

Antonia Sureth*, Lioba Gierke, Jens Nachtwei, Matthias Ziegler, Oliver Decker, Markus Zenger and Elmar Brähler

Universal Basic Income Universally Welcomed? – Relevance of Socio-Demographic and Psychological Variables for Acceptance in Germany

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Abstract: The COVID-19 pandemic plunged economies into recessions and advancements in artificial intelligence create widespread automation of job tasks. A debate around how to address these challenges has moved the introduction of a universal basic income (UBI) center stage. However, existing UBI research mainly focuses on economic aspects and normative arguments but lacks an individual perspective that goes beyond examining the association between socio-demographic characteristics and UBI support. We add to this literature by investigating not only socio-demographic but also psychological predictors of UBI acceptance in a multivariate analysis using a representative sample of the German working population collected in 2020 ($N = 1986$). Our results indicate that being more supportive of a UBI

***Corresponding author: Antonia Sureth**, Department of Psychology, Humboldt-Universität zu Berlin, 10099 Berlin, Germany, E-mail: antonia.sureth@hu-berlin.de

Lioba Gierke, Chair of Leadership, WHU – Otto Beisheim School of Management, 40233 Düsseldorf, Germany, E-mail: lioba.gierke@whu.edu

Jens Nachtwei, Department of Psychology, Humboldt-Universität zu Berlin, 10099 Berlin, Germany; and Department of Business Psychology, University of Applied Management, 85737 Ismaning, Germany, E-mail: jens.nachtwei@hu-berlin.de

Matthias Ziegler, Department of Psychology, Humboldt-Universität zu Berlin, 10099 Berlin, Germany, E-mail: matthias.ziegler@hu-berlin.de

Oliver Decker, Else-Frenkel-Brunswik-Institute, Leipzig University, 04109 Leipzig, Germany; and Department of Psychology, Sigmund Freud Private University Berlin, 12101 Berlin, Germany, E-mail: oliver.decker@uni-leipzig.de

Markus Zenger, Department of Applied Human Sciences, University of Applied Sciences Magdeburg-Stendal, 39576 Stendal, Germany; and Integrated Research and Treatment Center Adiposity Diseases, Behavioral Medicine Unit, Department of Psychosomatic Medicine and Psychotherapy, Leipzig University Medical Center, 04103 Leipzig, Germany, E-mail: markus.zenger@h2.de

Elmar Brähler, Integrated Research and Treatment Center Adiposity Diseases, Behavioral Medicine Unit, Department of Psychosomatic Medicine and Psychotherapy, Leipzig University Medical Center, 04103 Leipzig, Germany; and Department of Medical Psychology and Medical Sociology, Leipzig University Medical Center, 04103 Leipzig, Germany, E-mail: elmar.braehler@medizin.uni-leipzig.de

went along with being comparably younger, of East-German origin, and more in favor of equal living standards, as well as perceiving one's economic situation to be worse and the threat of the corona-pandemic to be higher.

Keywords: universal basic income (UBI); acceptance; future of work; economic crisis; technological unemployment; psychology

1 Introduction

The concept of technological unemployment is not new and has been subject to scientific debate for decades (Spencer 2018). Technological advancements are causing unemployment by, for example, making jobs obsolete (online banking replacing bank clerks), increasing employee efficiency (automated production lines lowering the demand of assembly workers), or eliminating business models (online mail order replacing brick-and-mortar retail). It has never been more pressing: artificial intelligence is on the rise and can outperform humans at an unprecedented pace, vastly expanding its application in organizations (Zhang et al. 2021). The policy discourse around the future of work has been much centered around a heated debate on whether this will lead to a dramatic rise in unemployment (Acemoglu and Restrepo 2018; Arntz, Gregory, and Zierahn 2017; Autor 2015; Frey and Osborne 2017). Some argue that a whole set of new jobs will evolve out of these developments which will compensate job losses (Wilson, Daugherty, and Bianzino 2017). Others stress that “technological singularity” and the prospects of a jobless future are still far from imminent (Naudé 2021; Upchurch 2018). Nevertheless, it can hardly be denied, that a considerable number of jobs will become obsolete in the future due to technological advancements that drive automation (Brynjolfsson and McAfee 2014; Susskind 2020). On top of that, the COVID-19 pandemic led to one of the largest global economic crises in recent history, with a loss of 114 million jobs relative to pre-crisis employment levels (International Labour Organization 2021) and profound impacts on work structures as well as employment (Hodder 2020).

In a society facing technological unemployment (Peters 2017) and economic insecurities, the need for different welfare systems becomes more urgent (Denuit 2018). In Germany, the current social security system provides need-based financial aid which requires a proof of indigency and is thus not unconditional. Essentially, this encompasses unemployment benefits, student loans and statutory pension schemes. A possible alternative or addition to this is the introduction of a universal basic income (UBI) as a “social safety net” (Perkins et al. 2022, p. 1), providing every individual with an unconditional, universal, regular, and sufficient payment (Standing 2012). However, the implementation of a UBI, which is entirely hypothetical at this point, would represent a profound change of the welfare system that would have enormous implications for those who implement and fund it, as well as for those who benefit from it.

This raises many questions – including specific design principles (Chrisp, Pulkka, and García 2020; Rincon, Vlandas, and Hiilamo 2022), funding channels (Ghatak and Jaravel 2020), implementation and communication strategies, but also at the individual level about potential effects on work engagement (Cabrales, Hernández, and Sánchez 2020) and overall support of a UBI (Busemeyer, Rinscheid, and Schupp 2023; Vlandas 2021).

Even though there has been a decade-long, extensive academic and political debate on a UBI, it has been primarily focused on the questions of feasibility, economic effects, and normative arguments for and against it. Surprisingly, in the future of work literature, the topic has been remarkably underrepresented (Schlogl, Weiss, and Prainsack 2021) and to date, there are only few studies that consider a UBI in the context of automation and technological unemployment (e.g., Busemeyer and Sahn 2022; Cabrales, Hernández, and Sánchez 2020; Dermont and Weisstanner 2020). Further, the existing literature on a UBI mostly focuses on political, systemic, or social research questions and is less concerned with the individual perspective of recipients. Existing research that does take the individual perspective examines either (1) individual characteristics associated with UBI support (e.g., Busemeyer, Rinscheid, and Schupp 2023; Shin, Keppnanien, and Kuitto 2021; Vlandas 2021) or (2) individual attitudes towards a UBI in general (e.g., Laenen, Van Hootegeem, and Rossetti 2023; Stadelmann-Steffen and Dermont 2020; Zimmermann et al. 2020) or (3) towards specific features of a UBI (e.g., Rincon 2023; Rincon, Vlandas, and Hiilamo 2022; Rossetti et al. 2020). While (2) and (3) are aimed to better understand what features of a UBI are attractive or unattractive to people, (1) aims to better understand what characterizes people who accept or reject a UBI.

There are several studies that have examined individual characteristics associated with UBI support. Roosma and van Oorschot (2020), Vlandas (2021), and Shin, Keppnanien, and Kuitto (2021), for example, used pre-pandemic data from 2016 to analyze socio-demographic variables across different European countries. Choi (2021) examined the association between values and UBI support, and Parolin and Siöland (2020) investigated the association between political attitudes and UBI support. However, all these studies used the same dataset (8th wave of the European Social Survey collected in 2016), which means that the richness of the results, especially with regard to socio-demographic variables such as gender, age, etc., is not quite as high as it first appears.

Furthermore, UBI support is very likely to depend on existing welfare systems as well as historical, economic, and cultural factors of a country (Zimmermann et al. 2020). Thus, country-specific research is important to complement cross-country comparisons, especially because neither evidence from cross-country studies nor from single-country studies can be transferred to other countries unreservedly. There are several studies that have used pre-pandemic country-specific data, e.g., from Japan (Yang, Mohan, and Fukushi 2020), the UK and Finland (Chrisp, Pulkka, and García 2020), or Germany (Adriaans, Liebig, and Schupp 2019), to add a

country-specific perspective to the aforementioned cross-country studies. More recently, Weisstanner (2022) and Van Hootegem and Laenen (2023) used data that was collected during the COVID-19 pandemic to examine socio-demographic variables in the UK and Belgium, and Busemeyer, Rinscheid, and Schupp (2023) investigated UBI acceptance in Germany using post-pandemic data.

