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Zentrum für HochschulBildung - Technische Universität Dortmund

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(Fine Dining) Restaurants in the Corona Crisis

Discussion papers of the
Center for Higher Education
02-2020
ISSN 1863-0294

Discussion papers of the Center for Higher Education
TU Dortmund University

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Discussion paper Nr. 2-2020

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Executive Summary

The study summarizes the central results of two surveys in the field of (fine dining) restaurants, which took place during the shutdown of restaurants due to the corona pandemic (Corona Shutdown) between 22 March and 10 April 2020. A total of 654 people took part in the survey who work in the catering trade as cooks (n = 289), service staff (n = 136) and restaurant owners (n = 125). Guests (n = 104) also participated in the survey. The central results are as follows:

- 50% of the restaurants in our survey can survive for a maximum of 6 weeks if the corona shutdown is maintained. On average, the maximum is 9 ½ weeks. Respondents from restaurants that do not have a Michelin star rating estimate that they can only survive the Corona Shutdown for 8 weeks. Respondents from Michelin-starred restaurants estimate this to be 11 weeks, so that they can survive an average of almost 2 weeks more when shut down. In concrete terms, this means that if the corona shutdown continues, a large proportion of the restaurants will experience liquidity problems at the beginning of May, which will force them to give up their restaurant.
- The effect of the political support activities that have been initiated is viewed very critically by employees in the field of (fine dining) restaurants. According to the assessment of the respondents, the survival of many restaurants cannot be secured by these support activities in the long term.
- Across all groups of employees, the short-time work compensation (Kurzarbeitergeld) is dominant. Service staff are particularly affected, accounting for 65% of the workforce, as opposed to 56% of cooks. At 12%, service employees are currently more frequently unemployed than the cooks surveyed. Overall, the financial situation in gastronomy is particularly precarious because the short-time work compensation not only reduces income, as employers often do not top up the full salary, but also eliminates additional income in the form of bonuses and tips.
- Communication with the guests is maintained via various digital channels, which the guests also use. Guests make use of the newly created offers, such as take-away or delivery service, to provide local support to the restaurateurs.
- Compared to the other groups of employees, the chefs are generally best able to deal with the Corona shutdown personally. They have various possibilities to make the situation more bearable (e.g. charity campaigns). The overall perception of stress is very high. In a group comparison, chefs have the lowest stress perception and the highest resilience. Especially the participation of some cooks in charity campaigns (e.g. "Cooking for Heroes") lowers their stress perception and increases their resilience.

1. Introduction¹

For about two years we have been researching - out of pure joy about fine dining - the organization of fine dining restaurants in German-speaking countries and a book on the subject will soon be published ("Not only a question of fine taste! On the organization of fine dining in the German context"). For the book, we conducted interviews with top chefs and service professionals before the Corona crisis. Our original plan was to wait for this year's results of the awarding of stars in Germany by the Guide Michelin restaurant guide in spring 2020, incorporate the latest developments into the book manuscript, and then hand over the completed book to the publisher. But the Michelin Guide's presentation of the stars was already literally under a different star. Due to developments in the spread of the Corona virus, the ceremony did not take place as planned in Hamburg on March 3rd as a festive event with VIP guests, but was instead broadcasted live on Facebook on the same day in the morning with little fanfare.

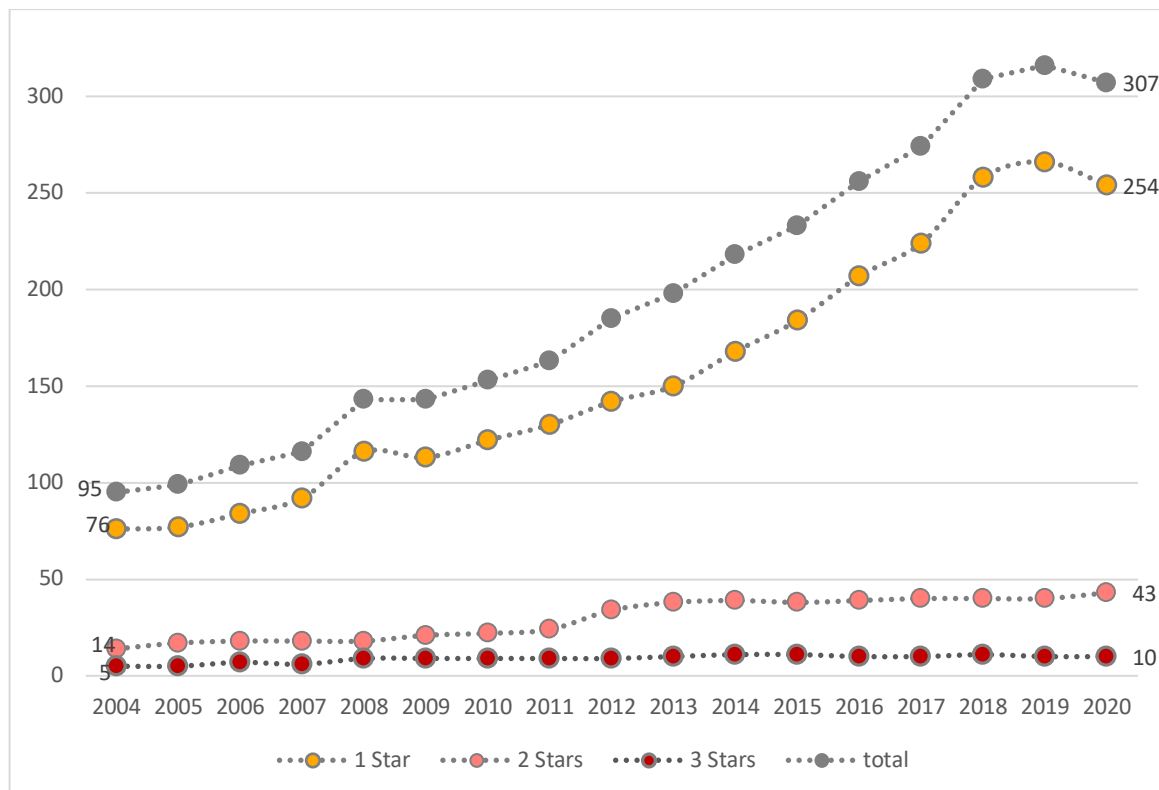
Less than a week later it became clear that, after Italy and Spain, Germany was threatened with massive restrictions on public life due to the corona pandemic. In the course of the restrictions, the opening of restaurants was increasingly restricted. The various federal, state and local regulations (e.g. initially severely restricted opening hours, minimum distances between tables) did not make it easy for restaurant owners and staff to cope with the restrictions, especially as they were repeatedly tightened at very short intervals. In the end all restaurants in Germany had to be closed by 20 March 2020 at the latest. But even before that, some restaurants reacted because the guests stayed away for fear of infection and reservations were cancelled more and more often. We quickly realized that Corona pandemic would have a massive impact on gastronomy and we wanted to know how (fine dining) restaurants would deal with these unexpected challenges.

