	4.72	1.22	1	0.559**	0.474**	0.572**	-0.042	-0.438**	0.074	-0.062	-0.094	0.120*	-0.077	-0.100	-0.032
2. SEC Com- bined	64.7	16.9	0.559**	1	0.949**	0.854**	-0.057	-0.340**	-0.009	0.019	-0.085	0.057	-0.012	-0.163**	0.123*
3. SEC Social	67.0	19.7	0.474**	0.949**	1	0.647**	-0.061	-0.242**	-0.046	0.056	-0.083	0.030	0.036	-0.164**	0.080
4. SEC Eco- nomic	61.3	16.7	0.572**	0.854**	0.647**	1	-0.038	-0.423**	0.055	-0.046	-0.070	0.087	-0.089	-0.123*	0.165**
5. Inci- dence	0.53	0.500	-0.042	-0.057	-0.061	-0.038	1	0.128*	-0.046	0.039	0.057	-0.058	0.084	0.020	-0.031
6. Support	6.58	1.89	-0.438**	-0.340**	-0.242**	-0.423**	0.128*	1	-0.109	0.099	0.078	-0.166**	0.104	0.074	0.090
7. Gender (M)	0.55	0.498	0.074	-0.009	-0.046	0.055	-0.046	-0.109	1	-0.993**	-0.067	0.250**	-0.188**	-0.158**	0.042
8. Gender (F)	0.44	0.498	-0.062	0.019	0.056	-0.046	0.039	0.099	-0.993**	1	-0.054	-0.236**	0.168**	0.159**	-0.041
9. Gender (UR)	0.00	0.060	-0.094	-0.085	-0.083	-0.070	0.057	0.078	-0.067	-0.054	1	-0.112	0.169**	-0.014	-0.011
10. Occu- pation (E)	0.77	0.419	0.120*	0.057	0.030	0.087	-0.058	-0.166**	0.250**	-0.236**	-0.112	1	-0.661**	-0.429**	-0.341**
11. Occu- pation (UE)	0.11	0.317	-0.077	-0.012	0.036	-0.089	0.084	0.104	-0.188**	0.168**	0.169**	-0.661**	1	-0.083	-0.066
12. Occu- pation (S)	0.05	0.220	-0.100	-0.163**	-0.164**	-0.123*	0.020	0.074	-0.158**	0.159**	-0.014	-0.429**	-0.083	1	-0.043
13. Occu- pation (R)	0.03	0.178	-0.032	0.123*	0.080	0.165**	-0.031	0.090	0.042	-0.041	-0.011	-0.341**	-0.066	-0.043	1
14. Occu- pation (O)	0.02	0.146	0.042	-0.001	0.028	-0.048	0.042	0.040	-0.116	0.117	-0.009	-0.277**	-0.053	-0.035	-0.027
15. Occu- pation (UR)	0.01	0.085	-0.051	-0.067	-0.072	-0.043	-0.090	-0.021	-0.009	0.010	-0.005	-0.159**	-0.031	-0.020	-0.016
16. Age (18-24)	0.08	0.272	-0.055	-0.159**	-0.182**	-0.085	0.064	0.031	-0.031	0.033	-0.018	-0.194**	-0.063	0.541**	-0.054
17. Age (25-34)	0.37	0.483	-0.005	-0.089	-0.086	-0.074	-0.019	0.014	0.048	-0.058	0.079	0.086	-0.009	-0.039	-0.140*
18. Age (35-44)	0.23	0.419	-0.097	-0.081	-0.049	-0.114	-0.082	-0.020	0.048	-0.044	-0.033	0.229**	-0.110	-0.125*	-0.099
19. Age (45-54)	0.16	0.364	0.154*	0.084	0.074	0.082	0.107	-0.010	-0.076	0.079	-0.026	-0.007	0.100	-0.100	-0.079
20. Age (55-64)	0.12	0.321	0.007	0.150*	0.137*	0.136*	-0.043	-0.090	-0.061	0.064	-0.022	-0.103	0.122*	-0.084	0.061

Table 8 (continued)

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
21. Age (> 65)	0.05	0.228	-0.002	0.180**	0.177**	0.144*	0.003	0.113	0.055	-0.053	-0.015	-0.215**	-0.035	-0.056	0.586**
22. Ethnicity (W)	0.74	0.438	0.033	0.018	-0.019	0.075	0.057	-0.064	-0.146*	0.159**	-0.102	0.099	-0.079	-0.128*	0.062
23. Ethnicity (H)	0.06	0.235	-0.057	0.029	0.017	0.041	-0.107	-0.021	0.036	-0.034	-0.015	-0.052	0.059	0.013	-0.046
24. Ethnicity (B)	0.08	0.266	-0.020	0.047	0.102	-0.053	0.053	0.028	0.121*	-0.119*	-0.017	-0.041	0.027	0.058	0.024
25. Ethnicity (A)	0.11	0.312	0.036	-0.061	-0.035	-0.091	-0.066	0.069	0.080	-0.078	-0.021	-0.035	0.023	0.078	-0.064
26. Ethnicity (O)	0.01	0.085	-0.100	-0.108	-0.130*	-0.047	-0.005	0.104	-0.009	0.010	-0.005	-0.056	-0.031	0.175**	-0.016
27. Ethnicity (UR)	0.01	0.085	0.024	0.014	-0.008	0.048	0.081	-0.060	-0.009	-0.076	0.706**	-0.056	0.105	-0.020	-0.016
14	0.042	-0.051	-0.055	-0.005	-0.097	0.154*	0.007	-0.002	0.033	-0.057	-0.020	0.036	-0.100	0.024	
1. ESJ	-0.001	-0.067	-0.159**	-0.089	-0.081	0.084	0.150*	0.180**	0.018	0.029	0.047	-0.061	-0.108	0.014	
2. SEC-Combined	0.028	-0.072	-0.182**	-0.086	-0.049	0.074	0.137*	0.177**	-0.019	0.017	0.102	-0.035	-0.130*	-0.008	
3. SEC-Social	-0.048	-0.043	-0.085	-0.074	-0.114	0.082	0.136*	0.144*	0.075	0.041	-0.053	-0.091	-0.047	0.048	
4. SEC-Economic	0.042	-0.090	0.064	-0.019	-0.082	0.107	-0.043	0.003	0.057	-0.107	0.053	-0.066	-0.005	0.081	
5. Inclidence	0.040	-0.021	0.031	0.014	-0.020	-0.010	-0.090	0.113	-0.064	-0.021	0.028	0.069	0.104	-0.060	
6. Support	-0.116	-0.009	-0.031	0.048	0.048	-0.076	-0.061	0.055	-0.146*	0.036	0.121	0.080	-0.009	-0.009	
7. Gender (M)	0.117	0.010	0.033	-0.058	-0.044	0.079	0.064	-0.053	0.159**	-0.034	-0.119*	-0.078	0.010	-0.076	
8. Gender (F)	-0.009	-0.005	-0.018	0.079	-0.033	-0.026	-0.022	-0.015	-0.102	-0.015	-0.017	-0.021	-0.005	0.706**	
9. Gender (UR)	-0.277**	-0.159**	-0.194**	0.086	0.229**	-0.007	-0.103	-0.215**	0.099	-0.052	-0.041	-0.035	-0.056	-0.056	
10. Occupation (E)	-0.053	-0.031	-0.063	-0.009	-0.110	0.100	0.122*	-0.035	-0.079	0.059	0.027	0.023	-0.031	0.105	
11. Occupation (UE)															

