Determinants of socioeconomic experiences during COVID-19 pandemic in the Maldives

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ABSTRACT This paper evaluates the individual experiences and perceptions of the public about the COVID-19 pandemic in the Maldives. The data was collected from a probability sample comprising 1026 (n=433 urban, n=593 rural) respondents using an online survey. The results show that less than 1% of the respondents tested positive for COVID-19 at the time. The fear of the pandemic, in terms of probable health and economic impact, was significantly higher than the actual experience of the pandemic with 6.8 percent reporting loss of employment. Participants who considered religion as very important show a higher psychological wellbeing. Over 12% of the participants believed that the pandemic to be a hoax. The findings showed inclination of the people lay more towards solidarity rather than hostility during these trying times, with at least one third of the respondents identifying with complete solidarity. The findings provide suggestions for health practitioners to communicate more effectively with the public during the crisis.

Keywords: experience, perceptions, COVID-19, Maldives, pandemic

In early December 2019, an outbreak of a strand of coronavirus, (SARS-CoV-2), occurred in Wuhan City, Hubei Province, China. On January 30, 2020 the World Health Organization (WHO) declared the outbreak as a public health emergency of international proportion or in other words the threat of a pandemic. A pandemic is generally defined as a widespread, sudden global outbreak of disease that affects a large proportion of the world population (Kelly, 2011). Three confirmed outbreaks of pandemic flu have happened since 1900; in the worst of these, the 1918-1919 Spanish Flu outbreak, caused an estimated 20 to 40 million deaths worldwide (WHO, 2005).

The current pandemic of COVID-19 presents a considerable challenge to public health and the global economy. To mitigate the early impact of the situation and to contain the pandemic, many governments placed restrictive measures (Davalgi et al., 2020). Relying mainly on non-medical interventions given the lack of a vaccine, available measures such as quarantine, closing borders, or limiting freedom of assembly, are administered mostly based on the early evidences; but perhaps these do not fit with contemporary political, economic, and social values.

Although most of the existing research suggests high levels of public support for government action during a pandemic, research tends to be based on the public's reaction towards the governmental response to SARS (Blendon et al., 2006). In addition, during a pandemic, compliance with measures such as quarantine is typically lower when citizens do not support the policy. Therefore, it is important to be aware of which groups may be less supportive and potentially at greater risk in context, so that the issue can be addressed.

Understanding public experiences and perceptions regarding a pandemic is important for possible government action during a pandemic, and is critical for communities to avoid 'paper plan syndrome,' in which elaborate preparedness plans lack the citizen acceptance needed to succeed (Auf der Heide, 1989; McEntire & Myers, 2004). Both man-made and natural crises have time and again undermined the general public's attention and adherence to government health and safety guidelines (Eisenman et al., 2004; Riad et al., 1999). Preliminary findings from the Maldives on socio-economic aspects of COVID-19 indicated that when Maldivian locals were asked about their knowledge of people who did not abide by the procedures of the government amidst the pandemic lockdown measures were in place, only 9% of the respondents said that they knew of a lot of people who were not complying (Moosa et al., 2020).

It is necessary to study and understand the level of awareness, and also the perceptions people carry during a crisis as in this pandemic. Therefore, analysing and understanding these perceptions during the COVID-19 pandemic can be a useful endeavour, especially because of the political situation in the infancy of a new democracy. As stated by Moorcmfi (2009), Maldives has a unique situation that is labelled as the "first liberal democracy in the Islamic World" (p 249).

The COVID-19 Health & Economic Impact on the Maldivian Community

COVID-19 pandemic has disrupted societies all over the world to a large extent, and it is not any different in the Maldives. Tourism, along with businesses in tourism associated value chain, is the main employment sector in the Maldives. Following the closure of the country border, the COVID-19 pandemic crippled the Maldivian tourism sector and thereby continues to have an adverse impact on employment throughout the country (MED, 2020). Coupled with the financial uncertainties, the fear of the unprecedented spread of COVID-19 is believed to have brought certain mental distress as well.

