

Understanding COVID-19 virus pandemic in terms of behavioral economics in terms of how people think and learn

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ABSTRACT

The COVID-19 pandemic is an active extreme acute respiratory virus syndrome (SARS-CoV-2). It has many effects on many areas ranging from education to culture to economics. However, it can be said that the most important effect is on economics. The outbreak has become the world economy's most destabilizing threat so far. For example, Tourism is among the worst affected industries impacted by travel restrictions, public area closures. Hundreds of millions of jobs could be lost globally. In this context, it is important to examine its economic effects in terms of different perspectives. One way of looking at COVID-19 pandemic can be based on behavioral economics. Although in traditional economics, while the individual is defined as being purely self-interested and at the same time callous, acting for maximum benefit, behavioral economics theory aims to highlight the human factors such as anxiety, fear, risk aversion, motivation, and happiness in the economic decisions. Rather than examining the COVID-19 pandemic based on purely monetary terms, it is important to investigate it in terms of psychological and economical effects to attain a more realistic picture. This study is of great significance for the literature since the application of behavioral economics principles to guiding human behavior is discussed. In this regard, the paper aims to examine the COVID-19 pandemic in the context of behavioral economics. The data analysis is based on a literature review. The sample of the study consists of documents containing the concepts of COVID-19 virus and "behavioral economics". To sum up, we have long known that the cause for change is learning. Hence, if we learn how learning occurs, we can propose some models to increase public awareness regarding the pandemic. In this respect, behavioral economics can give some insights into this issue. According to our results, nudging people towards positive health choices is a successful method of encouraging not only cost-efficient intervention but also healthier behavior. Additionally, biases such as status quo bias, optimism bias, loss aversion, affect heuristic, social contracts can be used to guide to enable people to take more preventive measures. Information is also an important factor for acknowledging the public sick leave is an important issue that will affect the current social contract.

I. Introduction

Economics has emerged as a social science discipline crossing with many different fields and their unique methods. It is a broad discipline influenced by social and natural sciences, including sociology, anthropology, psychology, neuroscience, and evolutionary biology (Baddeley, 2019). Behavioral economics examines the effects and consequences of psychological factors in economical behavior, decisions, and choices. It carries out theoretical, analytical, empirical, and experimental studies, mostly dealing with mental errors. Therefore, theories, analytics, empirical and experimental studies are conducted, mainly about insufficient mental capacity and incomplete information. The starting point of behavioral economics is the idea that the "rationality" assumption prevailing in traditional economics is not always and everywhere hold on (Aktan, 2018). The neglect of psychological considerations in economics has led to individuals being regarded merely as rational beings, sometimes as a kind of machine. Moreover, the unreasonable aspect of human beings has been drawn to various field studies such as neuroscience, anthropology, and sociology. Therefore, the results from various disciplines, particularly in the field of psychology, are of interest to new economic models (Eser & Togonbaeva, 2011).

In traditional economics, whereas the individual is defined as being utterly utilitarian and at the same time callous, acting for maximum benefit, behavioral economics theorists seek to underline the human aspects, emphasize that emotions like anxiety, terror, aversion to risk, excitement, and satisfaction influencing economic decisions (Can, 2012). For instance, emotions play a role, linking to the affect heuristic (Slovic, 2007). The belief that individuals are imperfect processors of knowledge that can make rational choices is weakened by a tendency to rely on cognitive shortcuts underpins liberal paternalism (and behavioral economics in general).

In social psychology and social science, this paradigm has a long history. The perspective that human is "cognitive misery," normally processing and reacting in a way that minimizes analytical demands but creates errors, comes straight from the perspective (Mols, 2020). Therefore, behavioral economists suggest that rational man with unlimited computing ability and full knowledge tends to have limited rational or irrational behaviors (Kapelushnikov, 2005). Research shows that this understanding can produce healthier and more realistic results, and more realistic economic models can be proposed with stronger predictions (Ruben & Dumludağ, 2015).

The COVID-19 pandemic posed a massive global health crisis. For the first time in human history, nations globally have pushed their citizens into absolute involuntary lockouts to try to stop the death rate from approaching millions. Many firms in the world, which have been considered non-life sustaining," have been forced to shut down their doors, leaving millions of enormous workers. We also established something called social distance which means that you remain at least 6 meters far away from others. On the occasional times where we encounter people we know, we no longer shake hands, embrace, or get in touch physically (Malafarina, 2020). The 'Test, Trace, Isolate' can also have similar points. In short, the technique completely relies on the ability of individuals to be checked, supervised, and then separated. Compliance with locking and mask-wearing is therefore relevant here. A particular problem is the matter of monitoring. Many countries require people to download an application on their telephones that gathers data on their proximity to others or instead to other telephones). This knowledge will also be used by health authorities to monitor the individuals they have had contact with if anyone tests positive. But there are questions raised in this issue such as "Can the system operate by enough people?" and "Will they be

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pleased with the specifics of the social relationships of a state agency?" or, "Groups, who are more anti-government readily submit to this particular type of controlling 'Big Brother?'" (Jetten et al., 2020).