Although the abovementioned studies investigated factors associated with UBI support, all of these studies have a strong socio-demographic focus and lack a psychological perspective. As it is very likely that both socio-demographic variables, i.e., variables that cover facts about people (e.g., age or gender), and psychological variables, i.e., variables that cover people's subjective experience (e.g., equality orientation or job satisfaction), are relevant for explaining UBI support, this is a major research gap. Especially considering that UBI support is also a product of subjective evaluation and thus a psychological variable, it is very plausible that psychological variables significantly contribute to explaining UBI support and might even surpass socio-demographic factors in relevance. Furthermore, because many potential predictors are likely to overlap, it is important not only to analyze bivariate relationships between UBI support and potentially relevant variables, but to identify unique relations and examine their relative importance in explaining UBI support. To our knowledge, there is no research that does this and examines the relative importance of socio-demographic and psychological predictions in a multivariate analysis. Moreover, all presented studies examined predictors of UBI support in the full population. Studies focusing on the working population as the largest group that is directly affected by technological unemployment and potential changes of the welfare system in reaction to this, to our knowledge, have not yet been conducted.

We address these research gaps by identifying not only socio-demographic but also psychological predictors of UBI acceptance (which we use equivalent to UBI support) in a multivariate analysis with a specific focus on the German working population using data that was collected during the COVID-19 pandemic. With our research, we intend to take the individual dimension of the UBI debate into focus and add a psychological perspective to the ongoing debates. We do so by (1) investigating a psychological criterion, i.e., UBI acceptance, (2) by examining several well-established psychological predictors (e.g., job satisfaction, performance orientation, loneliness) regarding their relevance for explaining UBI acceptance, and (3) by differentiating between objectively measurable socio-demographic and subjective psychological predictor variables of UBI acceptance in a multivariate analysis.

Specifically, we combined a total of 15 variables in a comprehensive multivariate analysis to identify relevant socio-demographic and psychological predictors of UBI acceptance. Of these 15 variables, eight were socio-demographic (i.e., gender, age, income, education, care duty for children, unemployment frequency, regional origin in Germany, and employment status) and seven were psychological (i.e., job satisfaction,

perceived economic situation, performance orientation, corona perception, equality orientation, leisure satisfaction, and loneliness).

We investigated these variables partly based on directed hypotheses and partly exploratory. For a first set of variables (i.e., gender, age, income, and education), we aimed to replicate existing findings to provide more robust evidence and complement existing research by examining their relative importance in explaining UBI acceptance. Thus, existing empirical evidence was used to derive directed hypotheses.

A second set of variables captures concepts that are considered established in psychology but have not yet or only sporadically been studied in the context of UBI acceptance (i.e., job satisfaction, perceived economic situation, performance orientation, corona perception, and equality orientation). Consequently, there is little to no empirical evidence on the relationship between those psychological predictors and UBI acceptance. This is not surprising, since psychological research in general paid little attention to the topic of a UBI so far (Hüffmeier and Zacher 2021). Still, there are related empirical findings on the predictor level that we combined and argumentatively related to UBI acceptance to derive directed hypotheses.

For a last set of variables containing both socio-demographic and psychological predictors, there is too little robust prior work to justify hypotheses (i.e., care duty for children, unemployment frequency, regional origin in Germany, employment status, leisure satisfaction, and loneliness). Thus, we conducted exploratory analyses for these variables.

1.1 Gender, Age, and Education

Gender is much discussed in the context of a UBI (emancipation, gender pay gap, etc.). However, the empirical evidence on the association between gender and UBI acceptance is inconclusive: Vlandas (2021) finds slightly higher UBI support among men, which he did not expect based on the literature consulted, which rather suggests higher UBI support among women. Roosma and van Oorschot (2020) and Shin, Keppnani, and Kuitto (2021) find no gender effect based on the same data (European Social Survey, 2016, 8th wave), neither do Adriaans, Liebig, and Schupp (2019) and Busemeyer, Rinscheid, and Schupp (2023) for the German resident population. However, even though gender may not be relevant for UBI support in resident populations, this could be different for the working population, which does not include pupils, students, and probably most importantly pensioners. Gender-specific differences in care work, income, and working hours are thus likely to be much more pronounced in the working population compared to the full resident population. As these are plausibly relevant factors shaping individuals' expectation on how a UBI

might influence their personal circumstances, gender may still be a relevant predictor in the working population. It is often argued that a UBI could provide women, who are still often earning less than men, with financial security, potentially strengthening emancipation as women's financial independence increases (Schulz 2017). Additionally, it is likely that families expect a UBI to significantly increase their household income. Consequently, reducing regular working hours and using the UBI to compensate for the resulting loss of income may be an attractive option that allows for more flexibility in families. Assuming that women are still primarily responsible for childcare, it is plausible that they would particularly benefit from this gained flexibility. On the one hand, because more family time is created in which women are relieved of their care duties. On the other hand, because more care time can be covered by the partner, creating free space for women to use for their own purposes (professional or private). Taken together, we therefore find it plausible that women in the working population would expect greater personal benefits from a UBI than men. Accordingly, we assume that women are more likely to support the idea of a UBI and hypothesize for our data of the German working population:

H1: Women show significantly higher UBI acceptance than men.

In Germany, as a country with a relatively old and comparatively well-educated population, age and education play a significant role in the UBI discussion. A study conducted by Adriaans, Liebig, and Schupp (2019) revealed significantly higher UBI acceptance among people of younger age and higher education in Germany. Similar results have been found for Europe. Vlandas (2021) also found younger age and higher education to be significantly associated with higher UBI support, while Roosma and van Oorschot (2020) found the same age effect, but the opposite for education and Shin, Keppnanien, and Kuitto (2021) only found the same age effect. Findings by Busemeyer, Rinscheid, and Schupp (2023) point into a similar direction. Their analysis of two representative samples of the German resident population shows that compared to people above 65 years old, UBI acceptance was significantly higher among people between 25 and 45 years old, while there was no significant effect for people below 25 years and people between 46 and 65 years old. In tendency, these results suggest that UBI acceptance is higher among younger people in the working population. Thus, for our sample of the German working population, we hypothesize:

H2: Age correlates significantly negatively with UBI acceptance.

H3: People with higher education show significantly higher UBI acceptance than people with lower education.

1.2 Perceived Economic Situation and Income

As a UBI would constitute an additional source of income, it is intuitively plausible that the current amount of income may have an influence on UBI acceptance. Vlandas (2021) and Shin, Keppnanien, and Kuitto (2021) found lower income to be associated with higher UBI support using the European Social Survey data. Results by Adriaans, Liebig, and Schupp (2019) and Busemeyer, Rinscheid, and Schupp (2023) for Germany also suggest higher UBI acceptance among those who would directly financially profit from a UBI.

However, a distinction must be made between the objective and subjective conceptualization and operationalization of people's economic situation. It is possible that people are objectively in a privileged economic situation but perceive their economic situation as difficult. Accordingly, the objective and subjective assessment of people's economic situation can diverge. The relevance of this differentiation is particularly important in cases of difficult economic situations, as Sinclair and Cheung (2016) show in their overview and Klug, Selenko, and Gerlitz (2021) in their current study for data from Germany. With regard to a UBI, research by Roosma and van Oorschot (2020) finds that unemployment (objective) but also a lower subjective income (subjective) correspond with higher UBI acceptance. Thus, we hypothesize:

H4: People with a lower net income show significantly higher UBI acceptance than people with a higher net income.

H5: The perceived own current economic situation correlates significantly negatively with UBI acceptance.