Since we were interested in the comparison between fine dining restaurants and "normal" restaurants, we defined the group of fine dining restaurants by the fact that they must be listed in the leading restaurant guide Michelin. Briefly to the background: Originally, the star classification of the Guide Michelin served the purpose that at one star, the car drivers stop, at two stars, they take a detour and at three stars, they choose the restaurant as sole destination. In the meantime, two further categories have been added below the stars, as

¹ Parts of the explanations were taken from the forthcoming book.

criticism of the exclusivity of the stars has been voiced in recent years: the first is the »Bib Gourmand« category, which indicates a particularly good price-performance ratio. The second is the category of the »MICHELIN plate«. Here, candidates for the first star are named and thus an additional sub-category in the ranking has been introduced.

Figure 1: Development of the number of star restaurants in Germany (own representation; source: Wilkesmann & Wilkesmann; unpublished book manuscript)



In recent years, the number of restaurants awarded the Guide Michelin has grown steadily (Fig. 1). This trend describes a cultural change. In contrast to France, for example, there was no culture for fine dining in Germany for a long time. Spending comparatively much money on very good food was rather frowned upon in Germany. Eckart Witzigmann, the pioneer of fine dining restaurants in Germany, even had to go shopping for his restaurant in France because the required products in the desired quality were not available in Germany at the time. The culture has changed significantly in the last few years. More and more people can afford good food and are also willing to spend money for the best food quality with sophisticated cooking. The number of chefs who are committed to and master this high art of fine dining has also increased significantly. A delicate plant of food culture has blossomed in Germany, but the Corona pandemic is calling into question its continued flourishing.

In view of the corona shutdown, the question arises:

How is the corona pandemic changing the situation of (fine dining) restaurants in Germany? How do they react to the crisis?

2. Data basis²

In an online survey, which took place from 22 March to 5 April 2020 throughout Germany, we contacted all 309 current star chefs in Germany via a self-created mailing list and asked them not only to fill in the questionnaire, but also to forward the survey link to their kitchen team and chefs they know. A total of 128 people completed the questionnaire in full who work in restaurants that have been awarded stars by the Guide Michelin, including 68 respondents who work as chefs. This represents an above-average response rate of 22 %. Since we are aware of the population of 309 Michelin star chefs who have been awarded such a distinction by the Guide Michelin, the distribution of 1, 2 and 3 star chefs, the ratio between employed and self-employed star chefs in our first survey can be regarded as representative.

With the help of a second survey from 29 March to 10 April 2020, we also took a look at the perspective of the service staff, restaurant owners and guests. The call to take part in the survey was made on the one hand via the Facebook account of "Sternefresser.de - Das kulinarische Online-Magazin" and on the other hand via the newsletter and social media channels of "ahgz - Allgemeine Hotel- und Gastronomie-Zeitung" and "gastrotel", a trade magazine for entrepreneurs and managers in the restaurant and hotel industry in Germany. After the adjustment of this raw data set, in which, among other things, empty questionnaires, implausible answers and respondents from countries other than Germany were removed, the number of cases that can be evaluated for Germany is distributed among the individual groups of respondents as follows: 159 persons work in the kitchen, 136 persons work in service, 125 persons are restaurant owners and 104 persons completed the questionnaire as restaurant guests. Since no information on the population of the respondents is available in the second survey, no response rate can be calculated and the data are therefore not representative, unlike in the first survey. Moreover, the completion rate, i.e. those participants who clicked on the online questionnaire and clicked through completely to the end, was considerably higher in the first survey (43%) than in the second survey (29%). Nevertheless, it is possible to describe a current basic atmosphere among the individual groups of respondents regarding

² We thank all who participated in the survey.

the corona crisis in Germany. For this study, we have matched the data from both surveys into one dataset, so that in addition to the 128 Michelin star chefs interviewed in the first survey, 159 chefs from the second survey were added to the 128 Michelin star chefs interviewed in the first survey and a total of 289 chefs were involved. We had a total of 654 questionnaires available for evaluation. We will first present the results group-specifically (kitchen personnel, service personnel, restaurant owners, guests) and then present selected results in a group comparison.

3. Results

3.1 Chefs and Cooks

After the data sets had been adjusted and merged, 289 fully completed questionnaires were available, 90.5% of the participants were men and 9.5% women. The average age of the respondents is 34.7 years and ranged from 18 years to 66 years. Due to the orientation of the first survey towards chefs in upscale restaurants, measured by star rating, the distribution of respondents in this segment is deliberately higher, at 72 persons. Table 1 shows the distribution of the surveyed chefs in terms of their hierarchical placement in the kitchen (chef to apprentice) and whether the restaurant is listed in the Guide Michelin or not. Of the 289 chefs interviewed, 117 persons work in restaurants not listed in the Guide Michelin, 22 persons work in a restaurant with "Bib Gourmand" award, 20 persons with "MICHLIN Plate" award, 94 chefs work in a 1-star restaurant, 29 persons in a 2-star restaurant and 7 in a 3-star restaurant.

Table 1: Overview of the sample of chefs

	Not listed	Bib Gourmand Award	Plate Award	1 Star	2 Stars	3 Stars	Σ
Chefkoch	58	12	6	58	13	1	148
Sous-Chef	26	4	8	12	5	2	57
Junior Sous-Chef	7	1	1	5	1	0	15
Chef de Partie	19	4	2	9	8	3	45
Demi Chef de Partie	2	1	1	3	0	1	8
Commis de Cuisine	3	0	1	1	2	0	7
Trainees	2	0	1	6	0	0	9
TOTAL	117	22	20	94	29	7	289

Among the chefs surveyed, 58 persons are not listed in the Guide Michelin, 12 persons are

awarded the "Bib Gourmand" and 6 persons are awarded the "MICHELIN Plate". Among the star chefs, 54 people with one star, 13 people with two stars and one 3-star chef took part in the survey. 12.1 % of the chefs are self-employed and the rest of the respondents are employed.

Effects of the Corona Shutdown

Michelin Star restaurants vs. restaurants without award

There are significant differences in the capacity to host guests between Michelin star restaurants and restaurants without such a distinction. Michelin star restaurants have an average of 36 seats for their guests, of which they serve an average of 122 guests per week. Restaurants without a Michelin star have a larger capacity, with an average of 42 seats and 232 guests served per week. However, the average number of persons employed in the kitchen hardly differs between the two categories (star restaurants 5.8 employees; no stars 5.7 employees), so that in a star restaurant there is on average four guests for every chef, whereas in a not listed restaurant one chef is responsible for seven guests on average. Even before the shutdown, the profit margins in the fine dining sector were relatively low due to the high cost of goods and services and the high personnel costs. Even if temporary staff are often used in the restaurant business, an owner-managed star restaurant can quickly accumulate 50,000 euros in fixed personnel costs per month. Further costs for rent or lease, energy and product costs and the equipping of the wine cellar as well as any investment costs (e.g. if the kitchen had to be modernized) have to be added.