The COVID-19 cases continue to rise in the Maldives since its first reported case in early March 2020, with 1,106 confirmed COVID-19 cases and 4 associated deaths at the time of data collection for this research (Riyaz et al. 2020). The deaths increased to 29, with 8667 people tested positive for the virus as of September 2020 (WHO, 2020). The disease has spread rapidly in the capital city of Male' threatening the health of the country's population of 407,660 and an additional 100,000 migrant workers (World Bank, 2020). The government of the Maldives has taken early preventative interventions (Suzana et al. 2020) and restrictive measures to control the spread of the virus. These range from closing the country's borders, to restricting island to island travels and closing down schools and other offices (Afzal et al., 2020; MED, 2020; Moosa & Usman, 2020). However, the

lockdown measures have been gradually eased from July 2020 onwards, and now the government continues with less restrictive measures such as contact tracing, mandating face masks for everyone in public places, while continuing restrictions on large gatherings, and partial curfews in the greater Male' area.

The COVID-19 hit hard on the Maldives' economy especially because it depends on the tourism sector for two thirds of its GDP. About 8000 of the local population were left without a job at the onset of the pandemic (World Bank, 2020) with a significant proportion of the population depending on the tourism sector for their livelihood.

General Public Perceptions about a Pandemic

The way people perceive a health hazard varies across different dimensions such as weighing how severe the risk is to themselves to how well they can manage the risks. It is important to highlight the most important models of health communication in the literature which includes: Protection Motivation theory (Rogers, 1975); the Extended Parallel Process Model (Witte, 1992) and the Health Behaviour Model developed in the 1950s by social psychologists at the U.S. Public Health Service (Rosenstock et al., 1988). All the three models were mainly concerned with how people perceive, recognize and appraise threats with the intention to protect themselves from that particular threat or risk (Janz & Becker, 1984; Rippetoe & Rogers, 1987; Witte, 1992).

Riad et al. (1999) showed evidence that people sometimes are not rational in their calculations of threats and risks of a health hazard or crisis. Riad et al. (1999) studied people's behaviour during a thunderstorm and found that people across different socio-economic status behaved and perceived threats differently and weighed the calculated risks of staying or leaving their homes amidst the storm. However, despite studies suggesting mixed perceptions of risk and outcomes, in theory, risk perceptions play an important role in predicting people's reactions to a risk event.

People tend to think in terms of being less vulnerable in life events that are categorised as negative (Armor & Taylor, 2012). The term optimistic bias was thus coined to show this perception among individuals (Weinstein, 1987). Optimistic bias can often be observed in cases of bioterrorism (Salmon et al., 2003), seat belt use (Slovic et al., 1978), and AIDS (Rothman et al., 1996). In the present scenario, that is during an outbreak of a pandemic for instance, optimistic bias may lead to less support and trust in government efforts and government measures to control the pandemic. This in turn may result in people getting more optimistic about getting infected by the virus or how a country gets out of the situation.

The above findings suggest the importance of interventions and risk communication that is in tandem with public perceptions, and therefore the purpose of the present investigation was to understand the experiences and perceptions of the public in their experiences of COVD-19 in the Maldives. The findings from this research provide suggestions and cautions for practitioners to communicate more effectively with the public amidst the COVID-19 pandemic as it unfolds, as well as in other similar crisis situations. The aim of this paper is twofold: firstly, to identify the different experiences of Maldivians across different demographic and geographic groups during the COVID-19 pandemic specifically pertaining to: a)

physical health, b) psychological well-being, and c) socio-economic experience; and secondly, to identify social determinants of different perceptions held amidst a pandemic crisis specifically pertaining to: a) perception about religion in life and how this impacts their overall mental wellbeing during this crisis; b) fear for themselves or their loved ones getting the disease or being impacted by an economic recession; c) belief in the pandemic to be a hoax; e) level of belief in media and its credibility; f) level of solidarity or hostility with encounters; and finally, g) perceptions regarding whether the COVID-19 pandemic will greatly strengthen or greatly hurt the country, by the time the pandemic is over.

Methods

The data reported here, from the values in crisis (VIC) survey, was collected during the sixth week of the first community spread of the COVID-19 cases in the Maldives resulting in the enforced lockdown of greater Male' region.