1.3 Corona Perception

The COVID-19 pandemic was an “economic shock” (Hensher 2020, p. 1) and quickly became one of the largest global economic crises. This led to a large increase in macroeconomic (Carriero et al. 2021) and subjectively perceived economic uncertainty (Thum 2021). As times of financial insecurity often call for a change in policies, it is not surprising that the idea of a UBI has been discussed extensively among mainstream media since the onset of the pandemic (Hampel 2020). Both public opinion research institutes (e.g., YouGov, WeMove Europe 2020) and academia (e.g., Nettle et al. 2021; Van Hootegem and Laenen 2023) have developed an interest in

examining how support for a UBI changed during the COVID-19 pandemic and, if so, why.

Nettle and colleagues (2021) found that study participants who rated it as important to have a social security system that reduces stress and anxiety show higher UBI support. It seems likely that people who perceive the pandemic as threatening in that they expect negative consequences for themselves and people around them are more likely to experience anxiety and therefore more likely to value systems that reduce stress and anxiety. Thus, it seems plausible that these people also show higher UBI support. Busemeyer, Rinscheid, and Schupp (2023) analyzed two large representative samples of the German resident population and found that greater concern about one's economic situation was significantly associated with higher UBI acceptance. Plausibly, a high perceived level of threat posed by the corona-pandemic includes concern about one's economic situation and is thus also associated with higher UBI acceptance. Following this, we hypothesize:

H6: The perceived level of personal threat posed by the corona-pandemic correlates significantly positively with UBI acceptance.

1.4 Equality Orientation

Since a UBI would be paid unconditionally to all citizens, thus treating all citizens equally regardless of their characteristics or proof of indigency, it is reasonable to assume that people associate an increase in equality with the implementation of a UBI. Thus, it is plausible that people who inherently care about equality would also be in favor of a UBI. This is supported by Schwander and Vlandas (2020) in their analysis of the European Social Survey data from 2016 (8th wave) and Adriaans, Liebig, and Schupp (2019) who analyzed data from Germany and found that people who perceive the needs of the most vulnerable in society as not being met are more likely to support a UBI. Therefore, we assume:

H7: Equality orientation correlates significantly positively with UBI acceptance.

1.5 Performance Orientation

A representative poll in Germany found that 80 % of participants perceive it as fair that people who perform well make a lot of money (Informationsdienst des Instituts der deutschen Wirtschaft 2019). "Performance must pay off" appears to be a central

motive of performance-oriented societies such as Germany, in which we often also see a relatively high centrality of work in life (Lu et al. 2019). Thus, it is not surprising that in countries with higher average employment commitment, the acceptance of a UBI, which is need- and not performance-oriented (Segbers 2019), is lower (Kozák 2021). For Germany, Adriaans, Liebig, and Schupp (2019) found that people who are more likely to support the performance principle as a social distribution rule are less likely to support a UBI. Thus, we hypothesize:

H8: Performance orientation correlates significantly negatively with UBI acceptance.

1.6 Job Satisfaction

Low job satisfaction scores are associated with higher absenteeism rates (Scott and Taylor 1985; Čikeš, Maškarin Ribarić, and Črnjar 2018 for a review), and turnover intentions (Chen et al. 2011; Hom et al. 2017). However, people who are not satisfied with their professional situation often do not quit their jobs due to extrinsic restraints such as financial necessities (Herzberg et al. 1993; Suadicani et al. 2013). An unconditional regular payment could free these people from financial boundaries and their unsatisfying work situation. Following this, we hypothesize:

H9: Job satisfaction correlates significantly negatively with UBI acceptance.

1.7 Further Variables

Apart from the abovementioned, further variables, i.e., people's care duty for children, regional origin in Germany, employment status, unemployment frequency, leisure satisfaction, and loneliness might also be relevant for UBI acceptance. Since these variables were included in the full survey dataset but cannot profoundly be grounded in the literature, we investigate them exploratively.

The introduction of a UBI is one possible way to address economic insecurities. However, many unanswered questions, including the issue of acceptance, remain. Our research contributes to the ongoing UBI discussion by providing insights into socio-demographic and psychological variables associated with UBI acceptance among the German working population based on recent data from the COVID-19 pandemic.

2 Method

2.1 Participants and Procedure

For the present study, we used a subsample of the 2020 data from a large representative multi-topic survey of the German-speaking resident population on physical and mental health that is conducted annually by the University of Leipzig. The 2020 survey was approved by the institutional ethics review board of the University of Leipzig (ref. 043/20-ek) and followed the ICH-GCP-guidelines. It was examined from ethical, medical-scientific, and legal points of view and was approved with no further restrictions.

The compilation of the survey sample and the data collection were carried out by USUMA GmbH, an independent institute for market and social research. The data were collected between May and June 2020. To ensure representativeness of the sample for the German-speaking resident population, the sample was randomly drawn using an area-based sample provided by the ADM (Arbeitskreis Deutscher Markt- und Sozialforschungsinstitute e.V. [Working Group of German Market and Social Research Institutes e.V.]) covering all inhabited areas in Germany. Within a total of 258 regional areas, 5418 households were randomly selected using a random-route-procedure and one target person was randomly identified in each household using a Kish-Selection-Grid. Of 5418 identified persons, 2521 could be reached and were interviewed.

All participants were informed about the study procedure, the voluntary nature, the right to withdraw, the strict confidentiality as well as the anonymization of all personal data. After giving informed consent, participants completed guided structured face-to-face interviews with trained interviewers at their homes. The interviews consisted of two parts. First, socio-demographic questions were read out loud and participant answers were noted down by the interviewer. Second, participants independently, and without any further moderation by the interviewer, filled in a questionnaire. A total of 18 interviews were unusable and directly excluded by USUMA so that the full survey dataset provided by USUMA comprised 2503 participants. Table S1 in the Supplemental Material provides details on the response rate.

For the present study, we used a subsample of the full survey dataset compiled by USUMA, which covers only the German working population (details on participant exclusion are provided in the analytic strategy section). The final sample size was $N = 1986$. The mean age was 44.4 years ($SD = 13.64$). Of the participants, 49.3 % were female, 15 % had a university degree, 32 % reported a personal net income of 2000 Euro or more, and 75.8 % reported being employed at the time of the study. Figure 1 provides an overview of the sampling procedure.

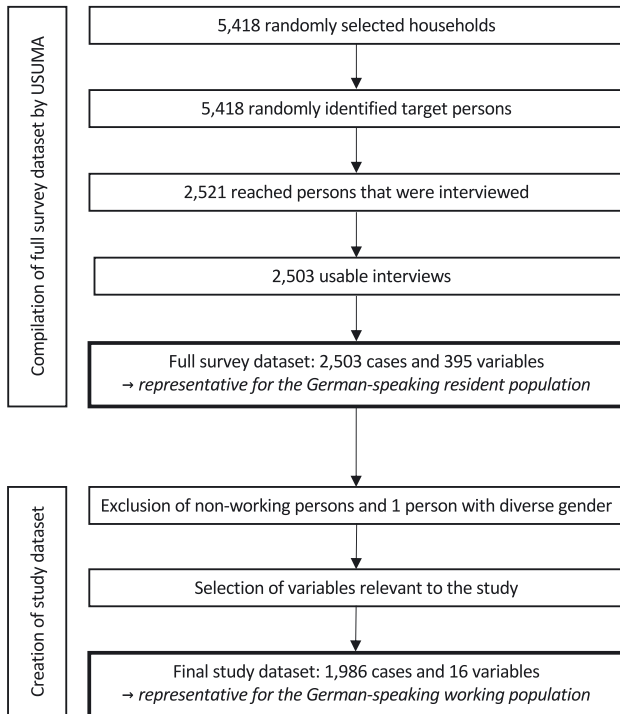


Figure 1: Sampling and variable selection procedure.

2.2 Measures

The full survey covered a wide range of topics (e.g., politics, health, religion). For the present study, selected measures were used. Those are reported below. Note that the survey was conducted in German. Thus, an English translation is provided here.