In this case, it can be assumed that insolvency will occur earlier due to the higher personnel costs in the Michelin star restaurant sector. But the opposite is the case: 50% of the restaurants can survive for a maximum of 6 weeks if the corona shutdown is maintained. On average, the maximum is 9 ½ weeks. Michelin star chefs indicated that they can on average survive almost 2 weeks longer closed (just under 11 weeks), while the restaurants that do not have a star rating can only survive the corona shutdown for 8 weeks. In the gastronomy sector, tight calculations are often made (partly also out of idealism). The situation is described by a restaurant owner of a restaurant not listed in the Guide Michelin in the free text field at the end of the survey as follows: *"I think that our and many other sectors are confronted with how much tightly costs are calculated in a rich country like ours. If after 2 days of loss of income the first restaurants go bankrupt and the majority of the other restaurants also panic, this is very alarming and should give food for thought. Unfortunately, I have little hope that the situation*

will change long after this difficult situation is over. The competition and the price battle are too great, the wage level will remain low and therefore the situation on the skilled labor market will not ease. This is unfortunately a sad truth for me."

An insider in the branch also told us in an interview that even before the Corona crisis, about 30% of the restaurants "lived hand-to-mouth because they couldn't calculate properly". These restaurants are of course already affected by the crisis before the 6 weeks mentioned above. For all of them - as the results of our survey show - it is true that if the restrictions on running the restaurant continue, a large number of restaurants will run into financial difficulties at the end of April or by mid-May at the latest, which will force them to give up the restaurant - even if they have been managing well before.

Employed vs. self-employed chefs

When we look only at the answers of the chefs, there are interesting differences in terms of whether they are self-employed or employed. On a scale of 1 (= do not agree at all) to 5 (= fully agree), employed chefs are slightly more likely to think that their restaurant will close permanently (mean value 2.37) or that their team will have to be reduced permanently (3.14) than independent chefs (1.62 for closure and 2.55 for reduction). Overall, both groups assume that the restaurant will not have to close permanently. However, the independent chefs hope much more that the guests will appreciate fine dining more after the crisis than before the crisis (3.69) compared to the employed chefs (3.17).

In the assessment of political activities, the two groups only differ in two assessments. The self-employed rate the statement that it takes far too long for support payments to arrive significantly higher than employed chefs. However, both groups agree very strongly with the statement that the losses suffered now cannot be compensated for later by the loss of guests. The fact is that an unoccupied seat on one evening cannot be compensated by putting two people on the same seat the next evening. For this reason, there is a pessimistic basic mood with regard to long-term survival despite the aid programs that have been decided upon.

Reactions

Reactions of the restaurants

As a strategy to deal with the crisis, 10.4% of the chefs responded that they had started a take-away service and 5.4% a delivery service. At the time of the survey, 2.5 % of the restaurants in which the respondents work took part in charity campaigns. The campaign

"Cooking for Heroes"³ is particularly well known and virally spread. It was initiated shortly after the Corona shutdown by Max Strohe and Ilona Scholl, who run the 1-star restaurant Tulus Lotrek in Berlin. In the meantime, this has developed into a charitable grassroots movement in the gastronomy sector, which aims to support people in functional professions (e.g. doctors, nurses, employees in pharmacies and supermarkets) with meals during the Corona crisis. In the meantime, 91 restaurants throughout Germany have joined this campaign (status 12 April 2020). Guests and non-restaurateurs can also participate in the campaign through donations. Other measures taken by the restaurants include the sale of vouchers (11.7%) for restaurant visits after the Corona shutdown. In some restaurants, the closure is used to carry out renovation work (12.6 %). A small proportion (4.1 %) stated that they had not yet taken any measures.

Activities of Chefs

The chefs state (multiple answers) that they are currently developing new menus (28.4%), digitizing their recipes (28.4%), using the time to produce cooking videos (1.6%) or preparing a new cookbook (1.6%). Almost a quarter of the chefs surveyed said they simply do nothing (22.5 %). In addition, 17.3% of respondents said that they were doing other activities to pass the time (e.g. sports activities, home schooling with their children, helping with the harvest). There are no differences between chefs and their subordinates in the kitchen. We will now take a closer look at the results of the training of the service staff.

3.2 Service employees

In the field of service, the age of the 132 respondents ranges between 21 and 68 years. The average age is 33.3 years. 51.5 % of the service staff surveyed are male and 48.5 % female. In the area of management, i.e. as maître (restaurant manager) or deputy in the management of a restaurant, men are more likely to be represented at 62 % (women: 48 %). A breakdown of the service staff working in fine dining restaurants shows that more women (56 %) than men (44 %) are employed in this sector.

³ URL: <https://kochen-fuer-helden.de>.

Table 1: Overview of the sample of service employees

	Not listed	Bib Gourmand Award	Plate Award	1 Star	2 Stars	3 Stars	Σ
Maître	13	4	5	3	2	1	28
stellv. Maître	8	1	2	4	0	2	17
Sommelier	5	1	3	7	2	0	18
Chef de Rang	29	4	10	4	4	1	52
Demi Chef de Rang	2	0	1	1	0	1	5
Commis de Rang	2	0	1	0	0	0	3
Trainee	4	0	0	1	1	3	9
TOTAL	63	10	22	20	9	8	132

The main respondents in our survey, 72.8%, were service staff working in restaurants that are not listed in the Guide Michelin. 27.2 % of those surveyed work in Michelin star restaurants. There are also differences in service between Michelin star restaurants and non Michelin star restaurants: in the first category, one waiter serves an average of five guests, while in the second category, each waiter must serve an average of seven guests. Table 2 provides precise information on the distribution of service employees in our survey. As we will see in the comparison below, service employees are financially more burdened by the corona shutdown than the chefs. There is not only a lack of income due to the loss of remuneration surcharges, but also, and above all, a lack of tips (which are often shared with the rest of the staff in the restaurant).

In contrast to chefs, who can still pursue their profession privately or in the form of the above-mentioned alternatives (producing cooking videos, writing recipes, etc.), service employees do not have these possibilities due to the Corona shutdown. It is therefore not surprising that 73% of those surveyed stated in the multiple answers that they do nothing. 21% stated that they were in further training and 7% are currently in the process of changing their career. In the corresponding fields for the free text answers, the occupational field of health care often appeared. One young chef from a restaurant not listed in the Guide Michelin actually fears "that even fewer young people will want to train for gastronomic professions and that more will be tempted to learn a system relevant profession" (Commis de Cuisine, non-listed restaurant). How the Corona Shutdown looks like from the perspective of the restaurant owners, we will show below.