Table 8 (continued)

	14	15	16	17	18	19	20	21	22	23	24	25	26	27
12. Occupation (S)	-0.035	-0.020	0.541**	-0.039	-0.125*	-0.100	-0.084	-0.056	-0.128*	0.013	0.058	0.078	0.175**	-0.020
13. Occupation (R)	-0.027	-0.016	-0.054	-0.140*	-0.099	-0.079	0.061	0.586**	0.062	-0.046	0.024	-0.064	-0.016	-0.016
14. Occupation (O)	1	-0.013	-0.044	-0.062	-0.081	0.073	0.101	0.074	0.088	-0.037	-0.043	-0.052	-0.013	-0.013
15. Occupation (UR)	-0.013	1	-0.025	0.112	-0.046	-0.037	-0.031	-0.021	-0.145*	0.162**	-0.025	0.107	-0.007	-0.007
16. Age (18–24)	-0.044	-0.025	1	-0.225**	-0.1159**	-0.127*	-0.107	-0.071	-0.040	-0.073	0.016	0.069	0.133*	-0.025
17. Age (25–34)	-0.062	0.112	-0.225**	1	-0.411**	-0.328**	-0.276	-0.183**	-0.240**	0.197**	0.093	0.096	0.024	0.024
18. Age (35–44)	-0.081	-0.046	-0.159**	-0.411**	1	-0.232**	-0.196	-0.130*	-0.040	-0.023	0.009	0.062	-0.046	0.056
19. Age (45–54)	0.073	-0.037	-0.127*	-0.328**	-0.232**	1	-0.156	-0.103	0.208**	-0.107	-0.124*	-0.086	-0.037	-0.037
20. Age (55–64)	0.101	-0.031	-0.107	-0.276**	-0.196**	-0.156**	1	-0.087	0.136*	-0.042	-0.019	-0.127*	-0.031	-0.031
21. Age (> 65)	0.074	-0.021	-0.071	-0.183**	-0.130*	-0.103	-0.087	1	0.105	-0.060	-0.009	-0.084	-0.021	-0.021
22. Ethnicity (W)	0.088	-0.145*	-0.040	-0.240**	-0.040	0.208**	0.136	0.105	1	-0.421**	-0.487**	-0.593**	-0.145*	-0.145*
23. Ethnicity (H)	-0.037	0.162**	-0.073	0.197**	-0.023	-0.107	-0.042	-0.060	-0.421**	1	-0.071	-0.087	-0.021	-0.021
24. Ethnicity (B)	-0.043	-0.025	0.016	0.093	0.009	-0.124*	-0.019	-0.009	-0.487**	-0.071	1	-0.101	-0.025	-0.025
25. Ethnicity (A)	-0.052	0.107	0.069	0.096	0.062	-0.086	-0.127*	-0.084	-0.593**	-0.087	-0.101	1	-0.030	-0.030
26. Ethnicity (O)	-0.013	-0.007	0.133*	0.024	-0.046	-0.037	-0.031	-0.021	-0.145*	-0.021	-0.025	-0.030	1	-0.007
27. Ethnicity (UR)	-0.013	-0.007	-0.025	0.024	0.056	-0.037	-0.031	-0.021	-0.145*	-0.021	-0.025	-0.030	-0.007	1

Coding Key: Gender: Male (M); Female (F); Unreported (UR). Occupation: Employed (E); Unemployed (UE); Student (S); Retired (R); Other (O); Unreported (UR). Ethnicity: White (W); Hispanic (H); Black (B); Asian (A); Other (O); Unreported (UR)

* $p < 0.05$, ** $p < 0.01$

The social and economic subscales were significantly correlated ($r=0.534$, $p<0.001$) and additional analyses with separate subscales are reported in the Supplementary Appendix (Table 3a).

Results and Discussion

As in the previous studies, we used HRA to test our predictions. The first step included only control variables (i.e., participants' gender, age, occupation, and ethnicity), the second added SEC (mean-centered), the third incorporated incidence rate (0=low, 1=high), the fourth added ESJ (mean-centered), and the fifth added the interaction between ESJ and incidence rate.

The results reveal that the control variables account for 9.6% of the variation in support for shelter in place, which was significant, $F(17, 257)=1.61$, $p=0.001$. Adding SEC explained an additional 10.9% of the variance, $F(1, 256)=35.07$, $p<0.001$, and adding virus incidence rate explained another 1%, $F(1, 255)=3.33$, $p=0.069$. Importantly, including ESJ to the model explained an additional 6.7% of the variation over and above the aforementioned factors, and this change in R^2 was significant $F(1, 254)=23.81$, $p<0.001$. The interaction between ESJ and incidence rate did not contribute significantly to the model, $F(1, 253)=1.11$, $p>0.29$, but the full model was significant, $F(21, 253)=4.82$, $p<0.001$.

In the final step, ESJ was a significant negative predictor of support for shelter in place ($B=-0.611$, $s.e.=0.142$, $t(253)=-4.30$, $p<0.001$). As hypothesized, high ESJ individuals were less likely to support shelter in place than low ESJ individuals. SEC had a significant effect ($B=-0.018$, $s.e.=0.008$, $t(253)=-2.33$, $p<0.05$) and incidence rate had a marginally significant effect on the outcome, ($B=0.356$, $s.e.=0.207$, $t(253)=1.72$, $p=0.086$). We reran the analyses using separate SEC subscales. In the final step of this model, the economic subscale was a significant negative predictor of support for shelter in place, ($B=-0.035$, $s.e.=0.009$, $t(252)=-3.89$, $p<0.001$), while the social subscale was not ($p>0.28$). A robustness check with a four-step HRA without control variables revealed similar results. ESJ ($B=-0.647$, $s.e.=0.140$, $t(274)=-2.33$, $p<0.05$) and SEC ($B=-0.015$, $s.e.=0.007$, $t(274)=-2.08$, $p<0.05$) were significant while incidence rate was marginal ($B=0.375$, $s.e.=0.205$, $t(274)=-1.83$, $p=0.068$) (Supplementary Appendix Tables 3b, c).

The results of study 3 suggest that high ESJ individuals prioritize Sustaining Livelihoods over Saving Lives by opposing shelter-in-place orders, even in a situation in which the virus spread is relatively high. This is likely because they are inherently resistant to government intervention in economic affairs in general and is consistent with our neoliberal argument earlier. The lack of a moderation effect with incidence rate is also consistent with the results in Study 2 showing high ESJ individuals believe the pandemic is less severe. Even when informed that the

local COVID-19 incidence rate is high, high economic system justifiers may not believe they are in serious danger. Study 4 continues this line of inquiry by examining attitudes toward ending mandates like shelter in place and returning to the status quo by reopening the economy.