As an outgrowth of COVID-19 strategies, social policies are becoming a priority. Public health and schooling are rapidly in demand with raising awareness of the unequal effect on minority populations. Avoiding adoring capital and encouraging it to manipulate any decision for the benefit of the people have been come to the fore. COVID-19 has encouraged us to learn again how we can appreciate life's simplicity and note that material things are not what make us happy because we have seen that being wealthy does not mean being the best. COVID-19 virus has become a balancing force. (Matthews, 2020). It should be kept in mind that significant macroeconomic consequences over 40 years, significantly suppressing real return rates as seen in a report on the long-term economic results of the major pandemics across history. That is in contrast to wars that have the contrary effect: they destroy resources while pandemics do not – wars cause higher real interest rates and indicate higher economic activity. Consumers often appear to respond to the trauma, either because of new problems or by merely replacing the wealth lost during the outbreak (Schwab & Malleret, 2020). Hence, there's no turning out if states don't want to catch up with public health. Thus, prioritizing public health after a pandemic is politically sensitive to understand something about how the pandemic will be controlled (Guns, 2020).

The reason a pandemic is awful is that it limits our limited resources even more. Without a decline in population health or vice versa, we cannot maintain the amount of the economy we used to have. The two reasons are (1) that a pandemic breaks down our ability to sustain the same equilibrium between health and economy and (2) that our target allocation affects our decisions in the future (Gans, 2020). Therefore, change in economics result in a change in the psychology and behavior of the masses as well. Since the situation needs drastic adjustments in actions and imposes significant psychological pressure on citizens, it is important to examine the economic aspects of it in the context of psychology. We should have a psychological analysis that acknowledges that humans, not the problem, but the solution. First of all, the pandemic COVID-19 still concerns psychology of the society which is why it would be important to consider how people are feeling and grasp why the virus is reacting if we're to cope effectively with pandemic. Secondly, the pandemic concerns of particular group psychology. People are primarily a part of a society and are likely to be best influenced throughout the dark days, for the benefits of their group. However, we have to be particularly cautious about the concept of the group. We are all in serious trouble if we fall from 'we-thinking' to 'we-and they thinking. Thirdly, we critically need a framework to explain how individuals shape groups, how they function as groups, how they act in groups, and how groups draw their borders more or less conclusively (Jetten et al., 2020). Therefore, behavioral economics comes to the fore to better understand this subject in this context. The aim of this paper, hence, is to analyze the current crisis within the context of behavioral economics.

2. Methodology

As qualitative research is based on document analysis, this research is a theoretical review. This theoretical review adopts the characteristics in line with the qualitative research design. In particular theoretical reviews are useful where the literature is complex, multidisciplinary, or disputable (Campbell, Egan & Lorenc et al., 2014). The theoretical literature review helps to determine what theories already exist, how they relate to each other, and to contribute and the development of new hypotheses for testing (Bowen, 2009). The analysis method of the research is based on the relevant concepts of behavioral economics in the context of COVID-19 pandemic. Since it is a theoretical review based on document analysis, relevant literature was examined in the context of the keywords as behavioral economics and COVID-19 pandemic and they are synthesized in a way that a coherent theoretical framework can be proposed.

COVID-19 virus pandemic in the context of behavioral economics

One of the consequences of the COVID-19 virus pandemic is fear in social life. Some studies suggest that strong fear calls only yield the greatest change in behavior if people are experiencing a deep sense of effectiveness, whereas deep anxiety induces the highest degree of protective reactions by low-performance signals (Bavel et al. 2020). In this respect, minimization of the spread of virus is the first issue to be handled. To minimize the risk of contamination, individuals

can take a social distance if they have awareness of this issue. However, they ignore the consequences they may have on people who are infected while making these decisions (Guns, 2020). Therefore, rather than pumping risk culture, both governments and media enable people to feel a sense of efficacy not by disregarding relevant measures. What governments and we can do can be given as below (Kinder, 2020):

- Continue to work to diversify the ways we reach out to people, children, and their families,
- Prepare ourselves to receive them individually and professionally on the return to their job, school as soon as possible,
- Put together plans to allow all of us to connect and nurture those who are most insecure and vulnerable and,
- Make sure we are solid, energized, and linked ready,
- Help each other in fresh, trauma-informed ways, our students, and their families.

However, those suggestions are very abstract, and we need to make concrete strategies that can be found in behavioral economics. Therefore, we investigate some biases that are focused on behavioral economics to more effectively use public campaigns.

2.1. Present Bias

Humans prefer short-term gains, and these are called present biases, that appear to take part and lend more importance to knowledge that is readily available than information that is not available (Tversky & Kahneman, 1973). For example, politicians may use the availability bias to send people a list of behavioral choices where certain habits they want people to participate in are prominent, while they are less prominent or lacking in them (Mols, 2020). The strange phenomenon of toilet paper hoarding provided some light relief from shocking headlines about COVID-19's brutal spread across the globe, but hoarders' unusual buying patterns, for example, the panicked buying of toilet paper, is difficult to explain in purely economic terms but it can be explained by present bias. It does not suit well to presume that toilet paper hoarding is the product of sound planning choices believed in traditional economics because some individuals have bought vast amounts and trying to return them to shops within weeks (Baddeley, 2020).