3.3 Restaurant owners

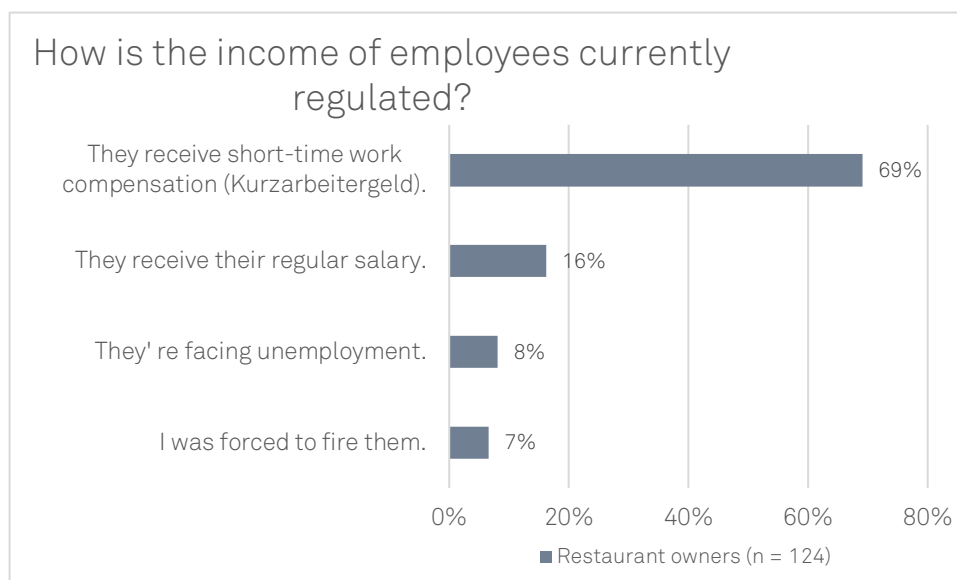
The restaurant owners who took part in our survey are 81% male and between 20 and 70 years old. The average age is 40.6 years. Few restaurant owners who run a Michelin star restaurant took part in our survey. The majority of them run one restaurant, 16 % run more than one restaurant. The following table gives an insight into the distribution.

Table 2: Overview of the sample of restaurant owners

	Not listed	Bib Gourmand Award	Plate Award	1 Star	2 Stars	3 Stars	Σ
one restaurant	77	14	9	4	0	0	104
more than one restaurant	16	1	1	2	0	0	20
TOTAL	93	15	10	6	0	0	124

Almost 30 % of the restaurant owners surveyed sent their employees on vacation initially as part of the Corona shutdown. This was at least an option to still pay the March salary in the full amount to the employees.

Figure 2: Regulation of employees' income from the perspective of restaurant owners

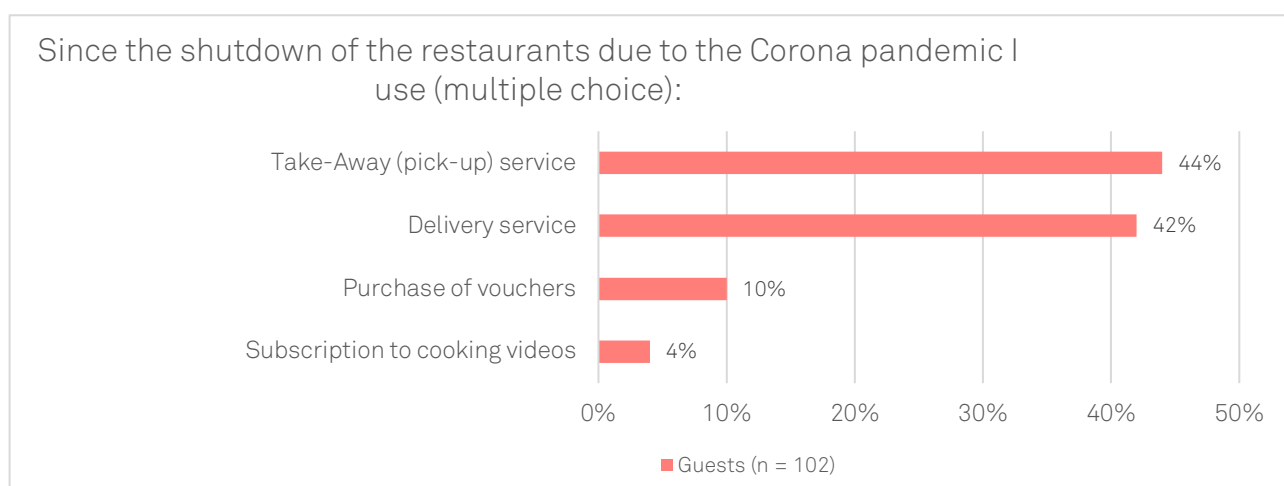


The majority, 69.1 % of the employees were registered for short-time work. Only 16.2% of the employees received their regular salary at the time of the survey, 6.6% of the employees were fired and a further 8.1% are threatened with unemployment in the companies in the future. How the regulation of income looks like from the employees' point of view we will compare below. First of all, we will look at the perspective of the guests.

3.4 Guests

For the guests participating in the survey, we integrated a short questionnaire into the online survey. Interestingly, 104 male guests and only 13 female guests took part in the survey. We had to remove the female guests for the analysis because they stated that they did not come from Germany and we limited this analysis to Germany only. In this respect, there seems to be a selective bias here and the results should be interpreted with caution. This bias also applies to the frequency of visits to restaurants that tend to be of the upscale segment: 50% of the guests who completed the questionnaire go to a restaurant without distinction once a week. A restaurant with a "MICHELIN Plate" award is visited by 50% of respondents every three months. The same applies to restaurants with a "Bib Gourmand" award and 1-star restaurants. 50 % of those surveyed visits a 2- or 3-star restaurant once a year.

Figure 3: Support activities by guests during the corona shutdown (n = 102)



Guests support the restaurants mainly by using take-away offers (44%) and delivery services (42%). Vouchers are bought by 10 % and 4 % have subscribed to cooking videos. Perhaps also in order to improve their own cooking skills, because the corona shutdown tends to increase cooking at home.