2.2.1 UBI Acceptance

UBI acceptance was assessed using two proxies, *UBI agreement* and *UBI Amount*. First, the UBI was shortly introduced: “A universal basic income (UBI) is defined as financial contributions that are sufficient to cover a person’s basic needs and are paid to each individual by the state on an ongoing basis and without any conditions.”. Following this, *UBI agreement* was measured using the item “I am convinced that everyone should receive a universal basic income (even people who are very well off financially).” (1 = not correct at all to 5 = fully correct). Thereafter, *UBI Amount* was

measured using the following item: “How much basic income do you consider appropriate for an adult person in Germany per month (in Euros)?”. Due to space limitations, and as agreement contains richer information on UBI acceptance than the Euro amount, the present study focuses on *UBI agreement*.

2.2.2 Gender

Gender was measured using three categories: male, female, and diverse. For the present study, a dummy-coded variable was generated distinguishing between male (0) and female (1). The category “diverse” ($n = 1$) was excluded due to the small number of cases.

2.2.3 Age

Age was measured asking for the month and year of birth, and a variable was generated containing age in years.

2.2.4 Education

Education was measured using nine categories (see Table S2 in the Supplemental Material for all categories). For the present study, a dummy-coded variable was generated distinguishing between no university degree (0) and university degree (1), as we assume higher education to be relevant for UBI acceptance (Adriaans, Liebig, and Schupp 2019).

2.2.5 Regional Origin

Regional origin was measured asking for the German federal state where participants mostly grew up in. For the present study, a dummy-coded variable was generated distinguishing between West- (0) and East-Germany (1), as there are notable socialization differences between those groups that may influence UBI acceptance.

2.2.6 Care Duty (Children)

Care duty (children) was measured asking for the number of children below 15 years permanently living in the household.

2.2.7 Employment Status

Employment status was measured using nine categories (see Table S2 in the Supplemental Material for all categories). For the present study, a dummy-coded variable was generated distinguishing between participants currently not employed (e.g., due to unemployment, parenting or pension; 0) and employed (either part- or full-time; 1), as this differentiation is likely to be relevant for UBI acceptance (e.g., Roosma and van Oorschot 2020 for the relevance of unemployment).

2.2.8 Unemployment Frequency

Unemployment frequency was measured asking for the number of times of unemployment, including current unemployment.

2.2.9 Income

The personal net income was measured using 14 categories depicting different income ranges (see Table S2 in the Supplemental Material for all categories). The categories were not comparable as the income ranges varied across categories. Thus, a dummy-coded variable was generated for the present study distinguishing between a personal net income of up to 2000 Euro (0) and of 2000 Euro or higher (1). This cut-off was chosen following Schröder (2020) who finds that life satisfaction particularly benefits from rising income levels up to a personal net income of about 2000 Euro.

2.2.10 Perceived Economic Situation

Participants' perceived own current economic situation was measured with one item: "And your own economic situation today? Is it ..." (1 = very good to 5 = very bad, 6 = don't know), that was a follow-up item to "In general, how do you assess the economic situation in Germany today? Is it ...". For the present analyses, the answers were inverted (1 = very bad to 5 = very good) for better understanding.

2.2.11 Job Satisfaction

Job satisfaction was measured with a single item taken from the general life satisfaction module of the FLZ^M-Questionnaire (Questions on Life Satisfaction^{Modules}, Henrich and Herschbach 2000). The module measures life satisfaction with eight items, of which each item measures satisfaction in one of eight different life domains (e.g., leisure activities/hobbies, family life/children, job/work). We used the item on

job/work satisfaction, which was worded as follows: “How satisfied are you [with the life domain]...” “job/work” (1 = unsatisfied to 5 = very satisfied).

2.2.12 Leisure Satisfaction

Leisure satisfaction was measured with another single item taken from the general life satisfaction module of the FLZ^M-Questionnaire. The item was worded as follows: “How satisfied are you [with the life domain]...” “leisure activities/hobbies” (1 = unsatisfied to 5 = very satisfied).

2.2.13 Performance Orientation

Performance orientation was measured with one item that was part of a seven-item scale assessing different values and principles (e.g., “performance orientation”) concerning their importance (1 = not important at all to 7 = very important) (Decker and Brähler 2020).

2.2.14 Loneliness

Loneliness was measured with the three-item Loneliness scale-SOEP (LS-S, Richter and Weinhardt 2013). The items were worded as follows: “How often do you have the feeling ...” (1) “... that you miss the company of others?”, (2) “... of being left out?”, (3) “... that you are socially isolated?” and were answered from 1 = never to 5 = very often. The item answers were added up to a total scale value ranging from 3 to 15 ($\alpha = 0.83$).

2.2.15 Equality Orientation

Equality orientation was measured with one item from a four-item short-scale assessing social dominance orientation using statements about how groups in society should relate to each other (SDO-4, Stellmacher, Sommer, and Brähler 2005). The item on equality orientation was worded as follows: “We should do what we can to create equal living standards for everyone.” (1 = do not agree at all to 4 = fully agree).

2.2.16 Corona Perception

The perception of the corona-pandemic was measured with one item that was part of a six-item scale assessing general attitudes towards the current social situation in Germany and the world (Schließler, Hellweg, and Decker 2020). The item was worded

as follows: “The Corona pandemic is likely to have dire consequences for me and those around me.” (1 = not correct at all to 5 = fully correct).

2.3 Analytic Strategy

Data processing and all analyses were done in SPSS Version 27.0.1.0 (IBM 2020) and R Version 4.0.4 using the following packages: lavaan, Matrix, survey, spatstat, and weights. To create a subsample of the German working population, participants below 18 and over 67 years ($n = 406$), as well as university students and pupils ($n = 190$), were excluded. Furthermore, due to the small number of cases, participants who indicated a diverse gender ($n = 1$) were also excluded. Note that 80 of the excluded participants met several exclusion criteria. In total, data from 517 participants were excluded and the final sample comprised $N = 1986$. Participants with missing values in at least one of the variables of interest were identified ($n = 462$). A sensitivity analysis with G*Power Version 3.1.9.6 (Faul et al. 2009) indicated that the sample size provides sufficient power to detect effect sizes as small as $f^2 = .003$ with a power of .80 and an alpha error probability of .05.

The representativeness of the full survey sample for the German-speaking resident population was ensured by USUMA through the sample compilation procedure (see Section 2.1). However, dropouts may have limited the representativeness of the sample. Comparing the data with the known distributions from the German microcensus on household and person level revealed slight deviations (the microcensus is the largest annual household survey in Germany conducted by the German Federal Statistical Office (Statistische Ämter des Bundes und der Länder 2022), participation is mandatory by law and thus self-selection bias is not an issue). To account for this, statistical weights were applied to the data to correct for these deviations and ensure representativeness of the data. Specifically, the statistical weighting corrected at household level for deviations in the distribution of household sizes and at the personal level for deviations in the joint distribution of age and gender as well as deviations in the distribution of the state of residence (USUMA 2020). All analyses were performed on the weighted dataset of $N = 1986$.

To answer the research question and hypotheses, a four-step hierarchical multiple linear regression was performed defining *UBI agreement* as outcome variable. The other variables were used as correlated predictors. The four models of the hierarchical multiple linear regression were specified and tested in lavaan as path models. Although the model specifications as path models were identical to the regression models, path modeling allows to use maximum likelihood estimation which has fewer assumptions than ordinary least square regression and allows to

better address missing data via using a full information maximum likelihood estimator (Enders and Bandalos 2001).