The data was collected through an online quantitative questionnaire administered to a representative random sample from urban and rural clusters of the Maldives. The urban and rural clusters were pre-determined using a representative sampling approach of maintaining a ratio of 40% urban and 60% rural community participants. The Maldives is a geographically dispersed small island nation with 188 inhabited islands grouped into 20 atolls, with Male' as the capital island (NBS, 2015). For the purpose of VIC survey, the urban regions are taken as all the islands/atolls that have been assigned city-status by the government of Maldives. This includes Male', Vilimale, Hulhumale, Kulhudhuffushi, Fuvahmulah, and Addu Atoll. The 18 rural clusters are derived from each of the remaining atolls of the Maldives excluding the capital islands of each atoll. For representativeness the sample was further stratified by gender (resulting in 47% males and 53% females), and age groups of 18-24, 25-34, 35-44, 45-54, 55-64, and 65 and above as a true representation of the population in the target clusters based on the 2014 census data (NBS, 2015). A total of n=1026 (n=433 urban, n=593 rural) questionnaires were completed. To analyse which factors determines the psychological wellbeing, economic impact, and perceptions, cross tabulations were carried out with probable questions (categorical variables), deriving a Pearson Chi-square coefficient. The psychological wellbeing score of the differences among different perception groups regarding importance given to religion was also determined. This score was achieved by reverse-scoring the questions pertaining to well-being and summing them to create a wellbeing score. The score was then correlated with the people's perception on the importance of religion in their life.

Results

COVID-19 and Health Experiences

The participants were first asked about their physical health related to COVID-19. Only a few (less than 1%) were tested positive for COVID-19. However, from the total sample, 3.02% (n=31) participants reported having mild symptoms and only 0.39% (n=4) reported having severe symptoms of COVID-19 at the time of the administration of the survey.

Participants were also asked if they had people close to them who have or had mild or severe symptoms of COVID-19. From the sample, 7.41% (*n*=76) reported people close to them have or had mild symptoms of COVID-19 whereas 3.41% (*n*=35) reported people close to them have or had severe symptoms of COVID-19.

As indicated in Table 1, out of the 1026 participants, only 5.7% (n=58) reported feeling nervous, anxious or on edge nearly every day, and about half the sample (50.8%) felt otherwise. On the other hand, 10.8% (n=111) reported that they were not able to stop or control worrying nearly every day. A few (n=41, 4.0%) reported feeling down, depressed or hopeless nearly every day and 8.2% (n=84) of participants reported experiencing little interest or pleasure in doing things almost every day. Additionally, approximately the same number of participants (n=77, 7.5%) also reported they felt lonely.

	Feeling nervous, anxious or on edge		Not being able to stop or control worrying		Feeling down, depressed or hopeless		Little interest or pleasure in doing things		Felt lonely	
	п	%	n	%	n	%	п	%	n	%
Not at all	521	50.8	483	47.1	734	71.5	521	50.8	638	62.2
Several days	266	25.9	255	24.9	156	15.2	252	24.6	192	18.7
More than half the days	181	17.6	177	17.3	95	9.3	169	16.5	119	11.6
Nearly every day	58	5.7	111	10.8	41	4.0	84	8.2	77	7.5
Total	1026	100	1026	100	1026	100	1026	100	1026	100

 Table 1

 Psychological Well-being of the Participants

Questions were asked regarding the level of fear of own health or the health of loved ones following the coronavirus crisis. Majority of the participants (n = 590, 57.50%) reported high levels of fear, reporting they were 'very afraid' and 24.95% (n=256) of the participants stating they were 'quite afraid' for their own health or the health of loved ones impacted because of the pandemic. While 8.09% of the participants stated they were neither afraid, nor unafraid, notably the same percentage of participants were reportedly not very afraid. It was also indicated that only a very small number of participants (n = 34, 3.31%) reported that they were not at all afraid of own health or the health of loved ones being impacted by the pandemic. The data also revealed that a greater number of females (n=363) expressed extreme fear for their loved ones getting sick as compared to males (n=227). The maximum number of participants who expressed high levels of fear for their loved ones suffering from COVID-19, were mainly in the age range of 25 -34 years (n=133). It is also evident that the rural sample (62.54%) expressed

greater fear of their loved ones suffering as compared to the urban sample (37.45%)). Interestingly, the data also proved that people with higher levels of educational qualifications (n=138) worried more about their own and their loved one's health as compared to participants without any formal education (n=59). Another interesting finding was that people who were married (n=402) worried the most about their loved ones suffering from COVID-19 symptoms.