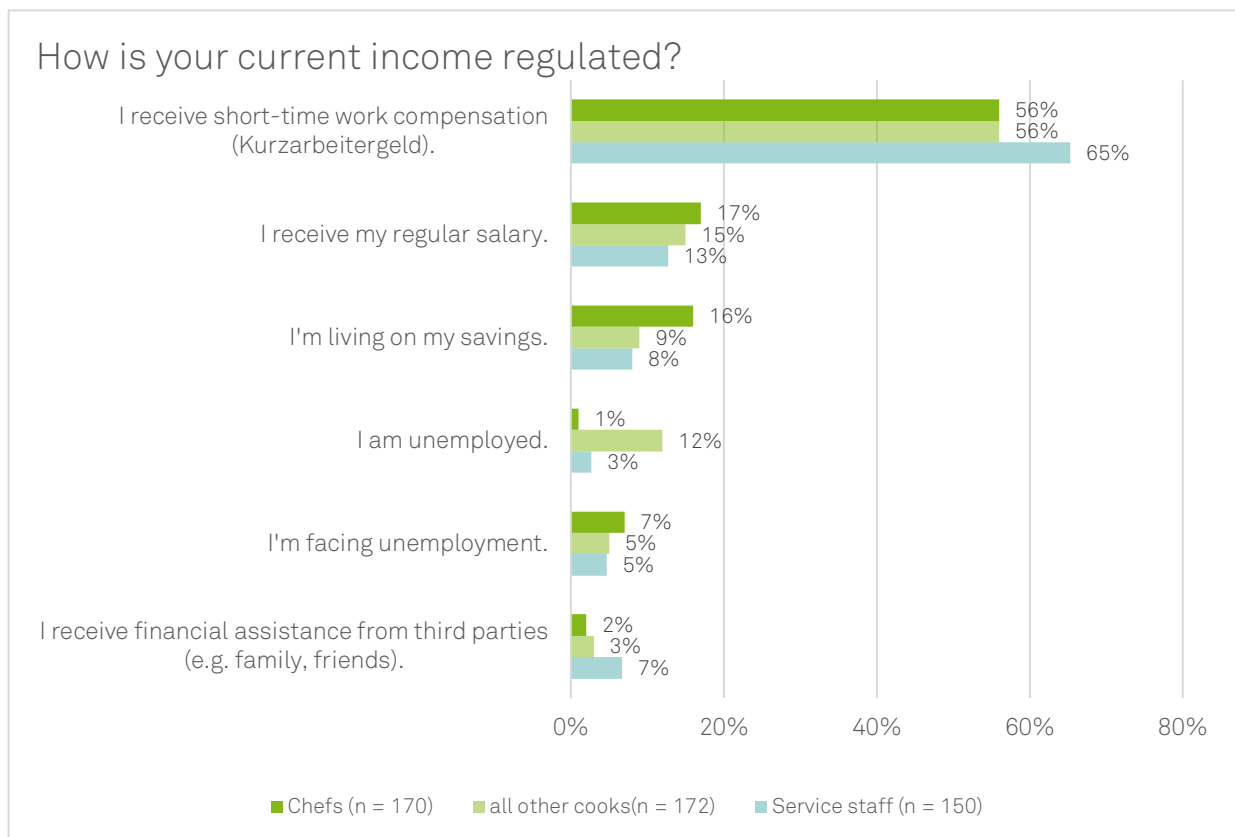
3.5 Effects of corona shutdown in comparison

Income regulation

In response to the question about their current income, 17% of the chefs answered that they receive their regular salary. In the area of service, only 13% said in the survey that they receive a regular salary. Across all groups of employees, the short-time work allowance is dominant.

Here, too, the service employees are particularly affected, with 65 %, as opposed to 56 % of the chefs at the time of the survey. At 12%, service employees are also more frequently unemployed than the cooks surveyed. Chefs more often than the other employees live on their savings (16%), which is probably due to the fact that self-employed chefs are in our sample. Service employees (7%) are particularly dependent on support from third parties (e.g. friends or family). Among the cooks surveyed, this figure is only 2% and 3% respectively. Cooks below the chef level are more likely to be unemployed (12 %), but they feel less threatened by unemployment. The following figure shows the results in comparison.

Figure 4: Regulation of current income in comparison



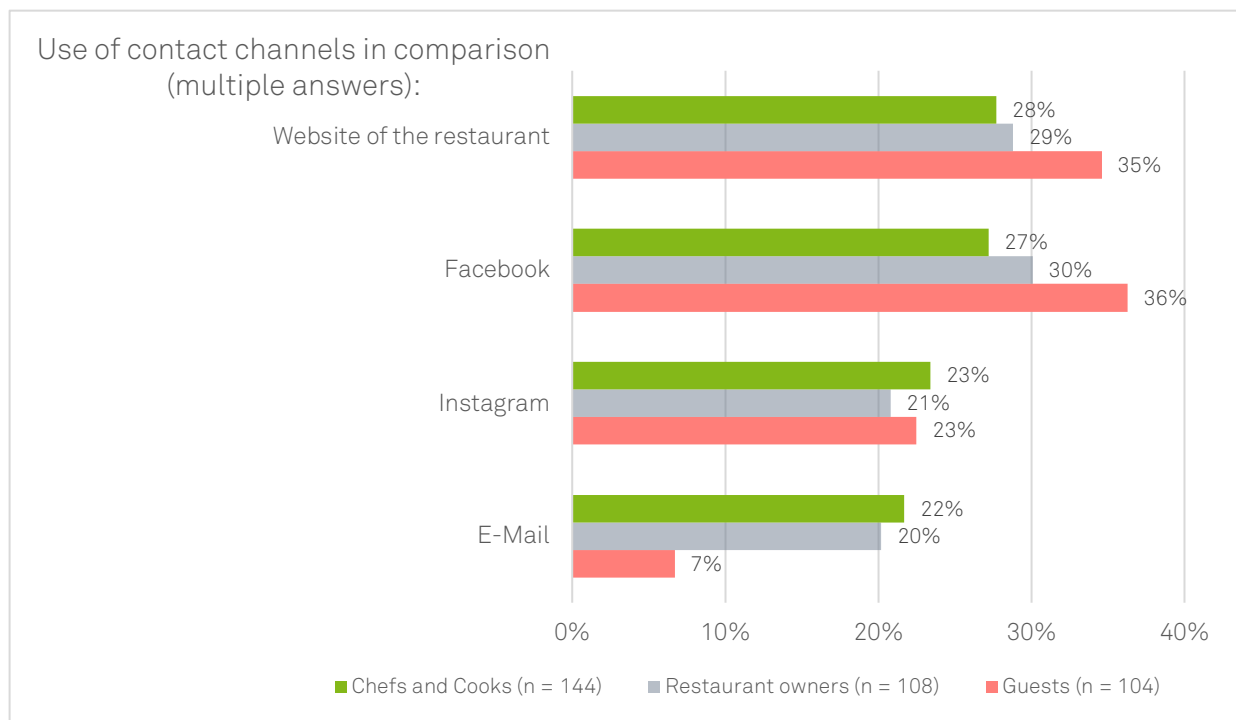
Overall, the financial situation in the restaurant sector is particularly precarious because the short-time work allowance not only reduces income, as it is often not topped up, but also eliminates additional income in the form of bonuses and tips. A Chef de Rang (station waiter) of a restaurant that was awarded a "MICHELIN plate" in the Guide Michelin assesses the situation as follows: *"The industry has no lobby anywhere. As a result, the short-time work allowance is almost nowhere increased. People generally earn very little. Now they usually have 60% of little."* As a result of the corona shutdown, employees in the restaurant sector will suffer massive financial losses and will hardly be able to survive financially at an already

low wage level. The situation is likely to be even worse for temporary staff working for a monthly salary of 450 EUR. *"In my opinion, the restaurant sector lives, to a not inconsiderable extent, from temporary workers, whether in the dishwashing kitchen, cleaning services or in service and kitchen. In my opinion, this group of people is neglected in the packages of measures"*, as a sous-chef of a restaurant not listed in the Guide Michelin comments on his perception during the Corona shutdown.