Study 4: Support for Reopening the Economy

“Reopening the Economy Would Add 233,000 Deaths by July but Save Millions of Jobs.”²⁶

In study 4, we investigate the relationship between ESJ and support for reopening the economy, as well as several potential mechanisms for the relationship between ESJ and Sustaining Livelihoods versus Saving Lives. Several states started reopening their economies in May 2020, and we chose to study Texas' reopening for several reasons. With a \$1.9 trillion economy, its size is second only to California,²⁷ making it an important state not only to its millions of residents, but to the US at large. Unlike California, however, Texas resolved to reopen relatively early, and its decision has been called “one of the quickest and most expansive efforts to reignite the economy.”²⁸ Further, restricting the state in question ensures all participants are thinking about the same parameters when making judgments about a state's potential reopening. This study also attempts to manipulate high and low ESJ using a scenario, rather than relying solely on self-reported beliefs.

Participants and Method

Participants were recruited using Mturk and were required to be from the United States, have an approval rating of at least 95%, and have more than 100 hits. There were two procedural ways in which this study differed from previous ones. Due to the study length, participants were asked to complete a simple attention check prior to beginning the study. Specifically, they were asked to rearrange the following words in alphabetical order: tomato, doubt, banana, lemon, and fragrance. Participants who failed the attention check skipped to the end of the study without answering any further questions. This was the only study to use an attention check. Second, an open-ended question (“Where do you live?”) rather than forced choice option was used

²⁶ <https://www.usnews.com/news/economy/articles/2020-05-01/reopening-the-economy-would-add-233-000-deaths-by-july-but-save-millions-of-jobs>.

²⁷ <https://www.forbes.com/places/tx/>.

²⁸ <https://www.theguardian.com/us-news/2020/may/11/texas-reopen-economy-coronavirus-covid-19>.

Table 9 Regression Results for Study 3 on Desirability of Shelter in Place

Variable	<i>B</i>	SE <i>B</i>	<i>T</i>	<i>R</i>	<i>R</i> ²	ΔR^2
Step 1				0.311	0.096	0.096
Gender (F)	-0.296	0.218	-1.358			
Gender (UR)	3.892	2.448	1.590			
Occupation (UE)	0.321	0.343	0.937			
Occupation (S)	0.063	0.570	0.110			
Occupation (R)	0.468	0.710	0.658			
Occupation (O)	0.555	0.711	0.781			
Occupation (UR)	-1.152	1.219	-0.945			
Age (18–24)	-0.238	0.460	-0.518			
Age (25–34)	-0.103	0.277	-0.374			
Age (45–54)	0.200	0.323	0.618			
Age (55–64)	-0.334	0.362	-0.923			
Age (> 65)	1.009	0.589	1.712			
Ethnicity (H)	0.057	0.459	0.123			
Ethnicity (B)	0.335	0.397	0.844			
Ethnicity (A)	0.648	0.342	1.893			
Ethnicity (O)	1.442	1.208	1.194			
Ethnicity (UR)	-3.212	1.717	-1.871			
Step 2				0.453	0.205	0.109***
SEC (Mean-Centered)	-0.018	0.008	-2.327*			
Step 3				0.464	0.216	0.010
Incidence (0=Low, 1=High)	0.356	0.207	1.721			
Step 4				0.532	0.283	0.067***
ESJ (Mean-Centered)	-0.611	0.142	-4.299***			
Step 5				0.535	0.286	0.003
ESJ × Incidence	0.180	0.171	1.054			

Coding Key: Gender: Male (M); Female (F); Unreported (UR). Occupation: Employed (E); Unemployed (UE); Student (S); Retired (R); Other (O); Unreported (UR). Ethnicity: White (W); Hispanic (H); Black (B); Asian (A); Other (O); Unreported (UR)

N = 275. Unstandardized coefficients are reported. Results presented are from the final model, but *R*, *R*², and ΔR^2 for each step of the model are included for completeness. For each control variable, the most common option was used as the reference category: Gender (male), Occupation (employed), Age (35–44 years), Ethnicity (White)

p* < 0.05, *p* < 0.01, ****p* < 0.001

to measured residency. Despite the fact that living in the United States was a requirement for participation, 15 participants explicitly reported residing in other countries. It is unclear whether these participants misread the question, reported their past residence, or were able to circumvent the platform's screening process—they were thus excluded from analysis. This left a sample of 269 MTurk workers from the US.²⁹ Their demographic indicators were *Gender*: female: 38.3%, prefer not to say: 0.7%; *Age*: median age range: 25–34 years; *Ethnicity*: Caucasian American: 72.5%; Asian: 5.9%; African American: 8.2%; Hispanic: 11.5%;

Others: 1.9%; *Location*³⁰: Northeast: 14.3%; Midwest: 14.9%; South: 37.1%; West: 33.7%; *Income*: Mean: \$69,087, S.D.: \$79,889). Participants in this study received \$0.75. The

³⁰ About 35% of participants wrote “America” or “United States” in response to the question “Where do you live?” Analyses are performed on participants who reported residing in a specific state.

Northeastern States: New England, Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island,

Vermont, New Jersey, New York, and Pennsylvania;

Midwestern States: Illinois, Indiana, Michigan, Ohio, Wisconsin, Iowa, Kansas, Minnesota, Missouri, Nebraska,

North Dakota, and South Dakota;

Southern States: Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, District of Columbia, West Virginia, Alabama, Kentucky, Mississippi, Tennessee, Arkansas, Louisiana, Oklahoma, Texas; *Western States*: Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming, Alaska, California, Hawaii, Oregon, and Washington.

²⁹ Results are not substantively different if these participants are included in analyses.

higher incentive was justified because the instrument took slightly longer to complete than those used in the first three studies. In this study, we attempted an ESJ manipulation (high vs. low). The high ESJ condition is read as follows:

“Scientists have been conducting research all over the globe for the past 4 decades to understand an economic system. They have made several observations that reveal some consistent and enduring patterns. Individual economic success depends on how hard you work rather than the help you get. The harder you work, for the most part, the more economically successful you are. In that sense, most people who don’t get ahead in society have only themselves to blame, and they should not blame the system. In essence, economic positions are indicative of people’s achievements, and it is extremely hard to change the economic system to make things equal. Consequently, extreme wealth and extreme poverty can co-exist, and there will be poor people and there will be unemployed people. Inequalities are simply a part of economic life, and the economic system is often a fair reflection of the ‘laws of nature.’”

The low ESJ condition was rewritten to attribute individual economic success to an unfair economic system and not indicative of how hard one works. Participants were then asked to state the main points of the article they read. The dispositional ESJ scale was included after the manipulation. Unfortunately, the manipulation was not successful at creating variation between high and low ESJ individuals as hoped. The effect of manipulated ESJ on the dispositional ESJ scale was not significant ($M_{Low_ESJ} = 4.59$, $SD_{Low_ESJ} = 1.89$; $M_{High_ESJ} = 4.77$, $SD_{Low_ESJ} = 1.37$; $F(1, 282) = 1.37$, $p = 0.243$), nor did it affect the dependent variable or any of the mediators ($ps > 0.34$). It is likely our manipulation was not strong enough to shift beliefs in economic system justification, which are often developed and reinforced over years. Thus, as with studies 1, 2, and 3, as well as prior literature, we used the ESJ scale as the independent variable of interest.

Next, participants read an excerpt from a business website about reopening the Texas economy. The main dependent measure is composed of five questions about respondents’ comfort with and support for the reopening (e.g., “To what extent do you support the decision of reopening Texas?” 1 = Not at all, 9 = Very much so) ($\alpha = 0.95$). Participants also responded to several exploratory items regarding their attitudes (see Supplementary Appendix for all items).