The order of variable entry for the hierarchical regression was based on two criteria: the assumed sequence of effects between predictor variables (socio-demographic predictors before psychological predictors) and the importance of predictors in explaining the outcome (hypothesized effect before exploratory investigation). This means that, first, socio-demographic predictors (e.g., *Age*) entered the model before psychological predictors (e.g., *Job satisfaction*) and second, predictors for which hypotheses have been formulated (e.g., *Age* or *Job satisfaction*) entered the model before predictors that should be examined exploratively, i.e., without hypotheses (e.g., *Regional origin* or *Loneliness*). Thus, socio-demographic predictors were entered in steps 1 and 2, with “hypothesized-effect” predictors preceding “exploratory” predictors (step 1 included “hypothesized-effect” socio-demographic predictors: *Gender*, *Age*, *Income*, *Education*; step 2 included “exploratory” socio-demographic predictors: *Care duty (children)*, *Unemployment frequency*, *Regional origin*, *Employment status*). In steps 3 and 4, psychological predictors were entered accordingly, i.e., with “hypothesized-effect” predictors preceding “exploratory” predictors (step 3 included “hypothesized-effect” psychological predictors: *Job satisfaction*, *Perceived economic situation*, *Performance orientation*, *Corona perception*, *Equality orientation*; step 4 included “exploratory” psychological predictors: *Leisure satisfaction*, *Loneliness*).

Multivariate normal distribution was tested. Potential suppression effects were evaluated and relative weights of predictors as a percentage of R^2 were computed (Bhalla 2020; Johnson 2000). In order to estimate relative weights, a model implied correlation matrix was obtained for each path model. This variance is based on the sampling weights and full information maximum likelihood. To obtain the relative weights, the correlation matrix was entered into a Shiny App by Tonidandel and LeBreton (2015). Effect sizes were calculated and interpreted according to Gignac and Szodorai (2016) with $r = .10$ being a small, $r = .20$ a moderate, and $r = .30$ a large effect. Due to the large sample size, p -values should be interpreted with caution and only in the context of effect sizes. In line with this, it was refrained from halving p -values for one-tailed hypotheses.

To further test the robustness of the main effects and complement the main analysis, possible interaction effects were investigated. For this, an empirical-inductive (i.e., an exploratory) approach was adopted and all possible interactions between the significant variables in the main analysis were investigated. Dummy-coded variables were coded -1 and 1 , variables with no meaningful zero-point were mean-centered, and all possible interactions were generated. First, a reduced regression model, specified and tested as a path model, was computed, including the significant predictors from the main model specification and all respective

interactions. In a next step, the significant interactions from the first step were added to the main model specification to ensure the specificity of the interaction effects. Interaction plots were derived from this extended model using the interaction utility by Preacher, Curran, and Bauer (2006).

3 Results

3.1 Descriptive Statistics

Frequencies of all dichotomous variables can be found in Table 1. Descriptive statistics for all metric variables are shown in Table 2. On average, participants rather agreed with a UBI ($M = 3.34$, $SD = 1.38$, $CI_{LL} = 3.28$, $CI_{UL} = 3.41$). Frequencies of participants' *UBI agreement* rating can be found in Figure 2.

Table 1: Frequencies of all dichotomous variables.

Variable	<i>n</i>	%
Gender		
Male	1007	51
Female	979	49
Missing	0	0
Income		
Income <2000€	1262	64
Income ≥2000€	635	32
Missing	89	4
Education		
No university degree	1681	85
University degree	298	15
Missing	7	<1
Regional origin		
West-German origin	1414	71
East-German origin	379	19
Missing	193	10
Employment status		
Not employed	455	23
Employed	1505	76
Missing	26	1

Based on $N = 1986$.

Table 2: Descriptive statistics and confidence intervals for all metric variables.

Variable	Min	Max	Mdn	M	SD	95 % CI		Number of missings
						LL	UL	
UBI agreement	1	5	2.50	3.34	1.38	3.28	3.41	13
Age	18	67	45.50	44.39	13.64	43.75	45.02	0
Care duty (children)	0	6	0.00	0.28	0.66	0.25	0.30	0
Unemployment frequency	0	14	0.00	1.01	1.51	0.94	1.09	75
Job satisfaction	1	5	3.50	3.57	1.10	3.51	3.62	47
Perceived economic situation	1	5	2.50	3.31	0.96	3.26	3.36	43
Performance orientation	1	7	4.50	5.15	1.35	5.09	5.21	11
Corona perception	1	5	2.50	3.30	1.13	3.25	3.36	10
Equality orientation	1	4	2.50	3.32	0.68	3.29	3.35	16
Leisure satisfaction	1	5	3.50	3.81	0.90	3.77	3.85	10
Loneliness	3	15	5.50	6.11	2.60	5.99	6.23	24

Based on $N = 1986$. *Min* = minimum; *Max* = maximum; *Mdn* = median; *M* = mean; *SD* = standard deviation; *CI* = confidence interval; *LL* = lower limit; *UL* = upper limit.

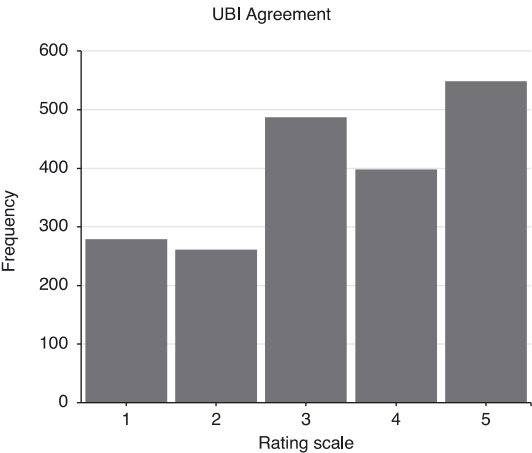


Figure 2: Frequencies of participants' *UBI agreement* rating. *UBI agreement* was measured with the item “I am convinced that everyone should receive a universal basic income (even people who are very well off financially).” on a scale from 1 = not correct at all to 5 = fully correct.

3.2 Model Specification: Hierarchical Regression

The correlations for all variables can be found in Table 3. The results of the hierarchical multiple regression are shown in Table 4. The models were evaluated using the amount of explained variance (R^2) and the increase in R^2 across models (ΔR^2). As can be seen in Table 4, the R^2 improves with each step, from .01 in step 1 to .07 in step 4 ($\Delta R^2 = .06$). Thus, the complete model containing all 15 predictors provides the best model information and can be considered the model of choice yielding a small to

Table 3: Bivariate correlations for all variables.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. UBI agreement	-															
2. Gender	.03	-														
3. Age	-.05*	.03	-													
4. Income	-.07**	-.27**	.10**	-												
5. Education	<.01	-.05*	.09**	.30**	-											
6. Care duty (children)	<.01	.07**	-.23**	.03	<.01	-										
7. Unemployment frequency	.07**	-.01	.11**	-.21**	-.10**	<.01	-									
8. Regional origin	.12**	.02	.05*	-.10**	.02	.03	.13**	-								
9. Employment status	-.04	-.07**	-.24**	.23**	.05*	.04	-.21**	-.01	-							
10. Job satisfaction	-.05*	-.04	-.03	.26**	.09**	.03	-.24**	-.06*	.36**	-						
11. Perceived economic situation	-.13**	-.04	.09**	.28**	.21**	-.02	-.25**	-.06*	.19**	.47**	-					
12. Performance orientation	-.02	-.07**	-.02	.10**	>-.01	.04	-.06*	.09**	.09**	.18**	.12**	-				
13. Corona perception	.09**	.02	.05*	>-.01	-.06*	.02	.05*	<.01	-.01	-.06**	-.19**	.09**	-			
14. Equality orientation	.18**	.11**	.01	-.06*	.02	.03	.04	.01	-.05*	-.01	-.03	-.02	.08**	-		
15. Leisure satisfaction	.02	-.08**	-.03	.13**	.04	-.03	-.17**	-.08**	.13**	.39**	.23**	.11**	-.05*	.03	-	
16. Loneliness	.04	.09**	-.07**	-.21**	-.11**	-.01	.23**	.03	-.21**	-.36**	-.39**	-.09**	.15**	>-.01	-.33**	-

Based on N = 1986. For each variable pair, cases with missing values in at least one of the respective variables were excluded. * $p < .05$. ** $p < .01$.