Contact to guests

For the future of the restaurants it is important to maintain contact with the guests. That is why we have asked both employees and self-employed people in the restaurant business as well as the guests how they keep in touch.

Figure 5: Use of contact channels in comparison (n = 356)

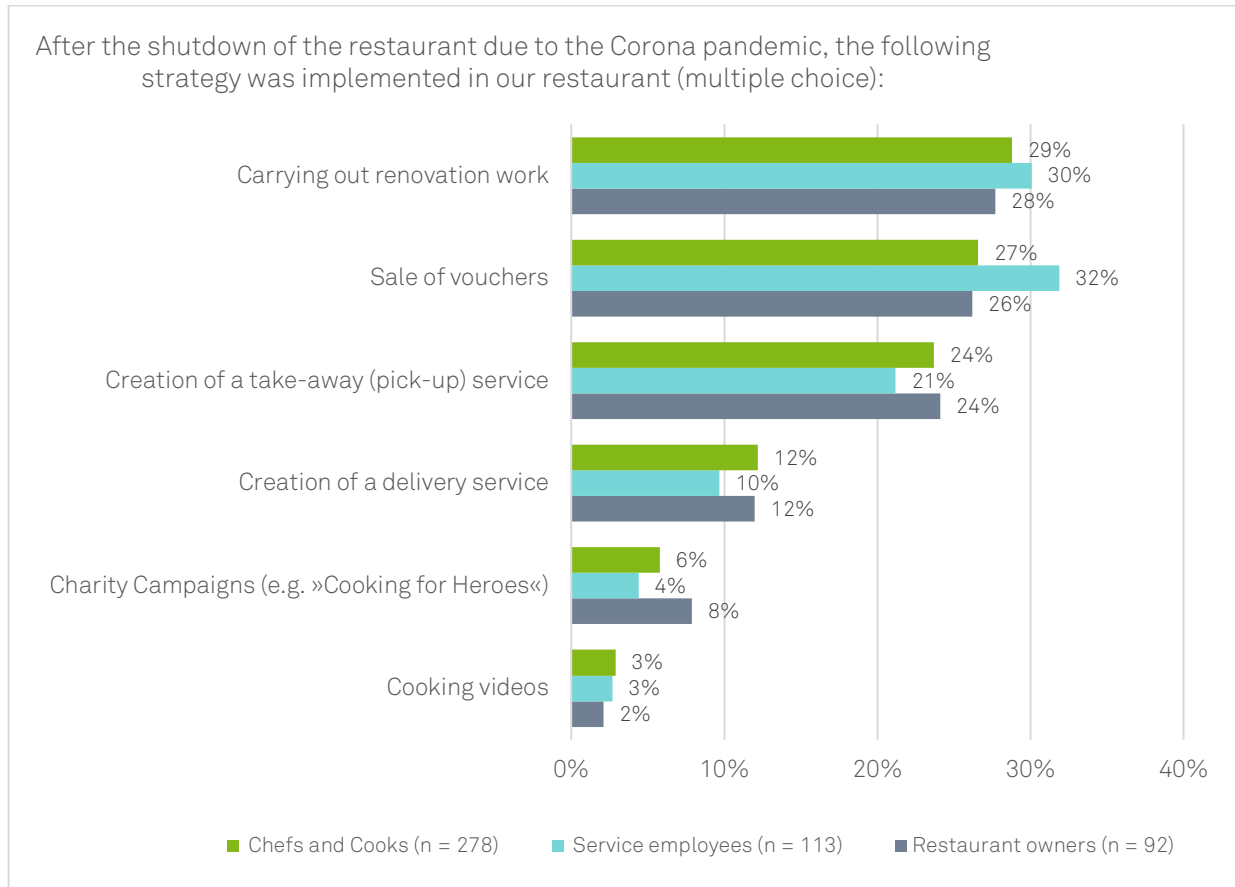


28% of the chefs maintain contact with guests via the restaurant's website. 35 % of the guests also look there for news. 27 % of the chefs choose the way via Facebook. A path that 36 % of the guests also take. Instagram is a communication channel for 23% of chefs, and the same number of guests use it to stay in touch with the restaurant or chef. E-mail is used by 22% of chefs, but only 7% of guests use it to communicate with restaurants.

Many chefs and restaurant owners use the Corona Shutdown for renovation work. Where the restaurant is closed, the postponed work can be done. The sale of vouchers is also an

instrument to maintain liquidity in the crisis. 17 % of chefs and 16 % of restaurant owners mention this measure.

Figure 6: Comparison of activities during corona shutdown (n = 483)