Measures of the mediators followed next. Participants first answered questions about the perceived severity of the pandemic, on two items (“I don’t believe the number of cases will be as high as predicted by the UT Southwest Medical Center, once the Texas economy reopens” and “I

don’t believe the coronavirus situation in Texas is as serious as it is made out to be” anchored by Strongly Disagree (1) and Strongly Agree (9); $r = 0.735$, $p < 0.001$). These items were reverse-scored so that higher values indicate greater perceived severity. Next, they responded to three items about the fairness/legitimacy of Texas reopening its economy for businesses (“Is it fair for Texas to reopen its economy on Monday?”; “How legitimate is it for Texas to reopen its economy on Monday?”; and “To what extent do you intend to unquestioningly accept Texas to reopen its economy on Monday?” 1 = Not at all, 7 = Extremely; $\alpha = 0.84$; higher scores indicated higher judgments of fairness/legitimacy). Finally, participants answered two questions about respect for individual rights and freedoms around the Texas reopening (“Please tell us the extent to which you agree or disagree with each of the following statements: Reopening the Texas economy is showing respect for freedom of expression; Reopening the Texas economy is showing respect for human rights”; 1 = Definitely Disagree, 9 = Definitely Agree; $r = 0.78$, $p < 0.001$; higher scores indicate greater respect for personal freedom).

As in the previous studies, participants then completed the SECS and reported their demographics, including annual household income. The social and economic subscales were significantly correlated ($r = 0.579$, $p < 0.001$) and additional analyses with separate subscales are reported in the Supplementary Appendix (Table 4a–c). Table 10 reports the correlations, means and standard deviations, and Table 11 reports the summary results of the HRA on the DV.

Results and Discussion

We first performed HRA to examine the relationship between ESJ, and the dependent and mediator variables. The first step included only control variables (i.e., participants’ gender, age, occupation, ethnicity, and mean-centered income), the next added SEC (mean-centered), and the third step included dispositional ESJ (mean-centered).

DV: Support for Reopening

The control variables accounted for 18.5% of the variation on support for reopening the economy, which was significant, $F(20, 248) = 2.818$, $p < 0.001$. Adding SEC explained another 25.5% of the variation, $F(1, 247) = 112.7$, $p < 0.001$. Including ESJ in the model explained an additional 12.4% of the variation over and above the aforementioned factors, and this change in R^2 was significant $F(1, 246) = 70.32$, $p < 0.001$. The full model with all predictors was also significant, $F(22, 246) = 14.5$, $p < 0.001$. In the final step of the model, ESJ was a significant predictor of reopening support ($B = 0.755$, $s.e. = 0.090$, $t(246) = 8.39$, $p < 0.001$). As hypothesized, high ESJ individuals were more likely to support

reopening than low ESJ individuals. SEC also had a significant effect on support ($B=0.036$, $s.e.=0.007$, $t(246)=5.41$, $p<0.001$). We reran the analyses using separate SEC subscales. In the final step of this model, the economic subscale was a marginally significant predictor, ($B=0.012$, $s.e.=0.007$, $t(245)=1.73$, $p<0.09$), while the social subscale was a significant predictor ($B=0.023$, $s.e.=0.006$, $t(245)=3.80$, $p<0.001$) of reopening the Texas economy.

Mediator: Perceived Severity

The control variables accounted for 12.3% of the variation on perceived severity, which was significant, $F(20, 248)=1.74$, $p<0.05$. Adding SEC explained an additional 12.9% of the variance, $F(1, 247)=42.7$, $p<0.001$. Including ESJ explained another 11.9% of the variation over and above the aforementioned factors, and this change in R^2 was significant $F(1, 246)=46.5$, $p<0.001$. The full model with all predictors was also significant, $F(22, 246)=6.61$, $p<0.001$. In the final step, ESJ was a significant predictor ($B=-0.836$, $s.e.=0.123$, $t(246)=-6.82$, $p<0.001$)—high ESJ individuals perceived the crisis to be less serious than low ESJ individuals. SEC was also a significant predictor, ($B=-0.20$, $s.e.=0.009$, $t(146)=-2.18$, $p<0.05$). When we reran the analyses using separate SEC subscales, neither the social nor economic subscales significantly predicted perceived severity ($ps>0.11$).

Mediator: Fairness and Legitimacy of Reopening

The control variables accounted for 19.0% of the variation on fairness judgements, which was significant, $F(20, 248)=2.91$, $p<0.001$. Adding SEC explained an additional 22.5% of the variance, $F(1, 247)=95.2$, $p<0.001$. ESJ explained 7.7% of the variation over and above the aforementioned factors, and this change in R^2 was significant $F(1, 246)=37.2$, $p<0.001$. The full model with all predictors was also significant, $F(22, 246)=10.8$, $p<0.001$. In the final step of the model, both ESJ ($B=0.389$, $s.e.=0.064$, $t(246)=6.10$, $p<0.001$) and SEC ($B=0.025$, $s.e.=0.005$, $t(246)=5.36$, $p<0.001$) were significant predictors. We reran the analyses using separate SEC subscales. In the final step of this model, the economic subscale was a significant positive predictor of perceived fairness of reopening, ($B=0.025$, $s.e.=0.005$, $t(245)=5.14$, $p<0.001$). The social subscale was not significant ($p>0.29$).

Mediator: Respect for Individual Freedom

The control variables accounted for 22.1% of the variation on respect for individual freedom, which was significant, $F(20, 248)=3.521$, $p<0.001$. Adding SEC explained an additional 16.7% of the variance, $F(1, 247)=67.23$,

$p<0.001$. Including ESJ explained another 4.0% of the variation over and above the aforementioned factors, and this change in R^2 was significant $F(1, 246)=17.27$, $p<0.001$. The full model with all predictors was also significant, $F(22, 246)=8.37$, $p<0.001$. In the final step of the model, both ESJ ($B=0.275$, $s.e.=0.066$, $t(246)=4.16$, $p<0.001$) and SEC ($B=0.023$, $s.e.=0.005$, $t(246)=4.78$, $p<0.001$) were significant. We reran the analyses using separate SEC subscales. In the final step of this model, both the economic ($B=0.030$, $s.e.=0.008$, $t(245)=3.53$, $p<0.001$) and social ($B=0.019$, $s.e.=0.007$, $t(245)=2.64$, $p=0.009$) subscales were significant predictors of respect for individual freedom.

Robustness Check

A two-step HRA without control variables was conducted as a robustness check (see Supplementary Appendix Tables 4b, c). Both ESJ and SEC significantly predicted support for reopening Texas in these analyses (ESJ: $B=0.766$, $s.e.=0.094$, $t(266)=8.13$, $p<0.001$; SEC: $B=0.035$, $s.e.=0.007$, $t(266)=5.07$, $p<0.001$). In other words, the results did not change substantively when control variables were removed from the analyses.