Cross tabulations were also carried out to check how important religion was in participants' lives and their levels of fear of their loved ones getting COVID-19 or suffering from it. Participants (n=570) who considered religion as a very important part of their lives seem to express the most fear of their loved ones suffering from the disease; on the other hand, people who did not consider religion important in their lives (n=4) expressed the least fear.

The results indicate that there is a statistically significant difference in the psychological wellbeing between those who believe that the religion is very important as opposed to other two groups of participants who considered religion "rather important" and "not very important". Importance given to religion was found to be a significant predictor of psychological wellbeing, with more importance given to religion associated with a higher wellbeing score (b = 1.73, p = .001, 95%CI [.69, 2.77]) (Table 2).

Importance given to religion	Ν	Mean score of psychological wellbeing	Confidence Intervals
Not Very Important	8	15.12	(10.92-19.33)
Rather Important	46	14.67	(13.43-15.91)
Very Important	972	16.46	(16.23-16.71) **
Total	1026	16.37	

 Table 2

 The Psychological Well-being Score Differences among Different Perception Groups

 Regarding Importance of Religion

Economic Experiences

The data shows that 6.82% (*n*=70) of the participants consisting of 39 males and 31 females reported job loss while 70.27% (*n*=721) of the participants did not have an impact on their jobs with the remaining 20.57% (*n*=211) participants, reporting the question was not applicable, assumedly as they were not in employment or were self-employed. The responses also indicate that 57.9% of the participants had a business, with 14.41% (*n*=148) of the participants, that is 95 males and 53 females correspondingly reporting that they had to close a business as a result of the pandemic, with almost half (*n*=446, 43.47%) of the participants reporting that their business was intact in spite of COVID-19 pandemic. Only 2% (*n*=18) reported being reduced to part-time employment. A mere 3.02% (*n*=31) indicated they have accessed a financial support scheme as a result of job loss. The data also shows that 27.7% (*n*=284) of the participants were doing home office,

as a result of the pandemic, with 19.4% (n=199) stating that they were physically going to work as before the COVID-19 pandemic.

Furthermore, there is a statistically significant relationship with gender and job loss associated with COVID-19 (Table 3), with more men being impacted. Further, the findings show slightly higher livelihood impact in the cities as a result of the pandemic. This includes slightly higher numbers of participants from the cities reporting job loss (8.1% urban and 5.9% rural), closure of business (18.9% urban and 12.7% rural) and working from home (30.9% urban and 25.3% rural).

Participants were asked how afraid they were for themselves or their loved ones suffering from an economic recession following the coronavirus crisis. Majority of the participants (n=894, 87.1%) reported high levels of fear, with almost half of the participants (n=551, 53.70%) identifying they were 'very afraid' and 33.40% (n=343) stating they were 'quite afraid' for their loved ones being financially impacted because of the pandemic. The data shows that the respondents' fear for loved ones suffering an economic recession is statistically significant with the respondent's gender, with more female participants experiencing fear. Other significant determinants of respondents experiencing fear of an economic recession include: their geographic location, with rural participants experiencing more fear; and those with lower education and a lower household income as well as those who have children identifying with this fear (Table 3).

an Economic Recession						
	Loss of job		Fear of following	Economic Recession Pandemic		
Demographic/IV	X^2	95% CI	X^2	95% CI		
Gender – Male/ Female	11.9**	.001, .009	15.4**	.001, .006		
Age Groups	68.5***	.000, .003	22.9	.262, .317		
Urban/Rural	3.83	.126, .170	10.8*	.016, .034		
Educational level	78.7***	.000, .003	44.0*	.021, .043		
Household income	-	-	83.6*	.017, .037		
Marital status	-	-	30.9	.106, .147		
Children	-	-	49.4*	.021, .042		
Importance given to religion	-	-	18.2*	.026, .050		

 Table 3

 Possible Factors That Create Fear for Themselves or Their Loved Ones Suffering From an Economic Recession

Perception on the Reality of the Pandemic

The participants were asked whether they believed the stories on social media that the coronavirus pandemic is a hoax and that the lockdown measures are a hysterical overreaction. Majority of the participants (n =907, 88.40%) do not believe coronavirus as a hoax, while 11.6% (n = 119) consisting of 8.8% urban and 13.7% rural participants respectively said they believed it to be a hoax.