In unpredictable circumstances, people prefer to make judgments on the grounds of potential risks instead of the real catastrophe itself (Slovic, Fischhoff, & Lichtenstein 1980). Such destructive incidents (e.g., snowfall, tornados) in which consumers unusually purchased high quantities of stocks in fear of possible future shortages demonstrated the same pattern of customer panic buying (Yoon, Narasimhan & Kim 2018) just as Zizek (2020) emphasized:

"Panic has a logic of its own. The fact that, in the United Kingdom, due to the COVID-19 virus panic, even the toilet paper rolls disappeared from the stores reminds me of a weird incident with toilet paper from my youth in Socialist Yugoslavia. All of a sudden, a rumor started to circulate that there, not enough toilet paper was available. The authorities promptly issued assurances that there was enough toilet paper for normal consumption, and, surprisingly, this was not only true, but people mostly even believed it was true. However, an average consumer reasoned in the following way: I know there is enough toilet paper and the rumor is false, but what if some people take this rumor seriously and, in a panic, start to buy excessive reserves of toilet paper, causing an actual shortage? So, I better buy reserves myself. It is not even necessary to believe that some others take the rumor seriously—it is enough to presuppose that some others believe that there are people who take the rumor seriously—the effect is the same, namely the real lack of toilet paper in the stores. Is something similar not going on in the UK and California today?"

The trouble with availability is that decision-makers have overweight immediate and observable advantages and costs, as well as underweight retarded advantages and intangible costs. This is often related to economic behavioral observations into the existing preconditions – the propensity to extreme short-termism (Baddeley, 2020). Therefore, present bias can be used also to guide people to act following the COVID-19 precautions. We need judgment mechanisms to avoid relying on current events and events which are easy to remember in the fighting against availability biases by asking ourselves questions such as "Does the present COVID-19 virus pandemic look like the previous pandemics?", "Are the causes, signs, or results identical?" or "Is our emotional reaction, our gut instinct then forces us, where none exist to draw patterns?".

In the case of COVID-19, the inability to adhere to stay-at-home policies involves a balance between going to the mall or restaurant now (current benefit) and the potential possibility of COVID-19 contracting in the future (uncertain costs in future). Uncertain future costs imply not every excursion outside the house would lead to a COVID-19 infection. Therefore, individuals with present bias who prioritize here and now are less inclined to conform with COVID-19 avoidance actions, like sitting at home and washing hands. Therefore, reducing the current costs of adherence to social distancing may help people overcome their present bias. To motivate individuals to stick to COVID-19 protective conduct such as providing free internet access at home, temporary suspension of loan repayments, etc. can be useful to overcome present bias in this regard (Soofi, Najafi, & Karami, 2020). Politicians could restrict their present bias tendency by passing legislation demanding an assessment of the impact on saved lives or life-years to support policy responses. Leaders may even improve their commitment to such steps as compulsory quarantine by encouraging their electorates' future thinking (Halpern, Truog & Miller, 2020). In the light of the COVID-19 pandemic, it is more possible that people perceive the sequence of COVID-19 more seriously in terms of mass media coverage so they can more readily remember these harmful effects of COVID-19. To address the state of panic or widespread anxiety, cases of recovery can be presented much more than the cases of infection and mortality. Indeed, the results show that survival rates are far higher than the death or illness incidence (Gaurav, 2020).

2.2. Status quo bias and Nudges

Status quo bias is an emotional bias; a preference for the current state of affairs. A reference point is a current standard (or status quo) and any deviation from it is viewed as a loss. We will never get out of bed if we had to make a deliberate decision. The default is usually accepted¹. This bias can be used to encourage health improvement by using "nudges." A nudge is any minor aspect that catches our interests and affects our actions in the environment. Nudging takes advantage of our biases and heuristics to direct our choices in a certain way without even understanding we are being driven. Therefore, nudging makes us act 'reflexively', rather than 'reflectively'.¹. In behavioral psychology, the principle of "nudge" was developed to encourage individuals to act rationally and make wise choices (Soofi, Najafi, & Karami, 2020). Nudges use psychology to direct people in making specific choices by designing architectures of choice that frame or highlight options. Initially, the positive behavioral change appears to follow as we begin with infrastructural changes that create attractive and safe environments to interact. It should be reminded that behavioral change does not inherently require altering the climate of the environment, but rather interventions that target psychological barriers such as lack of attention, lack of motivation to change behavior, and poor habits (Meder, Fleischhut, & Osman, 2018). In this way, the Western world's policymakers have used a series of tried and tested nudges to support people in recycling, retirement, and donating organs. Evidence shows that when dealing with comparatively uncomplicated political problems, this strategy can be very successful. Although in dealing with complicated (such as sophisticated) policy challenges, this usefulness is less well-proven (Mols, 2020).

Concerning COVID-19 policies on avoidance, citizens are often motivated by organizing standards in the setting under which COVID-19 decisions are taken under hygiene activities such as frequent hand washing (Soofi, Najafi, & Karami, 2020). Institutions can build their places of work such that staff may conveniently obey the rules of physical space because the most likely location where you get infected is by a friend or relative who brought them into your house. It's because you have plenty of face-to-face interaction indoors while you are home (Mosley, 2020). Transmission of SARS-CoV-2 infection; The duration of exposure varies depending on the use of personal protection measures and personal factors. The risk of contamination increases especially in close contact, long-term contact, and indoors. Most secondary infections occur in households, healthcare workers who do not use personal protective equipment, or in prisons, homeless shelters, elderly care centers (Geren, 2020). How rapidly an infection is spread from person to person depends on the scale of an outbreak. While the studies have only just begun, scientists expect that any person with the new COVID-19 virus could infect 1,5 to 3,5 people elsewhere without effective containment measures (Osler, 2019). Thanks to smart detective work, Chinese researchers have been able to show

just how easily the virus can spread in a restaurant. The following sketch illustrates the architecture in a restaurant in Guangzhou, China of a single bed. On the 24th of January, the guy called A1 and who had no symptoms then came from Wuhan into Guangzhou and had lunch with his family in the restaurant. He felt sick and went to the nearest hospital later that evening, where he checked COVID-19 positively.