Multiple Mediation Analysis

We hypothesized that all three mediating constructs (perceived severity, fairness/legitimacy for businesses, and respect for human rights) are associated with ESJ and the Sustaining Livelihoods perspective. In this context, “the multiple-mediator model is likely to provide a more accurate assessment of mediation effects” (MacKinnon et al., 2007). Therefore, we conducted a multiple mediation analysis to examine the total indirect effect when all three mediators are included in the model simultaneously, as well as the indirect effect of each mediator while controlling for the other mediators (Lockwood & MacKinnon, 1998).

A multiple mediation analysis was conducted with 10,000 bootstrap samples (Hayes, 2017, model 4). Support for reopening the Texas economy was regressed on the three mediators which were regressed simultaneously on ESJ (mean-centered). SEC (mean-centered) was used as a covariate. The results revealed a significant total indirect effect, $B=0.4966$, 95% CI [0.3569, 0.6460]. Next, we examined the specific indirect effect of each of the three mediators. As predicted, all three mediators produced significant indirect effects of ESJ on support for reopening (severity: $B=0.1541$, 95% CI [0.0713, 0.2579]; legitimacy: $B=0.2614$, 95% CI [0.1423, 0.3899]; freedom: $B=0.0811$, 95% CI [0.0248, 0.1571]) (see Fig. 3).

The results of study 4 provide additional evidence for the focal hypothesis that ESJ is associated with a preference for Sustaining Livelihoods over Saving Lives in the

Table 10 Means, Standard Deviations, and Intercorrelations for Study 4 Variables (N=269)

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. ESJ	4.65	1.29	1	0.575**	0.543**	0.469**	0.621**	-0.518**	0.553**	0.596**	0.044	-0.002	-0.238**	0.152*	-0.073	-0.009
2. SEC Com- bined	55.6	17.4	0.575**	1	0.944**	0.815**	0.547**	-0.388**	0.529**	0.557**	-0.017	0.063	-0.259**	0.012	0.029	0.038
3. SEC Social	57.9	21.2	0.543**	0.944**	1	0.579**	0.515**	-0.349**	0.444**	0.502**	-0.015	0.056	-0.234**	0.016	-0.025	0.085
4. SEC Eco- nomic	52.3	16.9	0.469**	0.815**	0.579**	1	0.450**	-0.346**	0.529**	0.496**	-0.015	0.056	-0.230**	0.002	0.115	-0.056
5. Support	5.66	2.16	0.621	0.547**	0.515**	0.450**	1	-0.705	0.807	0.801**	0.019	0.012	-0.175	0.177	-0.029	-0.092
6. Severity	5.17	2.45	-0.518**	-0.388**	-0.349**	-0.346**	-0.705**	1	-0.661**	-0.722**	-0.057	0.033	0.136*	-0.131*	0.002	0.092
7. Fairness	4.54	1.42	0.553**	0.529**	0.444**	0.529**	0.807**	-0.661**	1	0.824**	0.018	0.020	-0.217**	0.154*	0.022	-0.058
8. Freedom	5.43	2.41	0.596**	0.557**	0.502**	0.496**	0.801**	-0.722**	0.824**	1	0.026	0.002	-0.160*	0.096	0.014	0.010
9. Gender (M)	0.61	0.49	0.044	-0.017	-0.015	-0.015	0.019	-0.057	0.018	0.026	1	-0.984**	-0.108	0.122*	-0.125*	0.035
10. Gender (F)	0.38	0.49	-0.002	0.063	0.056	0.056	0.012	0.033	0.020	0.002	-0.984**	1	-0.068	-0.097	0.128	-0.034
11. Gender (UR)	0.01	0.09	-0.238**	-0.259**	-0.234**	-0.230**	-0.175**	0.136*	-0.217**	-0.160*	-0.108	-0.068	1	-0.140*	-0.017	-0.011
12. Occu- pation (E)	0.93	0.26	0.152*	0.012	0.016	0.002	0.177**	-0.131*	0.154*	0.096	0.122**	-0.097	-0.140*	1	-0.693**	-0.434**
13. Occu- pation (UE)	0.04	0.19	-0.073	0.029	-0.025	0.115	-0.029	0.002	0.022	0.014	-0.125*	0.128*	-0.017	-0.693**	1	-0.024
14. Occu- pation (S)	0.01	0.12	-0.009	0.038	0.085	-0.056	-0.092	0.092	-0.058	0.010	0.035	-0.034	-0.011	-0.434**	-0.024	1
15. Occu- pation (R)	0.004	0.06	-0.137*	-0.129*	-0.146*	-0.062	-0.127*	0.096	-0.153*	-0.113	0.049	-0.048	-0.005	-0.216**	-0.012	-0.008
16. Occu- pation (O)	0.01	0.06	-0.116	-0.032	-0.006	-0.070	-0.115	0.092	-0.156*	-0.125*	-0.091	0.030	0.347**	-0.434**	-0.024	-0.015
17. Age (18-24)	0.04	0.20	0.005	-0.054	-0.020	-0.098	0.029	-0.022	0.047	-0.006	-0.143*	0.108	0.201**	-0.156*	-0.041	0.285**
18. Age (25-34)	0.55	0.50	0.028	0.020	0.033	-0.008	0.099	-0.059	0.013	0.137*	0.082	-0.081	-0.008	0.055	0.061	-0.011
19. Age (35-44)	0.21	0.41	-0.076	-0.076	-0.098	-0.018	-0.124*	0.065	-0.029	-0.137**	0.061	-0.053	-0.045	0.043	-0.006	-0.064
20. Age (45-54)	0.11	0.32	0.042	0.070	0.073	0.044	-0.016	-0.008	-0.015	-0.049	-0.080	0.085	-0.031	0.010	-0.007	-0.044
21. Age (55-64)	0.07	0.26	0.030	0.025	0.007	0.050	-0.016	0.052	-0.008	0.007	-0.017	0.022	-0.024	-0.032	-0.054	-0.034
22. Age (> 65)	0.01	0.11	-0.072	0.033	0.032	0.027	0.007	0.014	-0.016	-0.034	-0.060	0.062	-0.009	-0.105	-0.021	-0.013

Table 10 (continued)