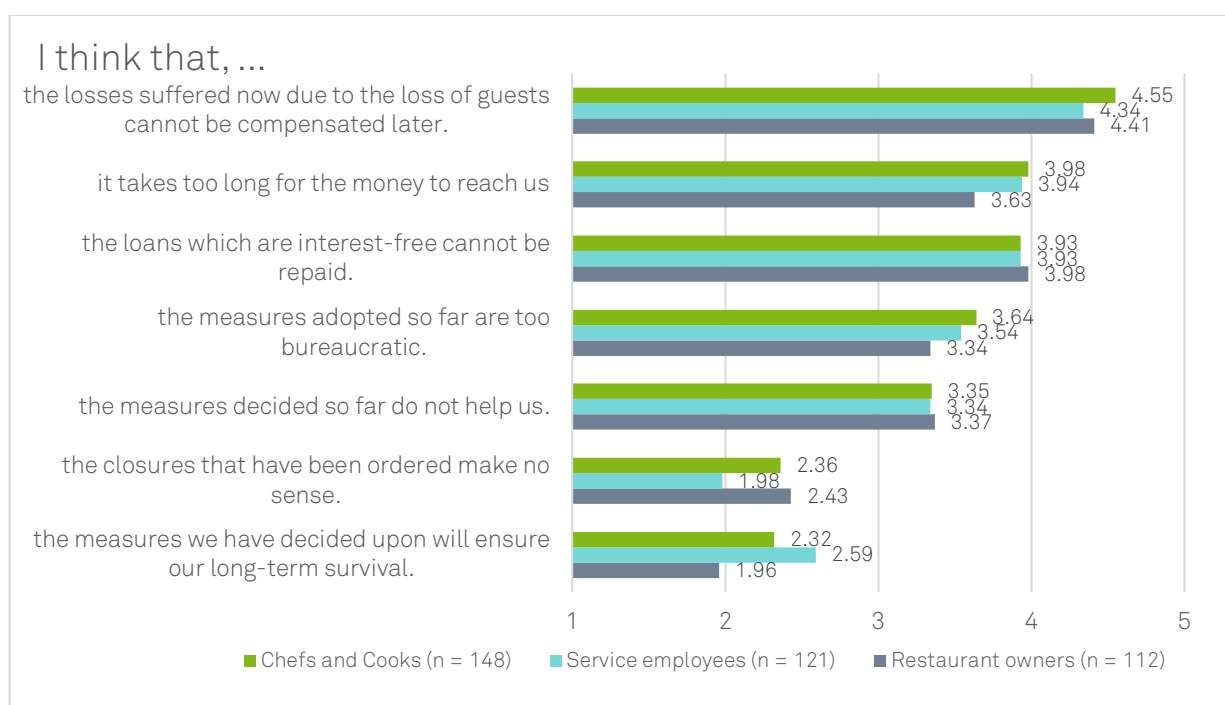


Business and customer contact are also maintained, in some cases with take-away or delivery service offers. 24 % of chefs and as many restaurant owners mention take-away service as a crisis measure. Half of them (12 %) each name delivery service as a new offer. Both forms of offer are not limited to star restaurants in big city locations, but can also be realized in rural areas, as the examples of the 1-star chef Sascha Stemberg in Velbert and the 2-star chef Douce Steiner in Sulzburg show. In some cases, however, these offers cause irritation among guests because a star menu cannot simply be transformed into takeaway cardboard boxes. In addition, the service that carries the guests through the evening is naturally missing. All in all, however, it must be said that these offers do not (yet) represent an equivalent business model, because they can hardly cover the running costs. A 1-star chef commented on this in the free text field of our survey with the following statement: *"Actionism à la delivery service in star restaurants does not help to solve the problem. This only suggests normality and demand where there is no normality and demand."*

Perception of political measures

We also surveyed the perception of political measures in the questionnaire. This reveals a great deal of skepticism across all groups of respondents regarding the effectiveness of the financial support measures. This is also due to the fact that there can be no catch-up effect in the restaurant sector (see above), as will be possible in other sectors. There is also criticism that *"the state subsidies granted are only sufficient for two to three weeks (if I leave my private costs out of it)"*, as one restaurant owner of a restaurant not listed in the Guide Michelin describes it in an exemplary statement.

Figure 7: Politicians are currently initiating many support projects and measures that should also save the restaurant sector from the crisis. What is your opinion on this? (n = 381)

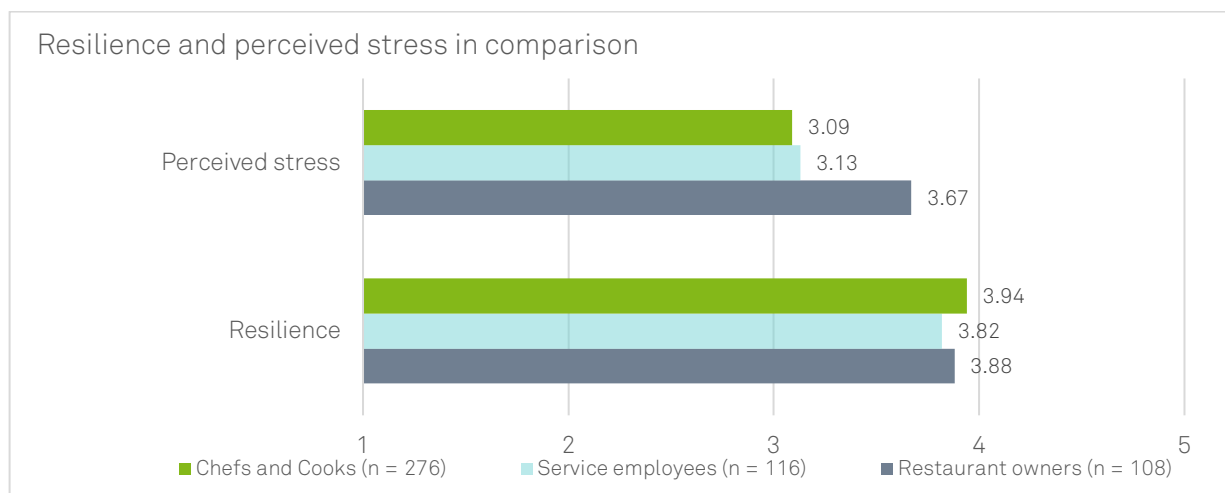


A self-employed chef of a 1-star restaurant therefore demands in the free text field at the end of the survey: *"We need immediate help, otherwise many restaurateurs will not be able to continue their businesses in the near future! And that would be a great loss, especially because in recent years fine dining restaurants in Germany have grown continuously and great young talents have become self-employed. If action is not taken fast now, these young entrepreneurs in particular will not be able to survive this crisis without fault."* In addition, a whole series of respondents are calling for a reduction in VAT in the restaurant sector from 19 % to 7 %.

Perceived stress and resilience

For all participants in the survey, the corona shutdown generates a high level of perceived stress. Everyone is asking himself or herself the question whether and how things can proceed at all. In order to measure this aspect, we asked for the perceived stress. The index of perceived stress was measured with the Perceived Stress Questionnaire (PSQ) according to Levenstein et al. (1993; German adaptation and validation by Fliege et al. 2001) on the basis of 15 items and has a very high reliability with α ,89. The relevant items were scored on a scale with the extreme values of 1 (= disagree completely) and 5 (= agree completely). Charity actions such as "Cooking for Heroes" serve to provide some meaning in the crisis. Our survey also shows that this is the case with cooks. Chefs who take part in charity actions have a mean value of 2.89 on the perceived stress scale, while the corresponding mean value for chefs who do not take part is slightly higher at 3.1, although the difference is not significant. Thus, giving meaning can reduce the perception of stress. In contrast, a slightly higher stress value was measured for service employees and restaurant owners than for people whose restaurants participate in the charity campaigns. Since, as a rule, only the chefs are involved in the charity campaigns, without the service staff and restaurant owners, it is not surprising that the latter groups do not develop a sense of meaning and stress is not reduced by such campaigns.

Figure 8: Comparison of resilience and perceived stress (n = 500)



In addition, we have assessed the resilience. It measures the personal resilience to survive difficult life situations without lasting impairments. We measured the resilience with the CD-RISC 10 according to Connor and Davies (2003). The formed index with 10 items also has a high reliability of α ,74. Chefs who participate in charity campaigns have a significantly higher value (an average value of 4.23 on a scale of 5) than those who do not participate (3.92). Overall, the

resilience of all cooks is significantly higher (3.94) than that of service staff (3.82).

There are no differences in resilience between cooks on the one hand and restaurant owners on the other. However, the perception of stress differs significantly between the two groups. At 3.09, chefs have a significantly lower perception of stress than restaurant owners (3.67) (Figure 8). The difference is probably due to the higher responsibility of restaurant owners.