Within a week, COVID-19 was also positively evaluated by four other family members, including five other individuals who were at the same time in the restaurant sitting at Tables B and C. The restaurant was air-conditioned, and the fan was well ventilated. No one in tables E or F seems to be infected, maybe because they have been out of the principal airflow (Mosley, 2020).

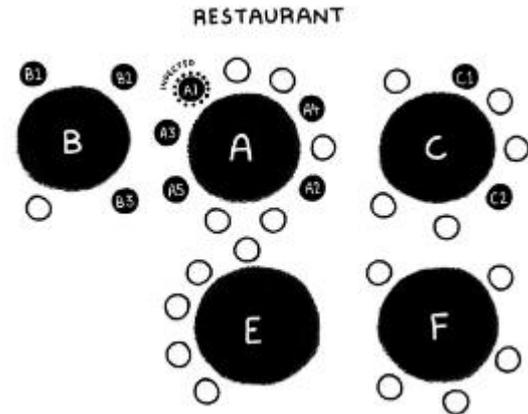


Figure 1: The spread of a virus in a restaurant (Mosley, 2020).

Therefore, we should remove chairs instead of waiting to be in any other position, and schedule "in" and "out" doors and surprising times, instead of waiting for any employee to deliberately keep 6 meters away¹. Behavioral economics provides a basis for the impact on human decisions and choices in health and safety (e. g. framing effects, moral appeals, defaults, and position effects) (Li & Chapman 2013). For example, Dellaria gives some suggestions in markets and offices in the context of nudges as follows¹:

- The mixture of simple foodstuffs for each aisle might prevent gathering and long lines of the people who wait to collect those items instead of getting a single product group per aisle (eg, the bread aisle, the canned food aisle, etc).
- Indicating the safe distance by taping it on the floor to ensure that people are in line and comply with safety precautions correctly.
- Developing packets of required items that can quickly be taken and charged by customers, speeding up turnarounds.
- Creating smooth routes in shops to eliminate congestion without sharp turns.
- Playing messages through the speakers with tips and useful information about how to ensure shopping is secure for all customers will help the shoppers always get the right information.
- Replacing the handles, buttons, and other surfaces that come in direct contact with the hands of consumers.
- Resorting to hybrid practices by keeping certain workers at the workplace and others at home or making up unique weekly plans to allow a safe number of people just to go to the office for some days.
- Creating makeshift areas as soon as the workers reach the office, they enter the first area in a locker style in which they are allowed to wash their hands and disinfect their property, often even to change into clean clothes to have super-safe access to the office.

Secondly, the output of a nudge depends on the context where there is extensive literature on which contexts are especially conducive to different types of nudge. To solve the same issue to specific demographic subgroups, successful behavioral change needs a variety of strategies or certain variations of interventions. It should also be remembered that the impact of behavioral action may be diminished or neutralized by opposing factors in the environment. In this sense, politicians and regulators must be mindful of counter-sensitive powers, which may implement unconvincing measures of behavioral modification that ultimately eliminate any significant changes in conduct.

Similarly, compensation effects targeting mostly on a certain part of the decision context, by ignoring several additional variables within the larger system, will weaken intervention strategies unless supported by "hard" policy instruments (taxes, restrictions, mandates) which seek to compensate for more significant environmental considerations (Soofi, Najafi, & Karami, 2020). As far as the policy response from COVID-19 is concerned, it is worth noting that the majority of interventions in Turkey are not nudges. People are not being nudged into a lockdown. They are being told what to do. However, these measures with nudges can only ensure compliance¹.

2.3. Optimism bias

"Optimism bias" is also a problem that leads to an underestimation of the risk posed by the virus, particularly where there are no reported cases in one's community¹. An 'optimism bias' is a cognitive bias that causes someone to believe that they are less likely to experience a negative event. In other words, the tendency of people to predict outcomes that are consistently more positive than observed effects is high and neurally mediated (Halpern, Truog, & Miller, 2020). Although hope can be beneficial in suppressing harmful feelings, it may overlook people's risk of catching a disease and therefore disregard alerts of safety (Bavel et al. 2020). Too much optimism and ignorance can also be very dangerous for future outcomes. For instance, hospitals cannot handle so many sick people at one instant and the health system may even be collapsed (Soofi, Najafi & Karami, 2020).

There are misunderstandings over the fact that virus infection enhances one's immune system, that it is just the flu" or that it is strong enough to deal with it in particular among young people. This "overconfidence effect" is paired with the inability to care and at least 20 to 30 seconds on the value of washing hands¹. Feedback from peer comparisons or the correct communication of threats can help to tackle optimism and overconfidence. It can encourage citizens to stick to protective behavior, by explaining what happens to persons or groups who are considered peers (Soofi, Najafi & Karami, 2020). Focusing on mutual feelings in times of distress is as vulnerable as possible to over-simplicity. This is particularly the case for an overall infodemic where people worldwide behave as customers as well as information producers. Although we like to see ourselves as logical people, much emotion affects both consumption and production phases. Pribram (2019) believes in the reality that "collective emotion" and after-effects of meaning-making" are not to be grasped by cognition but by an interpretation of sociocultural influences (Akar, 2020). Therefore, without increasing fear of culture, individuals should learn rational ways of living with such a pandemic. In this context, it should be taken into account that respond much more to a story than to statistics. Companies should attempt to inspire workers through stories of successful attempts to reduce the danger of the COVID-19 virus. Case studies by other reopening organizations, rather than summary local epidemiological conditions, will be more motivating¹.