M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
23. Age (UR)	0.004	0.030	0.009	0.000	0.023	-0.013	0.008	-0.002	0.014	-0.076	0.078	-0.005	0.017	-0.012	-0.008	
24. Ethnicity (W)	0.72	0.45	-0.014	-0.056	0.064	-0.003	0.073	-0.002	0.025	0.036	-0.046	0.053	-0.079	0.077	0.007	
25. Ethnicity (H)	0.12	0.32	0.030	0.017	-0.032	0.151*	-0.201**	0.137*	0.133*	-0.021	0.027	-0.031	0.102	-0.071	-0.044	
26. Ethnicity (B)	0.08	0.28	-0.045	0.038	0.018	0.065	-0.035	0.032	-0.031	-0.011	0.016	-0.026	0.033	-0.059	-0.037	
27. Ethnicity (A)	0.06	0.24	-0.061	-0.037	0.007	-0.212**	0.121*	-0.158**	-0.163**	-0.024	0.028	-0.022	-0.049	0.034	0.099	
28. Ethnicity (ME)	0.004	0.06	0.081	-0.004	-0.022	0.028	0.096	-0.153*	-0.113	0.049	-0.048	-0.005	0.017	-0.012	-0.008	
29. Ethnicity (PI)	0.01	0.12	0.005	0.041	0.059	-0.003	0.054	-0.042	0.003	-0.028	0.030	-0.011	0.035	-0.024	-0.015	
30. HH Income	69,087	79,889	0.079	0.091	0.080	0.085	0.009	0.063	0.008	0.043	-0.031	-0.066	0.013	0.048	-0.038	
15		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1. ESJ	-0.137*	-0.116	0.005	0.028	-0.076	0.042	0.030	-0.072	0.030	0.026	0.030	-0.045	-0.061	0.081	0.005	0.079
2. SEC Combined	-0.129*	-0.032	-0.054	0.020	-0.076	0.070	0.025	0.033	0.009	-0.014	0.000	0.038	-0.037	-0.004	0.041	0.091
3. SEC Social	-0.146*	-0.006	-0.020	0.033	-0.098	0.073	0.007	0.032	0.000	-0.056	0.017	0.044	0.007	-0.022	0.059	0.080
4. SEC Economic	-0.062	-0.070	-0.098	-0.008	-0.018	0.044	0.050	0.027	0.023	0.064	-0.032	0.018	-0.105	0.028	-0.003	0.085
5. Support	-0.127	-0.115	0.029	0.099	-0.124	-0.016	-0.016	0.007	-0.013	-0.003	0.151	0.065	-0.212	-0.132	-0.055	0.009
6. Severity	0.096	0.092	-0.022	-0.059	0.065	-0.008	0.052	0.014	0.008	0.073	-0.201**	-0.035	0.121**	0.096	0.054	-0.023
7. Fairness	-0.153*	-0.156*	0.047	0.013	-0.029	-0.015	-0.008	-0.016	-0.002	-0.002	0.137**	0.032	-0.158**	-0.042	0.063	0.008
8. Freedom	-0.113	-0.125*	-0.006	0.137*	-0.137**	-0.049	0.007	-0.034	0.014	0.025	0.113**	-0.031	-0.163**	-0.113	0.003	0.008
9. Gender (M)	0.049	-0.091	-0.143*	0.082	0.061	-0.080	-0.017	-0.060	-0.076	0.036	-0.021	-0.011	-0.024	0.049	-0.028	0.043
10. Gender (F)	-0.048	0.030	0.108	-0.081	-0.053	0.085	0.022	0.062	0.078	-0.046	0.027	0.016	-0.048	0.030	-0.031	0.066
11. Gender (UR)	-0.005	0.347**	0.201**	-0.008	-0.045	-0.031	-0.024	-0.009	-0.005	0.053	-0.031	-0.026	-0.022	-0.005	-0.011	-0.066
12. Occupation (E)	-0.216**	-0.434**	-0.156*	0.055	0.043	0.010	-0.032	-0.105	0.017	-0.079	0.102	0.033	-0.049	0.017	0.035	0.013
13. Occupation (UE)	-0.012	-0.024	-0.041	0.061	-0.006	-0.007	-0.054	-0.021	-0.012	0.077	-0.071	-0.059	0.034	-0.012	-0.024	0.048
14. Occupation (S)	-0.008	-0.015	0.285**	-0.011	-0.064	-0.044	-0.034	-0.013	-0.008	0.007	-0.044	-0.037	0.099	-0.008	-0.015	-0.038
15. Occupation (R)	1	-0.008	-0.013	-0.067	-0.032	-0.022	0.222**	-0.006	-0.004	0.038	-0.022	-0.018	-0.015	-0.004	-0.008	-0.015
16. Occupation (O)	-0.008	1	0.130*	-0.135	-0.064	0.054	0.086	0.279**	-0.008	0.007	-0.044	0.075	-0.031	-0.008	-0.015	-0.065
17. Age (18-24)	-0.013	0.130*	1	-0.227**	-0.107	-0.073	-0.057	-0.022	-0.013	0.001	0.043	0.007	-0.052	-0.013	-0.025	0.161**

Table 10 (continued)

	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
18. Age (25–34)	-0.067	-0.135*	-0.227**	1	-0.569**	-0.389**	-0.303**	-0.117	-0.067	-0.076	0.048	0.027	0.008	0.056	0.050	-0.088
19. Age (35–44)	-0.032	-0.064	-0.107	-0.569**	1	-0.184**	-0.143*	-0.055	-0.032	-0.068	0.012	0.011	0.100	-0.032	0.011	0.012
20. Age (45–54)	-0.022	0.054	-0.073	-0.389**	-0.184**	1	-0.098	-0.038	-0.022	0.060	-0.054	0.024	-0.039	-0.022	-0.044	0.082
21. Age (55–64)	0.222**	0.086	-0.057	-0.303**	-0.143*	-0.098	1	-0.029	-0.017	0.170**	-0.099	-0.082	-0.069	-0.017	-0.034	-0.044
22. Age (>6)	-0.006	0.279**	-0.022	-0.117	-0.055	-0.038	-0.029	1	-0.006	0.065	-0.038	-0.032	-0.027	-0.006	-0.013	-0.026
23. Age (UR)	-0.004	-0.008	-0.013	-0.067	-0.032	-0.022	-0.017	-0.006	1	0.038	-0.022	-0.018	-0.015	-0.004	-0.008	-0.038
24. Ethnicity (W)	0.038	0.007	0.001	-0.076	-0.068	0.060	0.170**	0.065	0.038	1	-0.586**	-0.484**	-0.408**	-0.099	-0.199**	0.061
25. Ethnicity (H)	-0.022	-0.044	0.043	0.048	0.012	-0.054	-0.099	-0.038	-0.022	-0.586**	1	-0.108	-0.091	-0.022	-0.044	-0.127*
26. Ethnicity (B)	-0.018	0.075	0.007	0.027	0.011	0.024	-0.082	-0.032	-0.018	-0.484**	-0.108	1	-0.075	-0.018	-0.037	-0.014
27. Ethnicity (A)	-0.015	-0.031	-0.052	0.008	0.100	-0.039	-0.069	-0.027	-0.015	-0.408**	-0.091	-0.075	1	-0.015	-0.031	0.076
28. Ethnicity (ME)	-0.004	-0.008	-0.013	0.056	-0.032	-0.022	-0.017	-0.006	-0.004	-0.099	-0.022	-0.018	-0.015	1	-0.008	-0.015
29. Ethnicity (PI)	-0.008	-0.015	-0.025	0.050	0.011	-0.044	-0.034	-0.013	-0.008	-0.199**	-0.044	-0.037	-0.031	-0.008	1	-0.002
30. HH Income	-0.015	-0.065	0.161**	-0.088	0.012	0.082	-0.044	-0.026	-0.038	0.061	-0.127*	-0.014	0.076	-0.015	-0.002	1

Coding Key: Gender: Male (M); Female (F); Unreported (UR). Occupation: Employed (E); Unemployed (UE); Student (S); Retired (R); Other (O); Unreported (UR). Ethnicity: White (W); Hispanic (H); Black (B); Asian (A); Middle Eastern (ME); Native Hawaiian or Pacific Islander (PI)