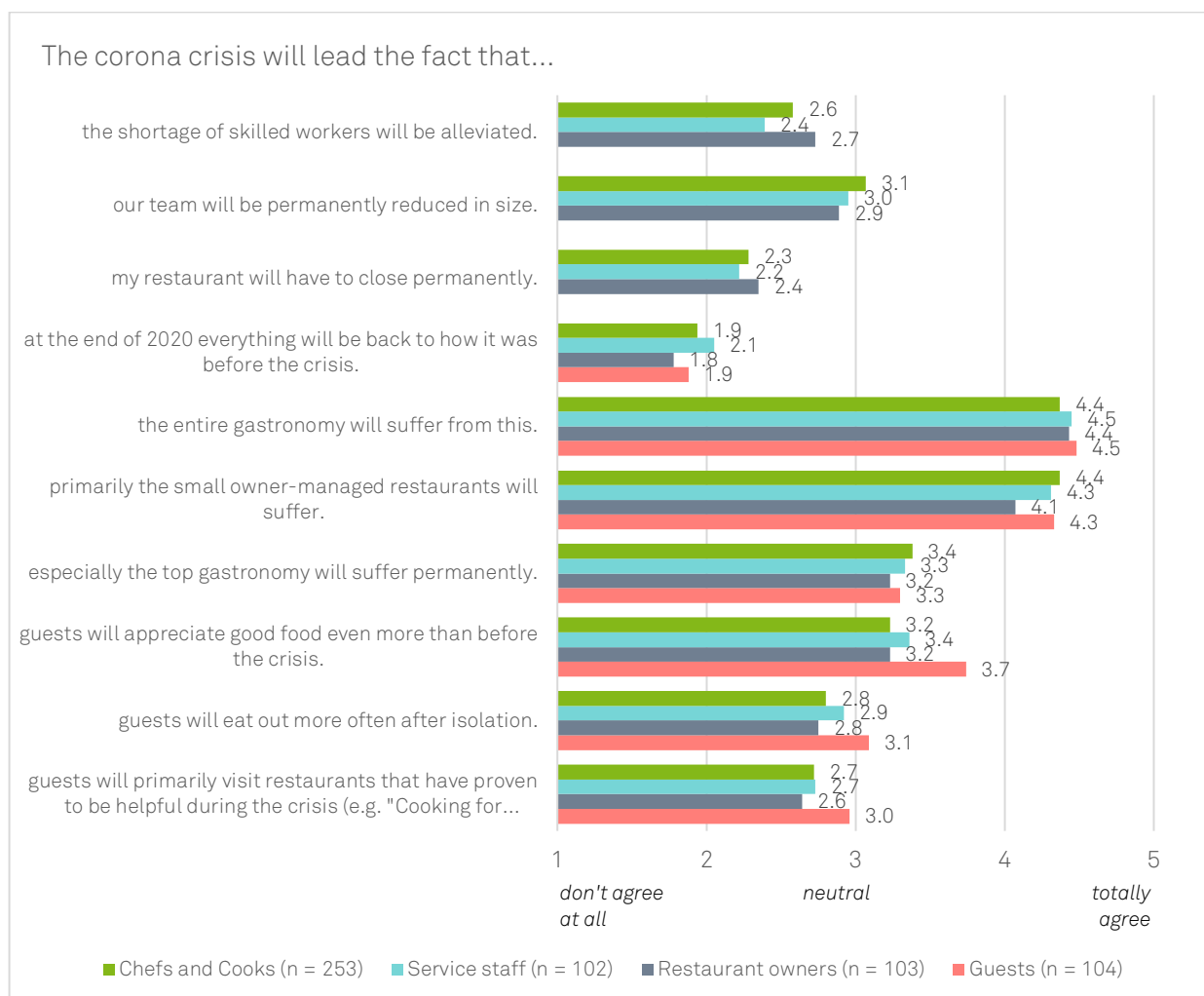
Finally, the question arises as to which factors influence the perception of stress caused by the corona shutdown of chefs. A more detailed, multivariate analysis of the data shows that the personal perceived stress of chefs is essentially dependent on four factors: (1) It has an influence on whether they are employed or self-employed. The self-employed have a significantly higher stress perception in the corona shutdown. (2) The pessimistic perception of the currently introduced political measures increases the stress perception. For example, the assessment that money takes too long to arrive, that measures are too bureaucratically regulated and that loans do not help because they cannot be repaid, has an influence on stress perception. In contrast, the personal situation, whether someone is already unemployed, on the verge of becoming unemployed, is on the verge of being unemployed, is receiving short-time work benefits or something similar, has no influence on the perception of stress. The perception of the support measures provided by politicians thus influence the personal perception of stress much more than the objective work situation. (3) Resilience has the greatest effect. The higher the resilience, the lower the stress perception in corona shutdown. (4) Likewise, the stress perception of female cooks is lower than that of their male colleagues. Accordingly, gender also has an influence, but not age or whether the restaurant is a Michelin star restaurant or not.

Future assessment

The assessment of the future is relatively homogeneous among all groups surveyed (cooks, service employees, restaurant owners and guests) (Fig. 9). In particular, the assessment that the entire gastronomy sector will suffer from the Corona crisis is very much in favour. It is interesting to note that the expectation of particularly severe problems for small, owner-managed restaurants is not quite shared by the restaurant owners, although the overall agreement on this item is very high. Almost no approval is given to the assessment that at the end of 2020 everything will be as it was before the Corona crisis. *"The diverse gastronomic landscape will be different after Corona,"* was how a chef of a two-star restaurant summed up the situation in the free text field at the end of our survey.

For the chefs and all other employees in the restaurant business, the guests' assessment that the value of good food will be even more appreciated after the crisis than before will be somewhat comforting, as will the expectation that after the isolation, people will go out for dinner even more often than before. It remains to be seen whether the guests will be guided by their own expectations. But some chefs are also hopeful. For example, the head chef of a 1-star restaurant wrote at the end of the survey: *"I believe that after the crisis people will again appreciate more how much work is involved in cooking, now you have to cook yourself quite often"* (Chef, 1-star restaurant).

Figure 9: Comparison of future assessments after the corona crisis (n = 562)



4. Conclusion and future prospects

All respondents agree that the political measures that have been adopted will not ensure the survival of the restaurant in the long term. In contrast to other sectors, there can be no catch-up effect in the catering industry, because each table - at least in the German fine dining restaurant sector - is reserved only once per service. It is a fact that the damage suffered by the restaurant business as a result of the Corona shutdown will only be postponed by means of support measures and a bankruptcy wave will roll onto the restaurant business with a delay. Whether this will be the case, we will check at a later date in a follow-up survey with the previous participants.

Our results show that at the beginning of May, 50% of all restaurants will have reached the point at which an insolvency application must be submitted. Even if the Michelin star restaurants can hold out a little longer on average, it is foreseeable that they too will be threatened with free fall in the not too distant future and that the delicate plant of fine dining culture in Germany will die out. Even for star chefs, preparing culinary highlights that meet a Guide Michelin assessment is no longer the focus of attention. Instead, they are lowering their standards and often cook "simple" dishes for their guests as take-away offers or for the "heroes" of the Corona crisis. It remains to be hoped that the plant that has just blossomed a little in Germany's culinary elite will not dry up. One star chef pointed out the current situation to us as follows: *"The Guide Michelin has been a good thing for fine dining. But I have no idea how important the award still is. At the moment, I can just see that everyone is trying to survive."*

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