2.4. Loss aversion

Loss Aversion which indicates that humans hate losses much more than they like gains can be used for COVID measures. The advantage (i.e., gain-framed message) in conducting such actions may be emphasized in a health message or the disadvantages (i.e., loss-framed message) of not engaging in such behavior may be illustrated. In other words, health messages that are framed with the benefit (i.e., 2/3 probability no one is saved) can promote risk-averse preference, while health messages containing the loss-framed context can encourage risk-seeking (Kim, Giroux & Gonzalez-Jimenez et al., 2020). However, focusing on gains might significantly be more likely to increase preventive behaviors than those framed as losses. Health messages designed to encourage people to adopt preventive behaviors of COVID-19 (for example, social separation) should seem to be framed in terms of gains (Soofi, Najafi, & Karami, 2020). Research reveals that gain-framed messaging helps people keep their health and diseases safer in stimulating preventive compartments, whereas loss-framed messages help them recognize the existence of the disease (Kim, Giroux, Gonzalez-Jimenez et al., 2020). The hypothetical COVID-19 expectations and emotional reactions were studied in Hamelers (2020), who discovered that loss-framed messages boost risk-saving policy action with a response framed as life-rescued (gain) that leads to risk-averse strategic action.

However, some studies have shown no change when comparing the efficacy of losses and benefit in framing the emerging COVID-19 pandemic in their aim to follow recommendations or adjustments (Sanders, Stockdale, Hume & John, 2020) implying that mixed strategies including both loss and gain messages could be useful for dealing with loss aversion

2.5. Affect heuristic

Affect heuristic is a tendency of a person to judge risks and benefits based on their impact, that is, various effects can produce different perceptions of risk and benefits. In particular, when people are positive about behaviors, they consider their risks to be low or their benefits to be high (Soofi, Najafi, & Karami, 2020). Fear is one of the most commonly used emotional appeals in health communication related to avoidance, with a view to frightening viewers by stressing the adverse consequences on health when message recommendations do not adhere (Nabi 1999; Kim, Giroux, Gonzalez-Jimenez et al. 2020). Finucane et al. (2000) showed that the more emotional impact a given risk has, the greater the risk itself seems. A recent study has shown fear as a significant indicator of avoidance during COVID-19 pandemics (Harper, Satchell, Fido & Latzman, 2020). A personal sense of risk for infection is expected that the early stages of the pandemic will be more likely to indulge in handwashing and social dissociation (Wise et al. 2020). This argument is confirmed by Zettler et al. (2020), who reported on a higher degree of acceptance of governmentally imposed personal constraints in the HEXACO personalities realm of emotionality (characterizing the exaggerated level of distress, apprehension, and emotional reactivity). Therefore, keeping individuals from infecting with the current SARS-CoV-2 COVID-19 virus demands that health communications be filled with distinct emotion that triggers avoidance (e.g., social distancing). When fear is evoked, the recipient is encouraged to react and respond to the message suggestions (Nabi 1999; Kim, Giroux, Gonzalez-Jimenez et al. 2020). This heuristic suggests that attempts taken by politicians to build adverse emotions to discourage COVID-19 avoidance can increase the perceived risks associated with not adhering (Soofi, Najafi & Karami, 2020).

2.6. Social standards

Social standards and the attitudes of individuals including peers, families, and employers affect behaviors. Several previous studies have demonstrated that certain ways are likely to be taken to improve individuals' resiliency to COVID-19. It can be concluded that groups and related social features – both previously and as a consequence of the virus – prove a critical mechanism for alleviating traumatic stress symptoms (Muldoon, 2020: 72). Herding is when people regard one behavior as good or bad based on others' behavior and imitate their behavior that they observe. Recruiting social influencers inside the organization may be more successful in trying to implement progressive initiatives than the head of human resources officer's stand-alone efforts¹. Therefore, it might improve adherence to policies for social distance by advising citizens that "most citizens in your neighboring town or province obey social distance/stay in the house." (Soofi, Najafi & Karami, 2020).

The first error hindering effective policymaking during crises comes from what economists have termed the "identifiable victim effect." People are more aggressive in addressing risks to identifiable lives, i.e., those which a person can readily imagine to be his own or belong to those they care about (e.g., family members) or take care of (e.g., patients at a clinician) than to hidden "statistical" deaths reported in epidemic human studies. Similarly, psychologists described rescue attempts for life in danger as an inviolable objective to prevent urgent efforts to save apparent lives even though more lives are saved by alternate means (Halpern, Truog & Miller, 2020). Hence the social identity dynamics of personality must be taken into account in public health campaigns. It should in particular be concerned that the willingness of people to protect the protection of groups is counter to the fact that they are ineffective in recognizing risks for their health. One main approach is to emphasize that physical distance is the care of others and not a form of mistrust (Cruwys, 2020). Therefore, a central approach to health communication is to express social norms. It can build much-needed solidarity at a time when everyone will experience the side effects of the situation, which are not linked to health (Betsch, 2020).

Finally, governments should realize that promoting the flattening of the curve of the COVID - 19 virus and alleviate the burden on healthcare staff and hospitals

would be less effective than promoting early restaurant and retail store closures by saying “The lives you save when you close your doors include your own.” (Halpern, Truog & Miller, 2020). In this respect, it is important to highlight the difference between social distancing and physical distancing. While ‘social distancing’ is still widely used as a mistaken message it may have contributed to the social isolation. “physical distancing’ implies preserving a distance of around 6 feet from others rather than feeling like you would be socially isolated from your family and friends.