* $p < 0.05$, ** $p < 0.01$

Table 11 Regression Results for Study 4 on Support for Reopening the Economy

Variable	<i>B</i>	SE <i>B</i>	<i>T</i>	<i>R</i>	<i>R</i> ²	ΔR^2
Step 1				0.430	0.185	0.185***
Gender (F)	-0.030	0.196	-0.153			
Gender (UR)	0.367	1.21	0.303			
Occupation (UE)	0.041	0.493	-0.084			
Occupation (S)	-1.931	0.804	-2.40*			
Occupation (R)	-0.829	1.55	-0.534			
Occupation (O)	-1.565	0.861	-1.82			
Occupation (UR)	-3.53	1.51	-2.34*			
Age (< 18)	1.66	1.52	1.09			
Age (18–24)	0.620	0.521	1.19			
Age (35–44)	-0.503	0.305	-1.59			
Age (45–54)	-0.503	0.305	-1.65			
Age (55–64)	-0.372	0.383	-0.971			
Age (> 65 years)	0.908	0.924	0.983			
Age (UR)	-1.28	1.50	-0.850			
Ethnicity (H)	0.616	0.300	2.05*			
Ethnicity (B)	0.533	0.342	1.56			
Ethnicity (A)	-1.36	0.396	-3.44***			
Ethnicity (ME)	-6.14	1.50	-4.09***			
Ethnicity (H/P I)	-1.31	0.756	-1.73			
Income (Mean-Centered)	-1.15E-6	0.000	-0.958			
Step 2				0.647	0.419	0.257***
SEC (Mean-Centered)	0.036	0.007	5.41***			
Step 3				0.743	0.552	0.134***
ESJ (Mean-Centered)	0.755	0.090	8.39***			

Coding Key: Gender: Male (M); Female (F); Unreported (UR). Occupation: Employed (E); Unemployed (UE); Student (S); Retired (R); Other (O); Unreported (UR). Ethnicity: White (W); Hispanic (H); Black (B); Asian (A); Middle Eastern (ME); Native Hawaiian or Pacific Islander (PI)

N = 269. Unstandardized coefficients are reported. Results presented are from the final model, but *R*, *R*², and ΔR^2 for each step of the model are included for completeness. For each categorical control variable, the most common option was used as the reference category: Gender (male), Occupation (employed), Age (35–44 years), Ethnicity (White)

p* < 0.05, *p* < 0.01, ****p* < 0.001

US. High ESJ individuals were more likely to downplay the seriousness of the virus and support reduced government intervention and reopening of the US economy, even as health experts warn there could be dire effects of doing so too soon.³¹ Consistent with previous studies, this effect continued to be prominent after controlling for SEC. Further, with respect to the potential mechanisms, high ESJ individuals were more likely to believe that reopening the economy is fair and legitimate, and respects individual rights, and perceived the COVID-19 crisis to be less serious than low ESJ individuals. All three of these factors significantly mediated the relationship between ESJ and support for reopening, providing insight into proximate psychological variables

that contribute to preference for the Sustaining Livelihoods viewpoint.

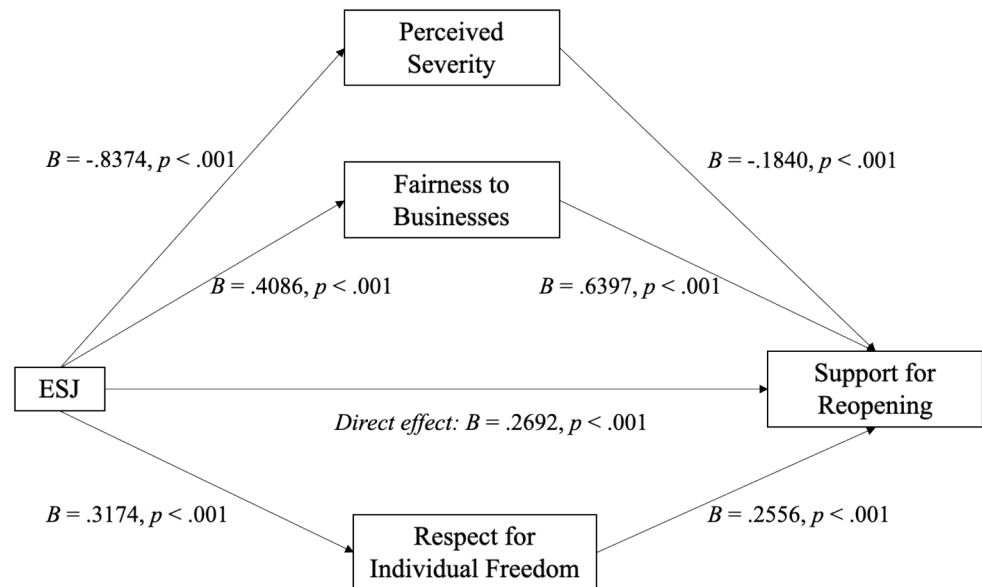
General Discussion

The unprecedented COVID-19 pandemic has led to millions of job losses, concomitant threats to job security, countless businesses struggling or shutting down, and over 2.4 million deaths worldwide. Our research examines the impact of SEC and ESJ on judgments of four controversial consequences of COVID-19 that epitomize the tradeoff between Sustaining Livelihoods and Saving Lives: China's perceived initial response to the outbreak, the shift to remote learning, shelter-in-place orders, and reopening the Texas economy.

The results for each of the four studies with an aggregate sample size of close to 1,000 respondents

³¹ <https://www.npr.org/2020/05/09/853052174/public-health-experts-say-many-states-are-opening-too-soon-to-do-so-safely>.

Fig. 3 ESJ's Influence on Support for Reopening Texas Mediated by Free Enterprise and Perceived Seriousness of COVID-19



representing varied US demographics (see Summary Table 12) support ESJ's role in predicting perceptions of the appropriateness of these actions over and above political ideology.³² In addition to documenting these robust effects of ESJ, our research reveals that “It may not all be politics.” To a large extent (though less robust compared to ESJ), political ideology indeed predicts the stereotypical expectation—conservatives are more supportive of Sustaining Livelihoods than liberals who endorse Saving Lives more. However, this PI predicated framework does not appear to be the complete story. System justification, especially economic systems, appears to play a central role in this debate.

The uniqueness of COVID-19 and the speed and span of its spread have created considerable ethical tension for policy makers and businesses/employers—that of prioritizing between two mutually reinforcing values of the collective good—Sustaining Livelihoods or Saving Lives. Hence, beyond the theoretical interest of distinguishing value-laden belief systems like ESJ from broader political ideologies like conservatism, the insights from this research may be useful in bridging the current political divide and nudging Americans to seek data-driven solutions proposed by the scientific community. Such considerations are especially useful for policy makers who often make crucial decisions based on guesswork about what their constituents want or the best way to serve them. Such steps could also help high and low ESJ people see different perspectives and support middle way alternatives that benefit the workforce, which is

experiencing economic and social hardship like never before in living memory.

COVID-19 has presented a novel conundrum in business ethics. Perhaps, the most fundamental decision businesses must make at this moment is whether to open at all. Risk of virus transmission increases with social activities, even with the best intentions and most stringent precautionary measures. In many cases, the decision of what to do is entirely up to the business owners and employees. For example, when an executive order closed down bars that do not sell food, some bars opted to offer simple concessions like \$1 “Cuomo chips” and “9 French fries” to be technically compliant with the rule.³³ Other owners realized the difficulty of maintaining social distancing in the presence of alcohol and vowed to remain closed even if it meant laying off employees and threatening the future of their business. When making these difficult choices, business leaders undoubtedly consider the Sustaining Livelihoods over Saving Lives tradeoffs laid out in this paper.