Belief in the reality of the pandemic	X^2	95% CI
Age Group	16.6**	.001, .009
Confidence in government	2.62	.459, .520
Confidence in health sector	2.63	.445, .506
Perceptions about credibility of social media versus traditional media	2.10	.671, .727
Level of Education	16.8*	.013, 030
Rural/Urban	5.82*	
Gender -Male/Female	3.16	

 Table 4

 The Relationship between Possible Factors Influencing the Public's Perception of the Pandemic as a Hoax

The analysis also indicated that there is no significant relationship between the trust on social media and whether they believed the pandemic to be a hoax (p = .716). When the participants were asked how credible they believe social media is compared to the traditional media such as TV and newspapers, almost half of the participants (n = 440, 42.88%) believe both media are the same in terms of credibility. Another 45.32% (n = 465) of the participants trusted formal media to be more credible. Notably, 11.79% (n = 121), consisting of urban and rural (10.9% and 12.5% respectively) believed social media is more credible. However, the findings show the belief in COVID-19 as a hoax has no statistical significance with the perceptions on the credibility of media. Similarly, the data shows no statistically significant relationship between people who mistrust authorities and those who believe the pandemic to be a hoax.

On the contrary, a Pearson correlation shows that there is a significant relationship between the belief in hoax stories and whether the participants are from urban or rural islands of the Maldives with more rural participants believing in hoax stories of COVID-19 pandemic.

Further, there is a significant relationship between the age of the participants and their believing the pandemic to be a hoax (p = .005), with more participants under the age of 34 tending to believe so. Similarly, there is a significant relationship between the level of education (p = .19) and belief in hoax stories with more people with a lower education or no education tending to believe the pandemic to be a hoax.

Perceptions on solidarity of the community

It was found that a few (n = 16, 3.70%) participants perceived that they experienced more hostility with encounters while 27.94% (n=121) of the participants perceived

more solidarity with encounters in the urban sample; on the other hand, it was found that only a few of the participants (n = 20, 3.37%) perceived that they experienced more hostility with encounters while 32.55% (n=193) perceived more solidarity with encounters in the rural sample. Within the total sample, it is seen that more than half (n=697, 67.93%) were inclined more towards solidarity while a few (n = 89, 8.67%) participants perceived that they experienced more hostility with encounters. The remaining 23.39% of the participants (n=240) perceived that depending on the nature of the situation, inclination may vary towards solidarity or hostility with encounters.

Perception on COVID-19 impact on the country

It was found that 32.79% (n = 142), of the urban participants perceived that the country will be severely hurt when it gets out of the coronavirus crisis. On the other hand, only 16.63% (n = 72) of urban participants perceived that the country will be greatly strengthened when it gets out of the coronavirus crisis. The remaining urban participants (n = 219, 50.58%) who ranked their responses at a point in between the two extremes show that most participants lean more towards the country being severely hurt when it gets out of the crisis. Similarly, 34.23% (n=203) of rural participants perceived that the country will be severely hurt, while (22.43% (n=133) rural participants perceived that the country will be greatly strengthened when it gets out of the crisis. The remaining rural participants (n=257,43.34%) who ranked their responses at a point in between the two extremes show that most participants believe the country will be will be severely hurt.

Discussion

The COVID-19 pandemic continues to have unprecedented economic impact across societies. The findings from the reported job loss and business closure signifies over 21% of the Maldivians had their livelihood impacted from the pandemic even at this early stage, and supports the estimates from World Bank (2020) and Ministry of Economic Development (MED, 2020). Adam et al. 2020 highlighted that most of the resort employees' livelihood had impacted on the onset of the detected imported cases of corona virus, even before the lockdown measures were implemented in April 2020.

As seen in the results, only half of those who reported job loss, stated that they accessed financial support. The data was collected at the end of May 2020; and the income support of MVR 5,000 from the Government for those impacted by COVID-19 was initiated in mid-May 2020 (MED, 2020) and therefore explains the low access to financial support in this early stage of job losses. The high reliance on tourism, and the sudden travel disruptions resulting in job losses (Adam et al, 2020), can explains the perception that majority of the population felt that the state of the country, when it gets out of the coronavirus crisis, was inclined to be severely hurt.