2.7. Social contract

The pandemic would cause numerous societies all around the globe to rethink and redefine their social contract conditions. It is almost unavoidable. The social contract, generally defined, refers to an (often implicit) collection of agreements and expectations which regulate individual and institutional relations. In short, it is the “glue that holds communities together with the social structure collapses without it”. For decades, it has progressed slightly and nearly imperceptibly in a direction that people have to bear more responsibility for themselves and economic consequences, culminating in the conclusion that vast portions of the population (most obviously in low-income areas) have at best erode, if not in certain cases torn down the social contract. The apparent assumption of low or no inflation is an example of how this depletion happens in real life (Schwab & Malleret, 2020). It is agreed that people are logical and pleasant, both in psychology and in many social studies, whereas individuals are irrational and bad. Rationality is commonly considered to be a straightforward self-interest pursuit (especially in economics). Forming a group means going through a period of subversion-loss: we forget our understanding of ourselves, lose any capacity to reason, throw out the moral compass, become like sheep, and become part of the masses. Following this paradigm, the best suggestion you can give is to act independently and away from your community if you want optimum outcomes (Jetten, et. al. 2020). Therefore, identity leadership is crucial for the management of COVID-19 because the socially shared identity of the leaders offers a key psychology framework to organize joint activities to address the difficulties faced by the community as a whole (Haslam & Reicher, 2006).

Additionally, Solidarity is a component of mutual social identity in a situation like COVID-19. Shared fate and guidance are central to determining stability in a crisis, as well as to preserve cohesion immediately afterward (Ntontis & Rocha, 2020). The true essence of pandemic response should be mutual social identity among the government and the public. Only where trust is mutual will universal principles of health-protection behaviors be formulated, internalized, and unified (Carter, Weston & Amlôt, 2020). Communications from authorities are crucial to directing people’s responses to the threat of groups. Governments and public health organizations play a key role in generating communications that help to recognize and respond to COVID-19’s threat. The tone they set is capable of getting people into a collective spirit to respond jointly and efficiently (Greenaway, 2020). Behavioral economics, therefore, can be used by empowering people and by responding to the demands for a fairer social contract.

2.8. Information versus misinformation

Research shows that individuals are more inclined to believe that large events require proportionally large causes and are more likely to believe in conspiracy theories or they rely on fake news and misinformation (Bavel et al., 2020). Small awareness and intense feelings can quickly lead to terrifying behaviors and faulty risk management. Uncertainty and unexpectedness create a sense of control that leads to stronger emotional and behavioral reactions to threats (Van den Bos, 2001). Psychologists tell us that cognitive closure frequently involves Black and White reasoning and simple answers, an area conducive to conspiracy theories and rumors, false news, mistakes, and other dangerous concepts. We are looking in such a sense for guidance, leadership, and transparency, such that the issue of whom we trust (in our immediate society and among our leaders) is important (Schwab & Malleret, 2020). COVID-19 has all the features of an occurrence primed for conspiracy theory development: it is fearful, it is hard to explain, the reasons are complicated, and the consequence is government controls on human freedoms. In these cases, a failure to agree with official information sources makes it impossible to process and trust the messages (Greenaway et al., 2015).

Willingham, Reynolds & Haslam, 2015).

The countervailing problem, which we mistrust, is also a consequence. Under stressed situations, the appeal for solidarity and harmony rises, causing us to become more social in our community or party, but not behind it. It seems only normal that we should be more insecure and delicate, more reliant on others around us like a baby or a helpless individual. With a reinforced feeling of respect for all those, we love family and friends our commitment to those nearby us strengthens (Schwab & Malleret, 2020).

When leaders get accustomed to conspiracy theories in the battle between intergroup, they will find it difficult to put that genie back in the bottle until they are attacked by the conspiracy theories. Besides, in words and actions, leaders must be frank about working and do everything in their power to alleviate feelings of mistrust, powerlessness, and alienation that lay the foundations for manipulation (Hornsey, 2020). It should be kept in mind that conspiracy theories are not only bad for the psychology of the people, but it is also bad for fighting with COVID-19 because it’s chronic it will take a heavy toll on your immune system. Chronic stress raises the cortisol hormone, leading to chronic inflammation. It also decreases certain lymphocytes—white blood cells that aid in battle infections (Mosley, 2020). Another study looking at emotional indicators in a group of Weibo users before and after the announcement of COVID-19 on 20 January 2020 found that negative emotions (anxiety, depression, and anger) and sensitivity to social risks increased after the announcement of the virus and life satisfaction decreased. People were found to be more concerned about their health and family, and less about their leisure time and friends (Liu et al., 2020 cited by Tongar, 2020).