Table 4: Hierarchical regression results for UBI agreement.

Variable	B	95 % CI for B		SE B	β	z	p	r_{part}	R^2	ΔR^2
		LL	UL							
Step 1									.009	.009
Gender ^a	0.05	-0.08	0.17	0.06	.02	0.77	.441	.02		
Age	>-0.01	-0.01	<0.01	<0.01	-.04	-1.53	.126	-.03		
Income ^b	-0.25**	-0.39	-0.11	0.07	-.09**	-3.44	.001	-.07		
Education ^c	0.13	-0.05	0.31	0.09	.04	1.46	.143	.03		
Step 2									.025	.016
Gender ^a	0.08	-0.05	0.21	0.06	.03	1.25	.211	.03		
Age	-0.01**	-0.01	>-0.01	<0.01	-.06**	-2.62	.009	-.05		
Income ^b	-0.13	-0.28	0.02	0.08	-.05	-1.72	.086	-.03		
Education ^c	0.11	-0.06	0.29	0.09	.03	1.25	.211	.03		
Care duty (children)	-0.01	-0.10	0.08	0.05	-.01	-0.20	.840	.00		
Unemployment frequency	0.06*	0.01	0.10	0.02	.06*	2.55	.011	.06		
Regional origin ^d	0.33***	0.17	0.49	0.08	.10***	4.12	<.001	.10		
Employment status ^e	-0.11	-0.27	0.04	0.08	-.04	-1.42	.154	-.03		
Step 3									.072	.047
Gender ^a	0.02	-0.10	0.14	0.06	.01	0.34	.737	.01		
Age	-0.01*	-0.01	>-0.01	<0.01	-.06*	-2.40	.017	-.05		
Income ^b	-0.09	-0.24	0.06	0.08	-.03	-1.12	.263	-.02		
Education ^c	0.15	-0.02	0.33	0.09	.04	1.71	.087	.04		
Care duty (children)	-0.03	-0.12	0.07	0.05	-.01	-0.54	.587	-.01		
Unemployment frequency	0.03	-0.01	0.07	0.02	.03	1.41	.159	.03		
Regional origin ^d	0.34***	0.18	0.50	0.08	.10***	4.27	<.001	.10		
Employment status ^e	-0.08	-0.24	0.08	0.08	-.03	-1.01	.313	-.02		
Job satisfaction	0.08*	0.01	0.14	0.03	.06*	2.26	.024	.04		
Perceived economic situation	-0.18***	-0.26	-0.11	0.04	-.13***	-4.73	<.001	-.09		

Table 4: (continued)

Variable	B	95% CI for B		SE B	β	z	p	r_{part}	R^2	ΔR^2
		LL	UL							
Performance orientation	−0.03	−0.07	0.02	0.02	−.03	−1.15	.250	−.03		
Corona perception	0.08**	0.03	0.14	0.03	.07**	3.01	.003	.07		
Equality orientation	0.33***	0.25	0.42	0.05	.17***	7.46	<.001	.16		
Step 4									.074	.002
Gender ^a	0.03	−0.10	0.15	0.06	.01	0.46	.648	.01		
Age	−0.01*	−0.01	>−0.01	<0.01	−.06*	−2.34	.019	−.05		
Income ^b	−0.09	−0.24	0.06	0.08	−.03	−1.14	.255	−.02		
Education ^c	0.16	−0.02	0.33	0.09	.04	1.74	.081	.04		
Care duty (children)	−0.02	−0.11	0.07	0.05	−.01	−0.45	.653	−.01		
Unemployment frequency	0.03	−0.01	0.08	0.02	.04	1.54	.125	.03		
Regional origin ^d	0.35***	0.19	0.50	0.08	.10***	4.36	<.001	.10		
Employment status ^e	−0.08	−0.24	0.08	0.08	−.02	−0.95	.344	−.02		
Job satisfaction	0.05	−0.02	0.12	0.04	.04	1.39	.166	.02		
Perceived economic situation	−0.18***	−0.26	−0.11	0.04	−.13***	−4.70	<.001	−.09		
Performance orientation	−0.03	−0.07	0.02	0.02	−.03	−1.24	.217	−.03		
Corona perception	0.08**	0.03	0.14	0.03	.07**	3.04	.002	.07		
Equality orientation	0.33***	0.24	0.42	0.05	.16***	7.37	<.001	.16		
Leisure satisfaction	0.08*	0.01	0.15	0.04	.05*	2.12	.034	.04		
Loneliness	>−0.01	−0.03	0.03	0.01	>−.01	−0.10	.917	<.01		

Based on N = 1986. B = unstandardized beta; CI = confidence interval; LL = lower limit; UL = upper limit; SE B = standard error for the unstandardized beta; β = standardized beta; z = z-value; p = p-value; r_{part} = semi-partial correlation; R^2 = coefficient of determination; ΔR^2 = change in R^2 . ^a0 = male, 1 = female. ^b0 = income <2000€, 1 = income ≥ 2000€. ^c0 = no university degree, 1 = university degree. ^d0 = West-German origin, 1 = East-German origin. ^e0 = not employed, 1 = employed. *p < .05. **p < .01. ***p < .001.

moderate amount of explained variance. The comparison of results using weighted and unweighted data did not reveal any substantial differences (see Table S3 in the Supplemental Material).

3.3 Main Analysis: Hypotheses

The basis for answering the hypotheses is the complete model of the hierarchical multiple linear regression (step 4 in Table 4). As can be seen here, *Age* ($\beta = -.06$, $z = -2.34$, $p = .019$, $r_{\text{part}} = -.05$), *Regional origin* ($\beta = .10$, $z = 4.36$, $p < .001$, $r_{\text{part}} = .10$), *Perceived economic situation* ($\beta = -.13$, $z = -4.70$, $p < .001$, $r_{\text{part}} = -.09$), *Corona perception* ($\beta = .07$, $z = 3.04$, $p = .002$, $r_{\text{part}} = .07$), *Equality orientation* ($\beta = .16$, $z = 7.37$, $p < .001$, $r_{\text{part}} = .16$), and *Leisure satisfaction* ($\beta = .05$, $z = 2.12$, $p = .034$, $r_{\text{part}} = .04$) had significantly unique relations with *UBI agreement* with small effect sizes except for *Equality orientation*, where the effect size was moderate.

Thus, H2 (*Age*), H5 (*Perceived economic situation*), H6 (*Corona perception*), and H7 (*Equality orientation*) could be confirmed. Hence, being comparably younger, perceiving one's current economic situation to be worse and the threat of the corona-pandemic to be higher, as well as being more in favor of equal living standards were uniquely associated with higher UBI agreement. Additionally, being of East-German origin was also uniquely associated with higher UBI agreement. However, H1 (*Gender*, $\beta = .01$, $z = 0.46$, $p = .648$, $r_{\text{part}} = .01$), H3 (*Education*, $\beta = .04$, $z = 1.74$, $p = .081$, $r_{\text{part}} = .04$), H4 (*Income*, $\beta = -.03$, $z = -1.14$, $p = .255$, $r_{\text{part}} = -.02$), H8 (*Performance orientation*, $\beta = -.03$, $z = -1.24$, $p = .217$, $r_{\text{part}} = -.03$), and H9 (*Job satisfaction*, $\beta = .04$, $z = 1.39$, $p = .166$, $r_{\text{part}} = .02$) had to be rejected. Furthermore, there was no significant unique relationship between *UBI agreement* and *Care duty (children)*, ($\beta = -.01$, $z = -0.45$, $p = .653$, $r_{\text{part}} = -.01$), *Unemployment frequency* ($\beta = .04$, $z = 1.54$, $p = .125$, $r_{\text{part}} = .03$), *Employment status* ($\beta = -.02$, $z = -0.95$, $p = .344$, $r_{\text{part}} = -.02$), and *Loneliness* ($\beta > -.01$, $z = -0.10$, $p = .917$, $r_{\text{part}} < .01$).