At this early stage of the pandemic, the findings show that the fear of the pandemic and its possible adverse economic and health impact were felt significantly more than the actual impact. People were psychologically affected by the crisis and there was a significant association with psychological wellbeing and the importance given to religion. The collective research findings from the Maldives reported that a large part of the population were highly concerned about the health of their family including the elderly, persons with disability, and migrant population, while also concerned for people dependent on drugs (Moosa et al., 2020). Such concern is likely to add to the psychological distress. Religiosity/spirituality and personal beliefs constitute important parameters of human experience and deserve greater consideration in the psychotherapeutic treatment of psychiatric disorders (Agorastos et al., 2014).

It is also significant that 1 in 11 people believe various information on social media that depict the pandemic to be a hoax and those who believe in hoax stories are more from the rural community. Other researchers have reported that the knowledge of COVID-19 is high among the Maldivian Population with 85% correctly identifying preventive measures (Moosa et al., 2020) and this perhaps can be associated with the 88% of the participants in this VIC survey who believe the pandemic to be a reality and not a hoax. The community spread was in the urban capital and not in any of the rural islands at the time (WHO, 2020; Moosa et al., 2020) and hence the findings could be driven by this epidemiological situation, and could thereby explain the significant difference between the urban and rural communities in their belief in the reality of the pandemic.

Across the world, it can be seen that people who believe conspiracy theories about COVID-19 are more likely to dismiss important directives from health protection agencies (Allington & Dhavan, 2020). While the findings do not show a statistically significant relationship with those who trust social media more than traditional media perceiving the pandemic to be a hoax, the findings highlight the importance of information dissemination and awareness of the pandemic situation. Notably, the findings show a significant relationship between the two younger population groups, aged 18 to 24 years and 25 to 34 years, to be more inclined towards trusting social media as well as more inclined towards believing the pandemic to be a hoax.

Regarding the various perceptions people held during the time of a pandemic, there were no significant findings on the scale of solidarity and hostility people held during the time of a pandemic. However, the inclination as per the perception of the people lay more towards solidarity rather hostility even during these trying times. Previous studies indicate that solidarity in the case of an emergency specially involves getting together to form a social identity in a common crisis (Drury, 2018). Therefore, it is inevitable that people may construct a common social identity during a crisis (Norris & Alegria, 2008; Federico et al., 2020).

Limitations and scope of the paper

The data presented in this paper is a selection of questions from a larger survey investigating people's values under the imprint of a crisis and therefore was not focused on delving deeper into individual concepts. The survey reported here constitute the wave 1 of the Values in Crisis Survey measuring values at the onset of the crisis. These findings will be measured in two subsequent waves, wave 2 and 3 using the same survey participants.

Also noteworthy is that, although the questionnaire was planned as a quantitative

interview where the instrument would be administered by an enumerator, because of the lockdown measures and movement restrictions, the survey was carried out as a self-administered online questionnaire. This may have compromised the quality of the data due to possible variations in the participants in understanding of the questions to rushing the completion owing to the length of the questionnaire. Nonetheless, the instrument was developed in the native language Dhivehi, and the questionnaire was pilot tested to minimize inconsistencies.

Conclusion

The reported health and economic experiences during the pandemic, no doubt, impacted profoundly the way people work, with potential implications for employees' health, well-being, and general perceptions overall. Mental health support systems can open more avenues to extend its services in terms of being more need specific as a result of the pandemic situation. These perceptions and experiences can provide leaders with key guidance for managing the current situation, leading to a more people-oriented recovery plans afterward, and for anticipating and setting guidelines for future challenges. There are questions and misconceptions about COVID-19 among the public, as shown in the significant proportion of people believing the pandemic to be a hoax. Correcting these misconceptions can be targeted in information campaigns organized by government agencies, information provision by hospitals and of course through the right agendas and channels of media coverage. The findings of this study could be used to set priorities in information campaigns on COVID-19 by public health authorities and the media too.

Acknowledgement

The data reported here is a component of the cross national Values in Crisis Survey (wave 1) carried out in the Maldives by the research team in partnership with the United Nations Development Programme (UNDP), Maldives. The survey questionnaire translated to Dhivehi, was an instrument development in English by Prof. Christian Welzel, Prof. Klaus Boehnke, Prof. Jan Delhey, Dr. Franziska Deutsch, Dr. Jan Eichhorn, & Prof. Ulrich Kühnen.

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