Comprehensive media analysis reveals falsehoods in all knowledge categories that are “farther, faster, deeper and wider” than the truth (Vosoughi, Roy and Aral 2018:2). Therefore, accurate and reliable information is important for cases such as the COVID-19 pandemic. An online survey conducted in China examining the immediate psychological responses and related factors during the onset of the COVID-19 epidemic among the general population of China supports this fact by revealing that specific, up-to-date, and accurate health information and special precautionary measures were found to be associated with lower psychological impact and lower levels of stress, anxiety, and depression (Wang et al., 2020). This can be achieved when authorities treat us equally, when their interactions are trustworthy and polite and when they are listening and asking us if we are involved in lock-out controls, they are telling us that we are united in cooperation rather than being forces that are foreign to us some of the key principles for interacting with the public in a crisis can be given as follows (Carter, Weston, & Amlôt, 2020; Osler, 2019):

- Understand that how responders perceive and manage an incident will affect how members of the public behave – and plan accordingly
- Explain the essence of the case frankly and freely, describing whether such steps will be taken (or not).
- Communicate in a timely way
- Explain how to improve public health by taking prescribed safety steps
- Ensure that members of the public can undertake recommended actions
- Create an infectious disease outbreak response plan that is flexible
- Hold a focused discussion or rehearsal to determine whether or not gaps or questions need to be resolved in advance in the response plan
- Share the plan with stakeholders to describe what staff services, job, and leave flexibilities, salaries, and incentives are available to them.
- To reinforce the community’s responses, trade best practices with other organizations in your major cities those within your supply chain).

It should be noted that culture can be regarded as an effective factor in the value estimations and property ownership judgments, as well as their tendency to take social and contextual information into account when making economic and behavioral estimations. The real impact of these cultural disparities may be economic and financial, economic benefits and self-interest perception, organizational strategical strategy, asset portfolios and investment evaluation, and in legal decision-making. Therefore, cultural factors should also be considered in the information process during the pandemic (Levinson & Peng, 2006).

2.9. Sick leave

The material conditions in which people create and live their lives have a significant impact on the way they construct themselves and their social circumstances are well-established. The resulting disparities in ways in which

working-class and middle and higher class citizens think and behave strengthen these effects of the social class context (Mastead, 2018). This is also true in the case of implementing measures for the pandemic. Therefore, sick leave is an important issue that will affect the current social contract decisively. Economists tend to accept that it is impossible to deter an infection from spreading due to the lack of a paid sick leave, simply because workers can be tempted or coerced to operate when sick and thus transmit the outbreak if they are refused access to it. For low-income and service employees, this is especially true (the two often go hand in hand). The American Public Health Association (APA) reported that about 7 million people were contaminated with swine flu (H1N1) and an additional 1,500 died as infectious workers were unable to afford no employment (Schwab & Malleret, 2020). In comparison, low-income workers are less likely than their high-income peers to have stable jobs and are less likely to have safety equipment and interventions that allow them to do their job safely (Scheiber & Conger, 2020). COVID-19 had the worst economic result of a dark recession, in which insufficient jobs are in a position to recover the former degree of economic activity. Therefore, psychological strategies are not enough for taking precautions against the virus. To prevent this, we need to engineer a recession that would accompany social distancing to contain the outbreak. In doing this, the key objective is to be able to preserve job matches and prevent businesses from closing so that economic activity can be restarted again. That needs payments, subsidies, and loan guarantees that will ensure that short-term disturbances do not lead to long-term breakups which take a long period (Guns, 2020).

3. Conclusion

The majority of people did not continue too gradually with COVID-19 virus pandemic, but rather it follows the Kübler-Ross' stages of grief as quoted by Zizek (2020):

"First, there was a denial (nothing serious is going on, some irresponsible individuals are just spreading panic); then, anger (usually in a racist or anti-state form: the Chinese are guilty, our state is not efficient ...); next comes bargaining (OK, there are some victims, but it's less serious than SARS, and we can limit the damage ...); if this doesn't work, depression arises (let's not kid ourselves, we are all doomed) ... but how would will the final stage of acceptance look? It's a strange fact that this epidemic displays a feature common with the latest round of social protests in places like France and Hong Kong, they don't explode and then pass away, they persist, bringing permanent fear and fragility to our lives."

Kessler added five measures during the COVID-19 pandemic in 2020 to the virus' reaction and said: "It's not a map but it provides some scaffolding for this unknown world."¹ and explain the situation as follows:

"We saw much earlier on the denial: "This epidemic will not affect us". In the Anger phase: "You make me sit home and drive my company down". There's bargaining: "All right, if I'm going to have great social isolation for two weeks, right?". There's sadness: "When this is going to end, I don't know." And there's final acceptance: "I have to work out how to continue. This is happening. Acceptance, as you might imagine, is where the power lies. We find control in acceptance. I will wash my hands. I've been able to maintain a safe distance. I will learn how to work."

Kübler-Ross' stages of grief show two possible outcomes of grief which can be either possibly ended with depression and crisis or acceptance rationally. Therefore decision-makers face some very complicated problems in the sense of deep vulnerability in handling all these dynamics. Not only must the relationship between health effects and economic impacts be handled carefully, but also the fragile emotional equilibrium, which determines whether people take sensitive steps or panic (Baddeley, 2020). However, according to Guns (2020), the lines of various phases that arise for the economy during a pandemic can be based on rational and behavioral economics as opposed to models such as Kübler-Ross' stages based on our emotions.

Therefore, phases of the pandemic economy of Guns (2020) seem to be more rational especially for leaders for making public policies rather than following the natural path of Kübler-Ross' stages of grief in uncertainty. According to phases of the pandemic economy of Guns (2020), the first phase is "containment" involving three steps where the virus, outbreak, and potential pandemic have to be identified.