The final model explains about 7 % of variance in UBI agreement. To identify the contribution of each variable to R^2 , relative weights were computed. The largest contributions came from *Equality orientation* (39 %), *Perceived economic situation* (19 %), and *Regional origin* (14 %).

3.4 Further Analyses: Interactions

To explore interaction effects, an empirical-inductive approach was used. First, all possible interactions were generated based on the main effects (i.e., fifteen interactions for six main effects). Second, to identify significant interactions, a

reduced regression model including the significant predictors from the complete model (i.e., the six main effects) and all respective interactions (i.e., fifteen interactions) was computed. Third, a second regression analysis was calculated, adding the significant interactions to the complete model (i.e., all 15 predictors and all significant interactions). The first analysis revealed three significant interactions between *Perceived economic situation* and *Equality orientation* ($\beta = .06$, $z = 2.66$, $p = .008$, $r_{\text{part}} = .06$), *Equality orientation* and *Leisure Satisfaction* ($\beta = -.05$, $z = -2.13$, $p = .034$, $r_{\text{part}} = -.05$), and *Corona perception* and *Leisure satisfaction* ($\beta = .05$, $z = 2.01$, $p = .044$, $r_{\text{part}} = .04$). Adding these three interactions to the complete model in the second analysis yielded significant coefficients with small effect sizes for the interactions between *Perceived economic situation* and *Equality orientation* ($\beta = .07$, $z = 2.86$, $p = .004$, $r_{\text{part}} = .06$) and *Equality orientation* and *Leisure satisfaction* ($\beta = -.05$, $z = -2.07$, $p = .038$, $r_{\text{part}} = -.05$) (see Table S4 in the Supplemental Material for the regression results). See Figures 3 and 4 for the corresponding interaction plots. As shown in Figure 3, for people with higher *Equality orientation*, the perception of their economic situation had a smaller relation with UBI agreement than for people with lower *Equality orientation*. Moreover, people with higher *Equality orientation* had a higher UBI agreement than people with lower *Equality orientation* regardless of their perceived economic situation and vice versa. As shown in Figure 4, while for people with higher *Equality orientation* there is almost no relation between UBI agreement and *Leisure satisfaction*, there is a strong positive relation between *Leisure satisfaction* and UBI agreement for people with lower *Equality orientation*. Again, Figure 4 also shows that people with higher *Equality orientation* had a higher UBI agreement than people with lower *Equality orientation* regardless of their *Leisure satisfaction* and vice versa.

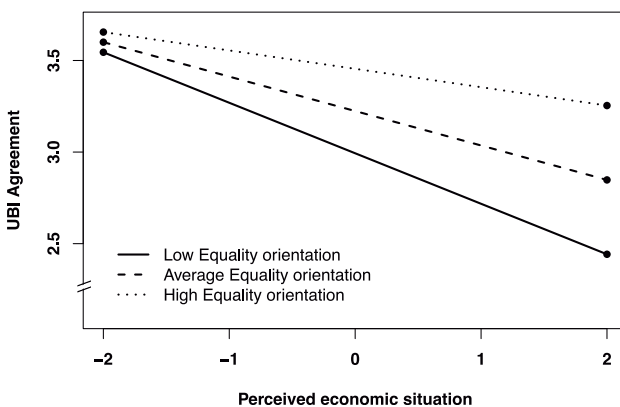


Figure 3: Interaction plot of *Equality orientation* and *Perceived economic situation*.

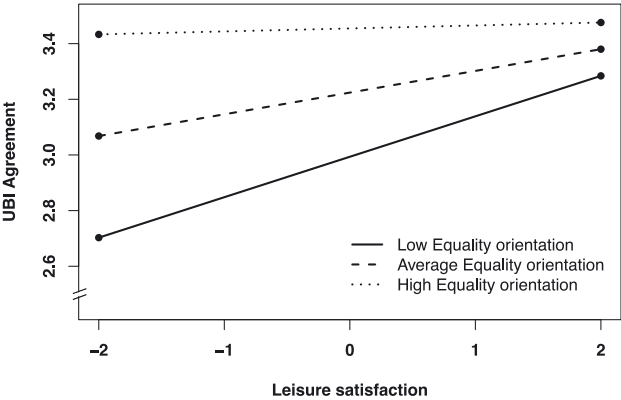


Figure 4: Interaction plot of *Leisure satisfaction* and *Equality orientation*.

4 Discussion

4.1 Summary of Results

To identify relevant socio-demographic and psychological predictors of UBI acceptance among the German working population, we analyzed representative data that were collected during the first peak of the COVID-19 pandemic between May and June 2020 in a comprehensive multivariate analysis. First of all, we found that, on average, members of the German working population supported the idea of a UBI. Further, we found that being more supportive of a UBI went along with being comparably younger (H2), of East-German origin, and more in favor of equal living standards (H7), as well as perceiving one's economic situation to be worse (H5) and the threat of the corona-pandemic to be higher (H6). Moreover, for participants being more in favor of equal living standards, their perceived economic situation as well as their leisure satisfaction had a lower influence on UBI agreement and vice versa. Yet, we found no significant association between UBI agreement and *Gender* (H1), *Education* (H3), *Income* (H4), *Performance orientation* (H8), and *Job satisfaction* (H9).

With our research, we add to the literature on individual characteristics associated with UBI support by providing a perspective on the German working population using current data from the onset of the COVID-19 pandemic, and most importantly, by identifying not only relevant socio-demographic but also psychological predictors of UBI acceptance in a comprehensive multivariate analysis.

4.2 Discussion of Selected Results

4.2.1 Equality Orientation

We found a significantly positive and unique relation between *Equality orientation* and UBI acceptance in our multivariate analysis. As a UBI intends to create more equal basic living standards and social security, this seems not surprising. It can be assumed that there is a notable overlap regarding values driving opinions on both concepts necessitating future research. First studies on UBI and values (e.g., Choi 2021) support this.

4.2.2 Perceived Economic Situation and Income

Following evidence by Sinclair and Cheung (2016) and Klug, Selenko, and Gerlitz (2021) as well as a recent meta-analysis by Tan et al. (2020) that support the importance of differentiating between objective and subjective measures of people's economic situation, we included *Income* (objective) as well as *Perceived economic situation* (subjective) in our multivariate analysis. Interestingly, we only found *Perceived economic situation* but not *Income* to be significantly negatively associated with UBI acceptance. Most likely, income is one component, along with, for example, wealth, debt, expenditures, and personal living standards that influences participants' subjective assessment of their economic situation. Thus, it is plausible that the subjective measure of perceived economic situation also captures the effect of income on UBI acceptance, and that income by itself has no direct effect on UBI acceptance. Not the amount of money received every month itself but the subjective evaluation of this amount of money (and more) impacts UBI acceptance. If both variables are included in the regression, it is therefore plausible that the effect of income is not significant. Nevertheless, we still suggest including income in any multivariate analysis of UBI agreement as it may be a good proxy for other relevant variables that may not be measurable and thus cannot be included in the regression model. However, for our analysis only a dummy-coded income variable was available. Future research should use a metric income measure that captures more variability.

4.2.3 Regional Origin

We found a significant positive relation between *Regional origin* and UBI acceptance, indicating that being more supportive of a UBI went along with being of East-German origin. The different economic, social, and political systems in East- and

West-Germany before reunification led to very different socialization experiences that still shape today's East-German population. In former East-Germany, unemployment was very rare and income differences were suppressed by the state (Diewald, Solga, and Goedicke 1999). With reunification in 1989 this changed. Suddenly, unemployment skyrocketed, income inequality emerged, and the currency reform devalued savings (Ketzmerick 2016). Research finds persisting differences between East- and West-Germany, e.g., lower income and higher unemployment rates (Petrunk and Pfeifer 2016), lower wealth (Grabka 2014), lower life satisfaction (Kasinger et al. 2022), lower occupational achievement (Granato 2011), and more chronic exhaustion (Braunheim et al. 2022) in East-Germany. All these aspects can be expected to be associated with UBI acceptance (see, e.g., Shin, Keppnanien, and Kuitto 2021 for evidence on unemployment). However, these many aspects are difficult to assess individually in a single survey. Proxy variables such as *Regional origin* that capture a multitude of factors and reflect large differences in socialization experiences of certain population groups are, therefore, useful for future UBI research.