In recent memory, US businesses have rarely been expected to ensure the health and other basic needs of their employees or customers. Now, some business owners refuse to remain beholden to the ever-changing policy directives on the pandemic and may voluntarily consider policies that go beyond mere compliance. Examples of ethical business practices aimed at employees include *flexible work schedules*, reduced hours, part-time reduction in benefits, reassignments, shared work leave, ensuring furloughed workers have access to health insurance, voluntary retirement, directing some of their CSR budgets toward employees, and

³² A fifth study examining ESJ and SEC on price gouging during COVID-19 shows supportive results and is reported in the Supplementary Appendix.

³³ https://www.vice.com/en_us/article/dyz44j/bars-are-serving-ridiculous-dollar1-menu-items-to-stay-open-during-covid-restrictions.

Table 12 Summary of Results for all Studies

Study	DV	ESJ B	ESJ ΔR^2	SEC total B	SEC ΔR^2	SEC econ B	SEC social B
1	Judgment of China's COVID-19 Response	0.587***	0.055**	0.14	0.067***	0.012	-0.003
2	Support for Online Learning	-0.362*	0.019*	-0.028**	0.144***	-0.033**	-0.005
	Support for In-Person Learning	0.575*	0.028*	0.032	0.136***	0.036**	0.006
	Free Enterprise	10.7***	0.115***	0.385***	0.346***	0.409***	0.092
	Perceived COVID-19 Severity	-0.342*	0.018*	-0.031***	0.167***	-0.042***	-0.002
3	Support for Shelter in Place	-0.611***	0.067***	-0.018*	0.109***	-0.036***	0.008
4	Support for Reopening the Economy	0.755***	0.134***	0.036***	0.257***	0.012	0.023***
	Perceived COVID-19 Severity	-0.836***	0.119***	-0.020*	0.129***	-0.006	-0.015
	Fairness and Legitimacy of Reopening	0.389***	0.077***	0.025***	0.225***	0.025***	0.004
	Respect for Individual Freedom	0.275***	0.04***	0.023***	0.167***	0.030***	0.019**

Unstandardized coefficients are reported. Results presented are from the final model, in which control variables were entered in Step 1, SEC total (centered) in Step 2, and ESJ (centered) in Step 3. Coefficients for separate SEC subscales are included for completeness

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

working with government to use mobile technology to speed up contact tracing exponentially. In fact, in the absence of consistent policy directives, many businesses are voluntarily providing the public good of 'health protection' such as requiring masks to receive service, facilitating customer social distancing by creating one-way aisles, outdoor seating, and offering no-touch services where possible to assure customers that they are cognizant of their safety concerns while continuing to offer services and remaining viable.

Despite its contribution to understanding the COVID-19 landscape, our research is not without limitations. First, all four studies are correlational, making statements of causation unreliable. We tried addressing this challenge by testing a home-grown manipulation for high and low ESJ beliefs based on the ESJ scale items but were unsuccessful. Another limitation of this work is that it relies on cross-sectional data for mediation analyses. Questions have been raised about the appropriateness of mediation in such samples (Green et al., 2010; Kline, 2015; MacKinnon et al., 2000). For instance, MacKinnon et al. (2000) argue that mediation, confounding, and suppression effects are statistically very similar and thus difficult to differentiate without strong theoretical support. It would, therefore, be beneficial for future research to examine the causal impact of ESJ beliefs on attitudes toward the current crises.

Our findings may also be bounded by the country setting (all respondents are from the US). Indeed, Cichoka and Jost (2014) while comparing system justification in 20 countries representing capitalist and post-Communist societies conclude: "...there are lower levels of system justification in post-Communist countries. At the same time, we find that system justification possesses similar social

and psychological antecedents, manifestations, and consequences in the two types of societies" (p. 6). The implication appears to be that the framework and the findings may need to be carefully interpreted in the context of countries where system justification may be at a lower level. It will be particularly insightful to test our model in these non-US settings.

It is also possible that other system justifying beliefs (e.g., Social Dominance Orientation (SDO)—Pratto et al., 1994; Belief in a Just World (BJW)—Furnham, 2003) predict COVID-19 reactions. In fact, Jost et al., (2003a) report significant correlations between several system justifying ideologies including ESJ, SDO, Power Distance Belief, and BJW, among others. However, other system justifying ideologies are less proximate to the economy and the Sustaining Livelihoods viewpoint than ESJ. It is possible that different types of system justifying ideologies will have varying degrees of impact on economic-relevant judgments, a hypothesis that should be investigated by future research.

Fair Market Ideology (FMI) is another well-known system justification belief. FMI represents justification of a specific economic system (market economy), whereas economic system justification focuses on economic systems in general with an emphasis on the in-built wealth inequality. FMI and ESJ have been reported to be positively correlated in the US (Jost et al., 2003a, b). Because both concepts are focused on the economic system, future research should aim to tease apart their contribution, possibly by testing our predictions in multiple country settings as stated above, while measuring FMI and ESJ simultaneously as covariates.

Although MTurk samples are reliable, efficient, and representative (Buhrmester et al., 2011), it would be useful to generalize the results to other samples. Such cross-sample investigation is especially important considering the widespread impact of COVID. There remain multiple questions about ESJ's link to Sustaining Livelihoods versus Saving Lives that have important ethical implications. For example, will high ESJ individuals be accepting of more deaths, particularly those of more vulnerable populations, if the economy turns around sooner as a consequence? Might high ESJ people be willing to try untested medication if doing so promises more expedient reopening of the economy? Recently, cases have begun to emerge of suspected data suppression and manipulation relating to the infection and mortality rate of COVID.³⁴ Taking a cue from this phenomenon, are high ESJ people willing to suppress mortality and/or medical efficacy evidence to catalyze businesses getting back into business? In some countries, governments are rumored to be using the COVID situation to take greater control of peoples' lives to further their agendas. Might COVID serve as a springboard for manipulating political agendas and even elections?

Never before has the world faced such a direct conflict between sustaining livelihoods and saving lives, a conflict replete with ethical, moral, monetary, and mortality-related challenges and pitfalls. Our research takes this conflict head on. Our findings illuminate the psychological mechanisms that are responsible for a bias toward sustaining livelihoods versus saving lives beyond political ideology. Even though our investigation captures a moment in time specific to a global challenge evolving and morphing daily, the pandemic-related tension between the economy and public health, particularly in free-market economies, seems to be a perennial one.³⁵

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s10551-022-05091-4>.

Declarations

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee (Institutional Review Board,

University of Washington) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the studies.

Research Involving Human and or Animal Participants This article does not contain any studies performed on animals by the author(s).

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³⁴ <https://www.perc.net/covid19-credit-data-suppression-deletion-harmful/>.

³⁵ Ladd, Chris (2017, March 7). There is Never a Free Market in Health Care. Forbes, <https://www.forbes.com/sites/forbespr/2020/07/08/more-than-half-of-tycoons-on-2020-forbes-korea-rich-list-see-net-worth-shrink-amid-pandemic/#5ca176b65073>.

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