The next step is to stop the propagation of the virus and to stop the brakes. This is the first step to learn about the virus and protect potentially scarce economic resources. The actions to be taken are like those taken during the war by governments. We would be able to continue the pandemic recovery process after resetting and creating a testing system. Who is released from isolation has to be prioritized, because not everyone is designated safely for interactions? The need to rally innovation is an ongoing aspect of the recovery. Innovations are needed for COVID-19 testing, treatment, and vaccines, as well as future management of pandemics. This innovative technology is a major problem, which we are interested in distributing globally, but urgent and other factors do not make it possible to achieve normal market-based innovation processes. We will finally reach a new stage, the future, as we have evolved from the present crisis where we want to find ways to prevent them in the future, as are the major crisis in the past. International coordination is also possible and the unequal effect of these crises and their settlement on multiple groups is taken into account (Guns, 2020).

There has been significant uncertainty about its pivotal point in the pandemic. Governments all over the world, have taken drastic actions such as contact tracking, lockdowns, travel constraints, and curfews. There may be a need in this framework for tough paternalist policies such as extended lockdowns as part of (disease) strategies for mitigation or suppression to combat COVID-19 propagation. At the very same time, governments can use soft paternalism as a nudge (Gaurav, 2019). Nudging people towards positive health choices is a successful method of encouraging not only cost-efficient intervention but also healthier behavior (Li & Chapman 2013). Some experts argue that nudges are of little benefit as a way to dramatically modify the behavior, as the key issue here is that nudges do not secure norm internalization. Additionally, while the overall aim may be to 'save lives and preserve NHS,' the individuals can still take into account their financial condition and their social and emotional health (Angrisani, Cipriani, Guarino, Kendall & de Zarate Pina, 2020; Mols, 2020: 39; Sanders, Stockdale, Hume & John, 2020). According to them while it is possible to use nudges to modify passive habits and produce unthinkable obedience, nudges cannot serve to ensure improvements in actions that entail an in-depth dedication to a new collective strategy structured through a shared purpose. The main approach to shift this form is by encouraging individuals to belong to valued communities – those that describe their group-based feeling of themselves. They can only be inspired to do the hard work required for behavioral transformation as individuals are willing to identify themselves as a group member (e.g., German) and feel that such types of conduct are normative to their group - and therefore important to ensure their future (Mols, 2020). However, the standard economic explanations only answer parts of the phenomenon in the COVID-19 process such as the hoarding puzzle. Rationality is constrained by uncertainty – not only by information limits but also cognitive processing constraints. People use heuristics to guide their decision-making in a dynamic and unpredictable environment. In certain settings, heuristics can be environmentally sound instruments that enhance decision-making. Productive cognitive processes can be heuristic processes that neglect knowledge (Baddeley, 2020). For instance, in countries that have an organ donation default approach people are much more likely to be registered donors (90% to 100%) compared with those countries not using a default donor strategy (Kim, Giroux, Gonzalez-Jimenez et al., 2020). It should be noted again that nudges do not mean helping people to improve their habits and actions but providing an atmosphere that normal and rational outcomes are the introduction of new habits and behaviors. In developing such an atmosphere, designers, product managers, and corporate executives can play an active role¹.

The exponential features associated with contagious outbreaks, such as COVID-19, make it particularly risky to postpone acts – such as social isolation and who is affected and isolated. The amount of an epidemic will be even greater. Therefore, governments must first control the disease to cope with the pandemic because of insufficient intervention, so that they can reset and introduce policy stabilization policies – including testing and tracing, and advances in care and prevention – to address the outbreak (Guns, 2020). It should be noted that the strategies of behavioral economics don't guarantee to fight with COVID-19. When we observe that on the whole, the countries that can be regarded as the best for fighting with pandemic share the following broadly and similar characteristics (Schwab & Malleret, 2020):

- They were "prepared" for what will happen (logistically and organizationally).
- They took fast and decisive decisions.
- Their health care system is cost-effective and inclusive.

- They are trustworthy communities in which people depend on both leadership and knowledge.
- They seem to have a real sense of unity that favors the greater good rather than individual aspirations and requirements.

We are caught in a triple crisis: medical (the epidemic itself), economic (which will hit hard whatever the outcome of the epidemic), and psychological. The fundamental coordinates of millions' daily lives are declining and the transition will affect everything from flying on holidays to simple physical touch. We must learn to look beyond the stock market and benefit co-ordinates and find some means of generating and allocating the required capital (Zizek, 2020). The COVID-19 pandemic represents a major global health crisis. As the crisis entails a large-scale shift in behaviors and puts tremendous psychological pressures on people social and conducted observations should be used to align human behavior in terms of behavioral economics (Bavel, Baicker & Boggio, 2020). We have long recognized that understanding is the foundation for change. In a crisis, we need to be mindful of people's actions. This should provide an insight into the general view of risk and avoidance, public confidence, awareness, and misinformation (Betsch, 2020). Therefore, behavioral economics can be used to deal with the COVID-19 pandemic. Nudging people towards positive health choices is a successful method of encouraging not only cost-efficient intervention but also healthier behavior. Additionally, biases such as status quo bias, optimism bias, loss aversion, affect heuristic, social contracts can be used to guide to enable people to take more preventive measures. Information is also an important factor for acknowledging the public Sick leave is an important issue that will affect the current social contract decisively.

4. Recommendations

Different research designs can be used to understand how to use the principles of behavioral economics for taking measures against the COVID-19 pandemic. For examples, surveys can be used to seek answers for the questions such as "What consumer behaviors will be studied before and after the pandemic?". Experimental designs can also be used to understand which of the biases are more effective for handling the COVID-19 precautions.

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