Interestingly, the COVID-19 pandemic incidences were higher in East-Germany (Schuppert et al. 2021), but are not associated with measurable differences in various mental health indicators between East- and West-Germany (Liebig et al. 2020).

4.2.4 Corona Perception

Consistent with our expectations, we found that the perceived level of personal threat posed by the corona-pandemic was significantly positively associated with UBI acceptance. This association is likely due to the feared economic hardship caused by the pandemic and the resulting need for economic security (Busemeyer, Rinscheid, and Schupp 2023). However, we only found a relatively small effect size. This may be due to the time of the data collection when the pandemic had just started, and health concerns were dominating over long-term financial consequences. Thus, fear of economic hardship may not have dominated yet, thereby diminishing the effect. Abstracting from the COVID-19 pandemic, it seems promising to investigate the fear of economic instability caused by crises (e.g., through climate, financial, technological disruptions) and UBI acceptance.

4.2.5 Performance Orientation

Contrary to our hypothesis, we did not find a significant negative association between *Performance orientation* and UBI acceptance. This is interesting because performance orientation is often used as a prominent example in the public discourse: People with low performance orientation may cease to exert themselves,

while people with high performance orientation may feel their efforts to be devalued by the introduction of a UBI. Our findings suggest that it is much more complex than that. Either performance orientation does indeed not play a major role in explaining UBI acceptance or, and this is more likely, the construct needs more differentiation, and the use of a single-item measure was not sufficient in this case. Using a scale to cover the well-established differentiation between success-oriented and failure-avoiding individuals within the group of performance-oriented people might produce different results (see the seminal work by Atkinson 1957, for the origins of the concept of performance orientation as well as Brunstein and Heckhausen 2018, for a more recent overview). It is plausible that success-oriented individuals may feel threatened by the idea of a UBI as it devalues their efforts (in line with our hypothesis on performance orientation). Failure-avoiding individuals, on the other hand, may support the idea of a UBI as this provides them with economic security, and thus, reduces the risk of failing.

4.3 Limitations and Implications

Our research is intended to provide insights into and guidance about socio-demographic as well as psychological variables relevant for UBI acceptance and thus lay a foundation for future research on this topic. First of all, our research intends to draw attention to the fact that there is an individual dimension to the UBI debate that needs to be considered. This dimension is unrepresented in existing UBI research and a psychological perspective is lacking. However, the consideration of psychological variables, both, at criterion and predictor level, is imminent when investigating individual characteristics associated with UBI support.

Second, we investigated a set of psychological and socio-demographic predictor variables. Of course, this set of variables is not exhaustive, particularly because the theory-based variable selection was limited to the variables available in the multi-topic survey that our data was based on. The amount of variance explained by these variables was moderate at best. Thus, there must be other variables, particularly other psychological variables, that might be relevant and should be investigated in future research. We made a conscious decision to include variables from different disciplines to examine their relevance in explaining UBI acceptance not only in isolation but also in relative comparison and would recommend this approach for future research. Besides predictor level, the amount of variance explained might be also partly due to the potentially constrained reliability and validity of the one-item outcome variable. There are no established UBI acceptance measures to date, so we developed a single-item measure for this purpose. As a UBI is still hypothetical, the development of such a measure necessarily depends on assumptions about the

definition of a UBI and its design. Of course, these assumptions and the resulting measure may influence participants' UBI acceptance and corresponding results must always be evaluated in light of the underlying UBI definition. In fact, research suggests that (U)BI support is fragile and highly dependent on the underlying basic income model (e.g., Busemeyer, Rinscheid, and Schupp 2023; Chrisp, Pulkka, and García 2020; Laenen, Van Hootegeem, and Rossetti 2023). Thus, for future research examining individual characteristics associated with UBI acceptance, it may be interesting to investigate predictors of acceptance for different (U)BI models (see, for example, Chrisp, Pulkka, and García 2020, who examined socio-demographic predictors of support for different basic income models in the United Kingdom and Finland or Laenen, Van Hootegeem, and Rossetti 2023, who examined support for a broad range of different basic income models in Belgium). Although there are some studies that have done this, to our knowledge this has not yet been done for Germany, and the predictors examined in the existing studies are again limited to socio-demographic predictors.

Third, we followed a “screening-approach” to identify variables that could possibly be relevant for UBI acceptance. For this, we had to use economic feasible measures, i.e., single item measures. Fortunately, the controversy on the use of single item measures, which has been around for decades, is easing, so that the use of single item measures can be considered an established procedure in psychology by now (see, e.g., Fisher, Matthews, and Gibbons 2016, or Allen, Iliescu, and Greiff 2022; Matthews, Pineault, and Hong 2022, for very recent perspectives on the topic). Thalmayer, Saucier, and Eigenhuis (2011) and Ziegler, Kemper, and Kruey (2014) furthermore show that the criterion validity is not affected by the use of shortened scales. Regarding construct validity, the coverage of single item measures is of course smaller than it is when using scales. Nevertheless, in line with the literature, we are confident that single items can cover the core aspect of a construct and are therefore sufficient measures. Of course, in the context of further research, a reasonable next step is the investigation of a little number of constructs that have been identified as relevant (by us and others) in their full complexity, including facets, via well-established scales.

Fourth, we used cross-sectional data from Germany that was collected just after the first peak of the COVID-19 pandemic. There are three limitations to that. First, it is likely that the specific time-point had an impact on our results, but it remains unclear what the exact nature of this impact was. Second, due to the cross-sectional nature of the data, we did not gain any insights about dynamics and causal explanations are not feasible. Third, we adopted a German perspective and therefore cannot provide insights on cross-country comparisons. Our research aim was to investigate UBI acceptance and relevant correlates among the German working population during the COVID-19 pandemic. However, for future research with other research foci, it may be interesting to replicate our results with post-pandemic data, conduct

longitudinal studies to investigate dynamics, and add a cross-country perspective to the country-specific investigation.

Last, to better understand why people with certain characteristics agree or disagree with a UBI, and thus to corroborate the quantitative results, we also recommend the use of qualitative research methods for future research. Although some qualitative studies have been conducted to examine individual attitudes towards a UBI or towards specific features of a UBI, for example, by Herke and Vicsek (2022) for Hungary, Rossetti and colleagues (2020) for the Dutch Tilburg, or Zimmermann and colleagues (2020) for Slovenia and Germany, to our knowledge there are no qualitative approaches focusing on individual characteristics associated with UBI acceptance. However, this qualitative research is central to bridge the gap between the scientific groundwork done in studies like ours and potential practical implications of the resulting research findings. As a UBI has not been implemented in Germany, decision makers would have to specify design principles to develop a concrete policy. For this, knowledge of socio-demographic and psychological variables corresponding with UBI acceptance can be useful when combined with the understanding of why people with certain characteristics oppose or favor a UBI. For instance, if there is evidence that UBI acceptance tends to be lower in older age groups, and the reasons behind this are assessed in further research, this knowledge can be used to specifically address the concerns of older age groups when designing and communicating a UBI.

4.4 Conclusion

Even though the UBI gained popularity in times of the COVID-19 pandemic, its relevance goes far beyond that. Technological unemployment calls for alternative welfare systems that provide people with social safety in times of economic insecurity. The UBI can be one important instrument to address this. However, there is a broader need for psychological research on UBI that complements the social and economic viewpoints often focused on in current debates. The insights about variables relevant for UBI acceptance and a stronger psychological focus, thus, constitute a first critical step on a long-term research agenda.

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